

Surfaces and Boundaries: An Investigation into the Materiality of Agency

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I.

One very common view in philosophy of action is that action is intended bodily movement.¹ On this view, bodily movement is as much an essential constituent of action as are canonical agency-constituting mental processes and states such as deliberation and intention. Surprisingly, though, philosophers of action have paid scant attention either to the nature of bodily movement. Instead, they appear to employ a pre-theoretical, naïve notion of the body and its movement. This view seems to be that the surface of the skin is the boundary of the body, and so bodily movement must occur within this boundary. Anything beyond this surface is not the body and so what occurs beyond that surface is not bodily movement. Consequently, actions do not occur beyond the body, even as their consequences extend into the world. Thus are drawn the boundaries of agency.

In this essay, I argue that this is a mistake. For the purposes of understanding agency, certain technologies, ecological phenomena, and social practices are as much parts of the body as are limbs, digits, and torsos, and so occurrences in those arenas can be as much actions as can more familiar bodily

¹ Section Two details the evidence for this claim. I leave aside omissions and purely mental actions, as these are outside of the paradigm instances of agency on which philosophers of action focus. These are important cases though. For one discussion of their import to philosophy of action, see Michael S. Moore, “Renewed Questions About the Causal Theory of Action” in *Causing Human Actions: New Perspectives on the Causal Theory of Action*, edited by Jesús Humberto Aguilar and Andrei A. Buckareff (Cambridge, MA: MIT, 2010), pp. 27 – 44.

movements, such as the canonical raising of an arm. In short, when it comes to limning the boundaries of the body, there is no principled distinction between intended arm movements and the intended use of tools.

2.

What is the standard view in philosophy of action when it comes to the body? Let us first consider the old literature on basic action.² Basic action has been characterized both in terms of composition and in terms of causation: basic actions are bodily movements that are either or both (i) the most fundamental form of action, so that all other actions are just *combinations* of those bodily movements, and/or as (ii) the only form of action, such that everything that happens beyond simple bodily movement is no more than a causal consequence of action, and not in any metaphysically interesting sense actions themselves (even if, as we shall see, it can aptly be described as such).³ As should be clear, the role of the body in these definitions is crucial. But then how should we supposed to understand the body?

² The concept of basic action is contested and nothing I say here requires my taking any stand on its merits. For some recent debate, see, e.g.: Constantine Sandis, “Basic Actions and Individuation,” in T. O’Connor and C. Sandis (eds.) *A Companion to the Philosophy of Action* (Oxford: Wiley-Blackwell, 2010): 11 – 17; and Douglas Lavin, (2013) “Must There Be Basic Actions?” 47 *Noûs* 2 (2013): 273 – 301; and Jennifer Hornsby, “Basic Activity,” 87 *Aristotelian Society Supplementary Volume I* (2013): 1 – 18.

³ G.E.M. Anscombe had a different take on basic actions, namely, that the most fundamental actions are the ones the agent knows without observation that she is performing. See G.E.M. Anscombe, *Intention* (Cambridge, MA: Harvard University Press, 2000).

Still heavily influenced by positivism’s search for basic units from which all is constructed, Arthur Danto introduced the first characterization of basic action when he first coined the term. He describes them as “perfectly simple... they [are] not compounded out of anything more elementary themselves but [are] instead the ultimately simple elements out of which other [actions are] compounded.”⁴ According to Danto, these fundamental elements are the simplest possible bodily movements, or movements made by, as he puts it, “parts of every normal person.”⁵ His paradigm case is the movement of a limb and his paradigm contrast is the movement of a hat. It seems safe to take Danto to be assuming that the skin is the boundary of the body, and so all bodily movement must occur within that boundary.⁶

The second characterization of basic action has arguably had a greater impact on our understanding of human agency than has Danto’s (initial⁷) discussion. It is most associated with Donald Davidson, who argues that our primitive actions – the term he used for basic actions – are no more than

⁴ Arthur Danto, “Basic Actions,” 2 *American Philosophical Quarterly* (1965): 141 – 148, at 147. In Danto, “Basic Actions and Basic Concepts,” 32 *Review of Metaphysics* (1979) 3: 471 – 485, and thereafter, he clearly defends the second, ‘causalist’ characterization of basic actions, giving the standard regress argument for basic actions.

⁵ Arthur Danto, “What We Can Do,” 60 *The Journal of Philosophy* 15 (1963): 435-445, at 439.

⁶ Danto goes on to say: “...a man's repertoire of basic actions must be performed with parts of himself. But of course, there are parts of every normal person with which he cannot perform basic acts: fingernails, hair, teeth, not to mention the interior organs. So at best ‘P being part of a’ is only a necessary condition for ‘a can perform basic acts with P.’” (*ibid.*) Once Danto abandons the compositional approach to basic actions, he seems open to accepting that actions can be more than bodily movements even while holding firm that basic actions can only be bodily movements. See the discussion in “Basic Actions and Basic Concepts”, p. 478ff.

⁷ See note 4 above.

our bodily movements. Whatever is caused by these movements is not really action at all.⁸ These consequences are instead nothing more than the world responding (however predictably) to our bodily movements: "...our primitive actions, the ones we do not do by doing something else, mere movements of the body – these are all the actions there are. We never do more than move our bodies: the rest is up to nature."⁹ For example, Jones butters the toast by taking the action of moving his hand in a buttering fashion. Jones's buttering motions are the only real expressions of his agency, whereas the butter knife's motions, the butter's spreading, and the toast being buttered are not. The buttering of the toast is no more than a downstream consequence of the basic action of Jones moving his hands. But, despite this fact that the animating idea behind Davidson's view is that the only extra-mental constituents of actions are bodily movements, nowhere in Davidson's work is there a serious discussion of what a bodily movement is, much less what a body is. He simply relies upon appeals to the movements of limbs, or digits, or shifts in posture as examples of bodily movements.

A brief digression is in order here. It is obvious that the whole picture is suspect if it cannot be squared with how we actually talk about our actions. For example, we talk about Jones buttering the toast, not Jones moving in a buttering fashion with the consequence of the toast being buttered. To resolve this, Davidson appealed to Joel Feinberg's famous *accordion effect*. Feinberg wrote that "we can, if we wish, puff out an action to include an effect."¹⁰ We 'puff out an action' by describing the action in a way that picks

⁸ Donald Davidson, "Agency," in *Essays on Actions and Events* (Oxford: Clarendon Press 1980), p. 59.

⁹ *Ibid.*

¹⁰ Joel Feinberg, "Action and Responsibility" reprinted in Feinberg, *Doing and Deserving* (Princeton, NJ: Princeton University Press, 1970), pp. 119 – 51. I discuss the Accordion Effect further in Chapter 4.

out parts of the world that are not elements of the basic action.¹¹ But, in representing our agency as expanding out beyond the body, we are not being metaphysically scrupulous.¹² For, the accordion effect *distorts* the accurate metaphysical picture for the sake of conversational convenience. It is not the case that there is a privileged account of an action *beyond* the basic action. And, it is not the case that for each individual action we take there are paradoxically as many actions as there are descriptions. Rather, there is one action – the intended bodily movement – and then a welter of redescriptions that suit our conversational purposes. Most of these redescriptions track the consequences of our actions (although they might not). For example, when Donald turns on the light, all he does is move his hand. Everything else that happens – the light switch flicking, the lights going on, and a burglar being alerted – are consequences of the hand movement. The point of all this is not to re-litigate the endless debates about the role of description in characterizing action. Rather, it is to point out that what everyone agrees is the maximally squeezed instance of the accordion – the pure bodily movement – is treated as not worthy of interrogation. That is, everyone agrees that body movement is always a part of action, but no one seems interested in asking what the body is, much less what bodily movement is.

Even when we look beyond the (vexed and mostly stale) literature on basic action, we still find a characterization of action as no more than intended bodily movement with only the faintest recognition of

¹¹ For more on the accordion effect, see Michael Bratman, “What is the Accordion Effect?” 10 *The Journal of Ethics* (2006): 5 – 19. Joel Feinberg rejected Davidson’s views in favor a position that also is entailed by the conclusions I defend in this essay. See Feinberg, “Action and Responsibility,” pp, 137ff.

¹² Thus Davidson, *op. cit.*, p. 52, writes that redescription of action is how “agency [is] spread from primitive actions to actions described in further ways...”

questions about the body is that is doing the moving.¹³ For example, Harry Frankfurt argued that “the problem of action is to explicate the contrast between what an agent does and what merely happens to him, or between the bodily movements that he makes and those that occur without his making them.”¹⁴ This view is repeated by Alan Donagan in his characterization of the project of philosophy of action in the following way: “We need an answer, not to ‘What did he do?’ which is not properly answered by a narrative, but to ‘In what did his action consist?’ to which a correct answer would be a description of the movements of his body as a result of which, given the circumstances obtaining... [certain consequences followed].”¹⁵ Twenty five years later, we get a slightly different story – but one that fits this overall approach – from Kieran Setiya, who writes (echoing the early positivist Danto-project): “Suppose I am playing a particular piece of music. This is something I do by performing other actions, like moving my hand in order to play a note... a complex motivational structure of basic actions (like moving one’s hands) constitutes the performance of a non-basic action (like playing a piece of music).”¹⁶ Pamela Hieronymi more or less decomposes actions as follows: they are composed of “mental states whose onset is token-identical with brain events standing in causal relations to the bodily events which instantiate actions.”¹⁷ In arguing against realism about collective agents, Raimo Tuomela says that, “Persons have (biological) bodies

¹³ There is even more evidence supporting this characterization of philosophy of action in Anton Ford, “The Province of Human Agency” (forthcoming in *Noûs*).

¹⁴ Harry Frankfurt, “The Problem of Action,” 15 *American Philosophical Quarterly* I (1978), p. 157.

¹⁵ Alan Donagan, “Philosophical Progress and the Theory of Action,” *Proceedings and Addresses of the American Philosophical Association* 55 (1981), 25-53; at 46.

¹⁶ Kieran Setiya, “Explaining Action,” 112 *Philosophical Review* 3 (2003): 339 – 393, at 363 – 364.

¹⁷ Pamela Hieronymi, “Reasons for Action,” *Proceedings of the Aristotelian Society* III (2011): 407 – 427, at 419, fn 22.

and perform bodily actions in contrast to collectives. . . . [A] collective is not a self-sufficient agent (e.g., in the sense of being capable of performing basic bodily actions).”¹⁸ Helen Steward describes agents as “things which can make their bodies move.”¹⁹ Steward goes on to say that agency is no more than “the power to make parts of the body move.”²⁰ We find this same assumption in Adrian Haddock, who says that thinking about agency “begins with the thought that physical actions *are* bodily movements.”²¹ Jennifer Hornsby, who otherwise rejects the standard story of action, writes that we should understand action as in terms of our “mov[ing] our bodies in order to effect changes beyond them.”²² She is so specific in her focus on the body that she mentions muscles: “[e]very action is an event of *trying* or attempt to act, and every attempt that is an action precedes and causes a [contraction] of muscles and a [movement] of the body.”²³ In his vast *The Will: A Dual Aspect Theory*, one of the two aspects of action is the body, with limb movement being the paradigm: “. . .the event of willing physically develops, in a naturally appointed causal manner, to the point at which it incorporates the event of limb movement, and completes itself in doing so.”²⁴ John McDowell argues that “actualizations of our active nature,” i.e., our actions, are “goings-on in

¹⁸ Raimo Tuomela, “Actions by Collectives,” *Philosophical Perspectives* 3 (1989), p. 471.

¹⁹ Helen Steward, *A Metaphysics for Freedom* (Oxford: Oxford University Press, 2012), p. 17.

²⁰ *Ibid.*, p. 32.

²¹ Adrian Haddock, “At One With Our Actions, But at Two With Our Bodies” *Philosophical Explorations* 8 (2005): 157-172, at p. 162 (his emphasis).

²² Jennifer Hornsby, “Agency and Actions” in *Agency and Action*, H. Steward and J. Hyman, eds. (Cambridge: Cambridge University Press): pp 1-23, at 20.

²³ Jennifer Hornsby, *Actions* (London: Routledge and Kegan Paul, 1980), p. 33.

²⁴ Brian O’Shaughnessy, *The Will: A Dual Aspect Theory*, Vol. 2 (Cambridge: Cambridge University Press, 1980), p. 512.

which natural things, like limbs, do natural things, like moving...”²⁵ David Velleman, in illustrating the standard story of action, gives us this example:

I want to know the time; I believe that looking at my watch will result in my knowing the time; and these two attitudes cause a glance at my watch, thus manifesting the characteristic causal powers as a desire and a belief. The desire and belief that cause my glance at the watch are my reasons for glancing at it; and because I engage in this behavior for reasons, I make it happen.²⁶

The behavior in question is glancing. As all these examples show, philosophers of action treat movement of the body as an essential element of action.²⁷ Thus, Michael Smith sums up this dominant approach to action as follows (emphasis added):

²⁵ John McDowell, *Mind and World* (Cambridge: Cambridge University Press 1996), p. 90.

²⁶ See David Velleman, “Introduction” in *The Possibility of Practical Reason* (Oxford: Oxford University Press, 2000), chapters I, p. 5. See also and “What Happens When Someone Acts?” in *the Possibility of Practical Reason*, chapter 6.

²⁷ Some further examples supporting this point follow. In *The Stanford Encyclopedia of Philosophy*, the only actions the imagined agent takes are raising her hand, shifting her head position, and moving her leg. See George Wilson and Samuel Shpall, “Action”, *The Stanford Encyclopedia of Philosophy* (Summer 2012 Edition), Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/sum2012/entries/action/>>. Other examples include Richard Taylor, *Action and Purpose* (Englewood Cliffs, NJ: Prentice Hall, 1966), esp. at page 61; Alfred R. Mele, *Motivation and Agency* (Oxford: Oxford University Press, 2003), especially at p. 5, Michael Bratman, *Intention, Plans, and Practical Reason* (Cambridge: Cambridge University Press, 1999), and Michael Bratman, *Structures of Agency* (Oxford: Oxford University Press, 2007), especially his “Reflection, Planning and Temporally Extended Agency” (chapter 2), “Valuing and the Will” (chapter 3), and “Two Problems About Agency” (chapter 5). Some major figures resist this view: G.E.M. Anscombe did in *Intention* and Michael Thompson, *Life and Action: Elementary Structures of Practice and Practical Thought* (Cambridge, MA: Harvard University Press, 2008). According to Anton Ford, “Action and

Actions are those bodily movements that are caused and rationalized by a pair of mental states: a desire for some end, where ends can be thought of as ways the world could be, and a belief that something the agent can just do, namely, move her body in the way to be explained, has some suitable chance of making the world the relevant way.²⁸

So, in sum, the standard story is that actions are: (i) bodily movements (ii) caused by and (iii) rationalized by certain (iv) mental events. This approach employs what Douglas Lavin calls a decompositional analysis of action.²⁹ It is a programmatically useful approach because it straightforwardly sets an agenda for philosophy of action: analyze each of the four elements of this story in order to get the complete story of agency. And yet, despite the fact that bodily movement is one of the four elements of action, there has little philosophical attention paid to the body and bodily movement. It is just assumed that the readers' intuitive understandings of the body and its movements are both univocal and correct.

This quite general absence of discussion of the nature of the body and bodily movement is startling once it is noticed. The boundary of the body that moves in action is pretty much always treated as limned by the surface of the skin. Repurposing a term Anton Ford introduced in his discussion of the standard view of action, I shall call this view – the one that philosophers seem to have unthinkingly

Generality,” in *Essays on Anscombe's Intention*, edited by Anton Ford, Jennifer Hornsby, and Frederick Stoutland (Cambridge, MA: Harvard University Press, 2011), pp. 76 – 104, Aristotle rejected this view too.

²⁸ Michael Smith, “The Structure of Orthonomy” in *Agency and Actions*, eds. Hyman and Steward (Cambridge University Press, 2004): 165 – 193, at p. 165. See also Michael Smith, “Four Objections to the Standard Story of Action (and Four Replies)”, *Philosophical Issues* 22 (2012), pp. 387 – 401, especially pp. 396ff.

²⁹ See Lavin, “Must There Be Basic Action?”

accepted for the purposes of making sense of agency – the ‘corporealism’ view of the body in action.³⁰ In the next two sections, I offer arguments for a more capacious view of the body that, even if ultimately unsuccessful (but I think they succeed), are meant to be urgent invitations to philosophers of action that they take seriously inquiry into the nature of the body and bodily movements.

3.

This section argues, on the basis of an appeal to functionalism, that the bodily movement that is an essential component of action can just as well occur in ‘technologically given’ parts as in ‘biologically given’ parts. In short, when we act, the body that moves extends beyond the surface of the skin.

Here are some examples to motivate my argument. Andy has a ‘biologically given’ foot and Baxter has a prosthetic left leg. Each walk to the store. Is Baxter taking the action of moving a full leg and a leg stump in a walking motion, whereas Andy is taking the action of moving two legs in a walking motion? In the future, let us suppose that there will be prosthetic eyes that are functionally identical to biologically given eyes. Andy has the latter kind of eyes and Baxter the former. Each scans the store shelves. Is Baxter taking a different action from Andy? That is, are those who ‘see technologically’ taking a different action from those who ‘see biologically’? Suppose that one day pregnant women can choose to use nanorobots that facilitate healthy fetal development. Some of these amazing robots will even implant themselves in a developing fetus that otherwise would lack certain biologically given body parts so that babies can be born with technologically given prostheses. In this case, when Toddler Andy, who has a biologically given body,

³⁰ Ford, “Province of Human Agency.” Ford uses the term “corporealism” to refer to the view that all action is bodily movement. I am using the term to refer to the view that all bodily movement is movement of the corporeal form bounded by skin.

reaches for the squishy toy, is he taking a different action than is Toddler Baxter, who was born with ‘technologically given’ fingers, when he reaches for the squishy toy? Now consider Anne McCaffrey’s “The Ship Who Sang”, in which a person’s body is, at birth, placed within a computerized shell that allows the person to become a full cyborg:

Instead of kicking feet, [the main character] Helva’s neural responses started her wheels; instead of grabbing with hands, she manipulated mechanical extensions. . . Helva’s class was doing fine arts. . . She had activated one of her microscopic tools. . . Her subject was large – a copy of the Last Supper – and her canvas small – the head of a tiny screw. She had tuned her sight to the proper degree. As she worked she absentmindedly crooned. . . sound issued through microphones [sic] rather than mouths. . .³¹

Helva’s locomotion, speech, and manner of physical manipulation of things is quite different from what we find in people with biologically given bodies. Her biologically given body does not really do much of anything when she acts. Only her technologically given body is active. Are her actions entirely mental actions, or do her actions occur ‘in the world.’

It is my contention that the use of prostheses in action does not make a relevant difference to what someone is doing. Baxter with his prostheses is not doing something different than is Andy with his fully biologically given body. And, it is my contention that Helva, who uses almost entirely technologically given parts is painting and singing. In a limit case like this one, in which the technologically given is a total, albeit not physically isomorphic, functional substitute for the biologically given, there is no reason beyond a prejudice in favor of familiar dermatological surfaces to judge that the technologically given is not a proper part of an action that involves it. Those who deny this – those who believe that when we act we

³¹ Anne McCaffrey, “The Ship Who Sang,” pp. 8 – 9.

never do more than move our bodies – owe us an argument demonstrating that this is not an unreasoned prejudice. For, this limit case strongly suggests that the ‘body’ that one never does more than ‘move’ when one acts can just as well be technologically given as biologically given.

Actions that employ biologically given parts and actions that employ functionally similar technologically given parts are, all else being equal, tokens of the same act-type. This is the sort of argument that Andy Clark (and, in an initial paper, David Chalmers) used to defend the extended mind hypothesis, which says that the mind extends beyond the brain into the ‘extra-cranial’ world. The key principle on which the extended mind hypothesis rests is the ‘Parity Principle’:

If, as we confront some task, a part of the world functions as a process which, were it done in the head, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world is... part of the cognitive process.³²

On the basis of the Parity Principle, Clark concludes that if process P1 realized in biologically given brains and process P2 realized in technologically given material are both instances of cognitive process C, then so long as P1 and P2 meet criteria for some process being a C-process, P1 and P2 are both C-processes.³³

³² Andy Clark and David Chalmers, “The Extended Mind” 58 *Analysis* (1998): 7 – 19, at 8. For the fullest statement of the view, see Andy Clark, *Supersizing the Mind: Embodiment, Action, and Cognitive Extension* (Oxford: Oxford University Press 2008).

³³ A competitor to the extended mind hypothesis that rejects the functionalist grounding of the extended mind approach is the enactivist hypothesis of the mind. For the purposes of this essay, the differences between the two are irrelevant. In both cases, the mind is understood as realized in structures and processes beyond the brain. Thus, even if enactivism is true and the extended mind hypothesis false, my line of argument, which boils down to a

Since the extended mind hypothesis is just an application of a version of functionalism³⁴ (Clark also uses the term ‘extended functionalism’ to refer to the extended mind hypothesis³⁵), we can repurpose the Parity Principle for agency:

If a part of the world functions as a process which, were it done in the body, we would have no hesitation in recognizing as part of an action, then that part of the world is part of the action.

Thus, the extended agency hypothesis would face the same sorts of objections to the extended mind hypothesis. For example, some argue that Clark’s independent account of cognition is implausible, i.e., his account of the criteria for some process being a C-process is wrong.³⁶ One objection to the line of argument I’ve presented here, then, presumably would not involve the denial of the underlying functionalist hypothesis, but instead would rest on the claim that I’ve mischaracterized action in a way that, when

drawing an inference about the parity of the biologically given with the technologically given on the basis of an analogy with theories of embodied cognition that reject sharp distinctions between cognitive processes and processes in the extra-cranial body, remains correct in spirit. See Francisco Varela, Evan Thompson, & Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (6th ed.) (Cambridge, MA: MIT Press, 1991), Shaun Gallagher, “The Socially Extended Mind,” *Cognitive Systems Research* 25 – 26 (2013): 4 – 12, and Ezequiel Di Paolo and Evan Thompson 2014 “The Enactive Approach,” in Lawrence Shapiro, ed., *The Routledge Handbook of Embodied Cognition* (NYC: Routledge 2014): 68 – 78.

³⁴ Kim Sterelny has argued that we should understand the extended mind hypothesis as just a specific form of niche construction. See Kim Sterelny, “Minds: Extended or Scaffolded?” 9 *Phenomenology and the Cognitive Sciences* 4 (2010): 465 – 481.

³⁵ See Clark, *Supersizing the Mind*.

³⁶ See, e.g., F. Adams and K. Aizawa, “The Bounds of Cognition,” *Philosophical Psychology* 14 (2006): 43– 64; and Rob Rupert, *Cognitive Systems and the Extended Mind* (New York: Oxford University Press, 2009).

corrected, preserves the thesis that the surfaces of our biologically-given bodies are the boundaries of our actions. But, it is not clear what a non-question begging version of this objection would be (e.g., it would beg the question to stipulate a definition of action that blocks an extended agency hypothesis). So, let this be an invitation to meaningful challenges to extended functionalism about agency. For now, though, we should tentatively accept that actions extend beyond the (biologically given) body.

One lesson we might take from this section's argument is that to understand agency we should focus on the *capacity* for action and not on the *matter* in which that capacity is realized. That is, we should understand the *agential body* as whatever matter realizes agential capacities. So far, though, we have treated the possible agential capacities as fixed for all humans, with differences only in the matter in which they are realized. The following section suggests a different approach to the agential body, one that appreciates that it is enmeshed in technologies.³⁷ This, in turn, supports the view that the body that acts – the agential body – extends beyond the surfaces of the skin.

4.

It is uncontroversial that for contemporary humans, flesh and technology are intertwined. As Don Ihde has written, “We are our bodies — but in that very basic notion one also discovers that our bodies have an amazing plasticity and polymorphism that is often brought out precisely in our relations with

³⁷ Andy Clark seems to take a version of the view defended in this section as a corollary of his extended functionalism: “...we, meaning we human individuals, just *are* these shifting coalitions of tools.” (in Andy Clark, *Natural Born Cyborgs: Minds, Technologies, and the Frontiers of Human Intelligence* (Oxford: Oxford University Press, 2003), p. 137.

technologies. We are bodies in technologies.”³⁸ Human beings, on this view, are seamlessly enmeshed in a myriad of medical technologies – eye-glasses, hearing aids, pacemakers, and insulin pumps, to name a few examples. As David T. Mitchell and Sharon L. Snyder put it, “the prostheticized body is the rule, not the exception.”³⁹ But, these technologies not only intersect with our flesh. They also shape and extend our capacities to act.⁴⁰ Once we begin to appreciate this point, the fleshy body recedes from focus when thinking about agency and technologies which shape and extend our capacities take center stage. This is the essence of Sigmund Freud’s claim when he writes:

With every tool man is perfecting his own organs, whether motor or sensory, or is removing the limits to their functioning. Motor power places gigantic forces at his disposal, which, like his muscles, he can employ in any direction; thanks to ships and aircraft neither water nor air can

³⁸ Don Ihde, *Bodies in Technology* (Minneapolis: University of Minnesota Press, 2002), p. 137.

³⁹ David T. Mitchell and Sharon L. Snyder, *Narrative Prosthesis: Disability and the Dependencies of Discourse* (Ann Arbor, MI: University of Michigan Press, 2001), p. 7. In that passage, they are explicitly drawing on David Wills, *Prosthesis* (Palo Alto, CA: Stanford University Press, 1995. See also the discussion in Elizabeth Grosz, *Time Travels* (Durham: Duke University Press, 2005), chapter 9.

⁴⁰ This invites suspicion of pictures of prostheses that treats them purely as therapeutic or as supplements that ‘make up for’ what is lacking or that ‘normalizes the abnormal’. For, this view of prosthetics as additions to the normal hypostasizes the statistically normal body. But, that amounts to treating the statistically normal, which is a fiction, as a reality from which things can be taken away or to which things can be added. For example, eyesight requiring ‘correction’ is the norm, not the deviation. It follows from treating the statistically normal as fixing what counts as the ‘unprostheticized’ body that the person with excellent eyesight who lacks spectacles lacks something. On the other hand, if we understand prostheses functionally, as I urged above, then a prosthetic simply become yet another way for the one function to be realized across different agents.

hinder his movements; by means of spectacles he corrects defects in the lens of his own eye; by means of the telescope he sees into the far distance; and by means of the microscope he overcomes the limits of visibility set by the structure of his retina.⁴¹

Freud suggests that when we think of our “own organs” in terms of “the limits to their functioning” then we will see that these organs, “whether motor or sensory,” can be extended by tools.

Long since Freud, many outside the Anglo-American philosophical tradition have argued that this body-technology relationship is so tight that we such that we should understand the body as a ‘Deleuzian assemblage’ seamlessly meshing technology – both enabling conditions and tools – and the organic.⁴² Thus Mark Wigley, an art historian who studies architecture, invites us to think of the built environment in this way:

⁴¹ Sigmund Freud, *Civilization and Its Discontents*, translated by James Strachey (NYC: W.W. Norton [1930] 1962), p. 42.

⁴² For the canonical initial defense of understanding the body as a cyborg, see Donna Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the 1980s” in *Feminism/Postmodernism*, ed. Linda Nicholson (NYC: Routledge, 1990), pp. 190 – 233. For recent defenses of this view, see Margrit Shildrick, “‘Why Should Our Bodies End at the Skin?’: Embodiment, Boundaries, and Somatechnics,” 30 *Hypatia* I (2015): 13 – 29. See also Margrit Shildrick, “Prosthetic Performativity: Deleuzian Connections and Queer Corporealities,” in *Deleuze and Queer Theory*, ed. C. Nigianni (Edinburgh: Edinburgh University Press, 2009). For the concept of the assemblage see Gilles Deleuze and Felix Guattari, “A Thousand Plateaus: Capitalism and Schizophrenia,” translated by Brian Massumi (Minneapolis: University of Minnesota Press 1987).

...the body depends on foreign elements that transform it. It is reconstituted and propped up on ‘supporting limbs’ that extend it... the prosthesis reconstructs the body, transforming its limits, at once extending it and convoluting its borders. The body itself becomes artifice.⁴³

Wigley’s point here is not about passive body – the one that feels – and it is not about functional parity between the biologically given and the technologically given. Rather, his point is that the agential capacities of bodies are transformed and extended through interactions with their technological environments. For the purposes of thinking about agency, then, we should abandon boundaries between body and technological artifice.

Prefiguring the thesis of this essay, Mark Seltzer, in his reflections on Henry Ford’s characterization of the many different ways in which individual workers, including those without limbs or sight, physically mesh with his new assembly line system of production, writes that Ford’s account “projects a transcendence of the natural body and the extension of human agency through the forms of technology that supplement it.”⁴⁴ When we act, our bodies are realized biologically and technologically

⁴³ Mark Wigley, “The Disciplining of Architecture,” *15 Assemblage* (1991): 6 – 29, 8.

⁴⁴ Mark Seltzer, *Bodies and Machines* (NYC: Routledge, 1992): 157. The passage Seltzer is commenting on runs as follows:

...there were 7,882 different jobs in the factory. Of these, 949 were classified as heavy work requiring strong, able-bodied, and practically physically perfect men; 3,338 required men of ordinary physical development and strength. The remaining 3,595 jobs were disclosed as requiring no physical exertion and could be performed by the slightest, weakest sort of men... The lightest jobs were again classified to discover how many of them required the use of full faculties, and we found that 670 could be filled by legless men, 2,637 by one-legged men, 2 by armless men, 715 by one-armed men, and 10 by blind men.

simultaneously; the boundaries between human and machine are blurry. In a fascinating and evocative passage, Roseanne Allucquère Stone illustrates this point as follows:

Exactly where, I say to myself, is [Stephen] Hawking? ... Who is doing the talking up there on stage? In an important sense, Hawking doesn't stop being Hawking at the edge of his visible body. There is the obvious physical Hawking, vividly outlined by the way our social conditioning teaches us to see a person as a person. But a serious part of Hawking extends into the box in his lap. In a mirror image, a serious part of that silicon and plastic assemblage in his lap extends into him as well... with the box his voice is auditory and simultaneously electric, in a radically different way from that of a person *speaking* into a microphone. Where *does* he stop? Where are his edges? The issues his persona and his communication prostheses raise are boundary debates...⁴⁵

At least from the perspective of Hawking as a speaking and acting human being, we cannot draw a principled distinction between the flesh and the mechanical components of the overall system that realizes his capacity to talk. Importantly, this is not saying that we cannot draw *any* distinction between flesh and plastic. No one makes that ridiculous claim. The point is that there is no reason to hold that the biologically-given body has either conceptual or metaphysical priority when we understand the body as that through which we realize our intentions (including our expressive intentions). Causal priority – that the biological body comes first before the prosthetic – is, of course, both irrelevant and neither nomologically nor conceptually necessary.

Therefore, out of 7,8882 kinds of jobs, 4,034... did not require full physical capacity. (Henry Ford, *My Life and Work* (NYC: Doubleday, 1923), p. 108.

⁴⁵ Roseanne Allucquère Stone, *The War of Desire and Technology at the Close of the Mechanical Age* (Cambridge, MA: MIT Press, 1995), p. 5.

As the Hawking example suggests, especially powerful examples of the meshing of the biologically given and its environment when it comes to the body-as-actor are cases of speech acts. To use a language is to employ words whose meanings are products of conventions and to employ grammars that are conventionally established.⁴⁶ It is also to use a voice (or characteristic hand movements) shaped by one's community. Sarah S. Jain writes: "...the voice that comes... from the throat is... in a certain sense prosthetic – a device (trained, disciplined, accented, and pitched through many screens of personal, educational, and cultural intervention) through which agency [i.e., the capacity to express oneself] is established..."⁴⁷ Jain's point is that spoken language, with all its culturally dependent affect and style, is a technology that people use in order to express themselves. One's speaking voice is as much a technology as is, for example, the writing implement one uses when writing.

So, for the purposes of analyzing speech acts as actions, we cannot treat the distinctions between (i) mouths and vocal chords (or in the case of sign language, arms and hands), (ii) the conventions

⁴⁶ See David Lewis, *Convention* (Cambridge: Harvard University Press, 1969), and David Lewis, "Languages and Language," in Keith Gunderson (ed.), *Minnesota Studies in the Philosophy of Science*, Volume VII, (Minneapolis: University of Minnesota Press, 1975): 3 – 35. Lewis's accounts of the conventions and their relationship to language and language use in a population differ slightly across these two essays. But, on both pictures, a social practice – a convention – supports and disciplines individual language use. For an important discussion of the social basis of language (and meaning, more generally) that relaxes the epistemic requirements at the heart of Lewis's account in *Convention* (where a common knowledge requirement plays an essential role), see Brian Skyrms, *Signals: Evolution, Learning and Information* (Oxford University Press: 2010).

⁴⁷ Sarah S. Jain, "The Prosthetic Imagination: Enabling and Disabling the Prosthesis Trope" 24 *Science, Technology, and Human Values* I (1999): 31 – 54, 41.

constituting the spoken or signed language, and (iii) the norms constituting the social and cultural milieu in which language users acquire and use the capacity to speak, as limning boundaries between fundamental and non-fundamental elements of action. While these three elements are conceptually distinct from each other, the action of speaking involves all three interacting with each other. That is, speaking a language involves bodily movements enmeshed in, disciplined by, and expressing vast networks of artifice, including conventional social norms (such as norms establishing meaning and norms generating accents).⁴⁸

Yet another line of argument exists for the denial of a strict focus on the biological body when trying to understand the essential components of agency. Many who have reflected both on racism and on the oppression of women have argued that when it comes to the capacity to act, the body is socially constructed.⁴⁹ These accounts distinguish between the body as anatomical object and the body-as-locus-of-action. The latter body – the agential body – must be understood in terms of capacities and it is what is racialized, gendered, and so on. This is the social construct. Thus, for the purposes of understanding the capacities of women or black people to act, we must understand their bodies always as *women's* bodies or as

⁴⁸ For more speech acts, see J. L. Austin, *How To Do Things With Words* (Second Edition), ed. J.O. Urmson and M. Sbisá (Cambridge, MA: Harvard University Press 1962). See also Rae Langton, “Speech Acts and Unspeakable Acts,” *Philosophy and Public Affairs* 22 (1993): 305-330; Rae Langton, “Subordination, Silence and Pornography’s Authority,” in *Censorship and Silencing: Practices of Cultural Regulation*, ed. Robert Post (J. Paul Getty Trust and Oxford University Press, 1998): 261-84; and Rae Langton, “Beyond Belief: Pragmatics in Hate Speech and Pornography,” in *Speech and Harm*, eds. Mary Kate McGowan and Ishani Maitra (Oxford: Oxford University Press, 2012): 126-147.

⁴⁹ See, e.g., Franz Fanon, *Black Skin White Masks*, revised edition, translated by Richard Philcox (NYC: Grove Press, 2008) for a discussion of racialized bodies. For a discussion of women’s bodies, see Sandra Lee Bartky, *Femininity and Domination: Studies in the Phenomenology of Oppression* (NYC: Routledge, 1990), especially chapters I and 6.

black bodies. There is no such thing as a culturally unencumbered agential body. For example, Iris Marion Young has explained at length how “[for] many women as they move in sport, a space surrounds us in imagination that we are not free to move beyond; the space available to our movement is a constricted space... Women often approach a physical engagement with things with timidity, uncertainty, and hesitancy. Typically, we lack an entire trust in our bodies to carry us to our aims.”⁵⁰ Young herself errs in suggesting that women are making a mistake in their judgments about their capacities. For, she is clearly not talking primarily about explicit judgments that women make about themselves. Rather, she is considering agential dispositions (i.e., dispositions to act in certain ways and not merely to believe certain things or to draw certain inferences). These dispositions, Young argues, are products of and are sustained by sexist social forces. Such dispositions are therefore systemically realized – they exist as sexist dispositions only within the context of the web of sexist social practices – and are not realized solipsistically, as it were. This same point can be made when it comes to dispositions to follow conventional social norms. Those dispositions are not rule-following dispositions in the absence of the social norms that give rise to and sustain them. We can, of course, posit pathological dispositions to follow wholly non-existent norms. But, those are, functionally speaking at least, very different dispositions than the *actual* rule-following dispositions. We therefore err if we insist that the agential body can be understood in terms that isolate that body from the social practices that partially determine and sustain its capacities.

⁵⁰ Iris Marion Young, “Throwing like a Girl: A Phenomenology of Feminine Body Comportment Motility and Spatiality” in her *On Female Body Experience: ‘Throwing Like a Girl’ and Other Essays* (Oxford: Oxford University Press, 2005), 27 – 45, at 33 – 34.

Nothing here amounts to the claim that the body as anatomical object is socially constituted. For, the body as dead anatomical object is not the subject of this inquiry. Rather, the agential body – the body that moves when philosophers of action say that action is intended bodily movement – is the subject of this inquiry. And *that* body, if Young is correct, is at least in part socially constituted.

Finally, even in mainstream biology we find challenges to the boundary between the biologically given ‘body’ and what is created and used by the organism. Consider Richard Dawkins’s *The Extended Phenotype*, which challenges the view that the surface of an organism should always be treated as the boundary of the organism.⁵¹ Dawkins argues that expression of a genotype extends beyond the surface of the organism’s skin to include certain characteristic effects on the environment. Consequently, for example, the disruption of an organism’s extra-corporeal environment can have far more significant effects on both an organism’s lifeways and fitness than, e.g., the loss of part of a limb. So, although the concept of the body is not at the heart of Dawkins’s argument, an upshot of his view is that the surface of the skin is not a theoretically privileged boundary when it comes to understanding an organism’s lifeways or how it might flourish.

Other accounts in developmental biology, such as the developmental systems theory (DST) approach, explicitly challenge the claim that there are theoretically useful boundaries between organism and environment.⁵² For example, DST is “an account of evolution in which the fundamental unit that

⁵¹ Richard Dawkins, *The Extended Phenotype* (Oxford: Oxford University Press, 1982).

⁵² See, e.g., Susan Oyama, Paul E. Griffiths, and Russell D. Gray, *Cycles of Contingency: Developmental Systems and Evolution* (Cambridge, Mass.: MIT Press, 2001); and Paul E. Griffiths, and Russell D. Gray: “The Developmental Systems Perspective: Organism-Environment Systems as Units of Development and Evolution,” in Massimo Pigliucci and

undergoes natural selection is neither the individual gene nor the phenotype, but the life cycle generated through the interaction of a developing organism with its environment. . . the ‘developmental system’ is the whole matrix of resources that interacts to reconstruct that life cycle.”⁵³ From an evolutionary perspective, then, there is no theoretically interesting component of nature that is traced by the outer skin of the organism. Evolutionarily speaking, what is selected is an organism-environment synthesis. This is the ‘body’ that exists in space, that consumes things, that reproduces, and so on.

In summary, the surface of the what philosophers of action pre-theoretically think of as the body is not obviously the boundary of the body that acts. A more mature and theoretically powerful account of the body in the context of thinking about human agency views it as an assemblage – as having boundaries that are somewhat plastic and cannot always be so easily traced. Philosophy of action must reckon with these porous boundaries between the biologically given body and its technological and natural environment. For, just as a mature account of intentions ought to shape our understanding of agency, so too ought a mature account of the body.

5.

The two lines of argument presented in the previous two sections suggest a category, *the agential body*, which is to say the body that moves when we act, as distinct from, say, *affect’s body*, which is to say that body that is the sole location of affect and sensation. I have argued that this body extends beyond the surface of our skin. One might balk at the use of the term “body” to describe whatever it is that moves when we act

Katherine Preston, *Phenotypic Integration: Studying the Ecology and Evolution of Complex Phenotypes* (Oxford: Oxford University Press, 2004): 409 – 431.

⁵³ Griffiths and Gray, “The Developmental Systems Perspective”, p. 410.

if that moving thing extends beyond the surface of our skin. I feel this intuitive pressure pushing away from the non-canonical use of the term body. But, there is also a long-standing tradition of appreciating that bodies are plastic, can extend, and can artificially constituted. Perhaps the most famous instance of this is the long-standing metaphor of the *body politic*, so evocatively illustrated on the iconic frontispiece of the *Leviathan*. This is not *mere* metaphor. Hobbes and others are at pains not to make a case that we should have a change in view and *begin* seeing political community as a body. Instead they are trying to explain why it is so natural for us to have all along viewed political communities corporeally. So, understanding the agential body as a body distinct from affect's body is just a part of this tradition. But, if this is too much, then in the following please replace the term *agential body* here with the more neutral *agential material*. But, for the remainder of this essay, I shall use the term *agential body*.

6.

Philosophers of action might argue that even if the agential body is realized as a biotechnical assemblage, non-technological action involving only the biologically given body is the most fundamental expression of agency.⁵⁴ On this view, what is limned by the surface of the skin is the most fundamental of all non-psychological elements of action. So, we must first understand the action-constituting relationship between mind and that body before we can build up a model of technological agency. We might say that the concept of action is the concept of some bit of the 'non-technological body' wriggling about realizing of our intentions, even if usually our bodies and hence our actions are extended. So, philosophy of action, insofar as it is interested in giving an account of the essential elements of action, should focus exclusively

⁵⁴ From here on out, I will drop the phrase "biologically given" as a modifier, so that when I use the term "body" unmodified, I mean the body outlined by the surface of the skin.

on action-constituting relationships between certain psychological states and the body limned by the surface of the skin.

But, what can support the claim that there is something basic about non-technological action? Why should we start our theorizing about human agency with agency realized in the technologically unencumbered body? Many primates, corvids, elephants, some cetaceans, and even canines display a native capacity for tool use (with some corvids – birds! – being almost as adept as non-human primates). Should we try to imagine non-technological versions of these animals in order to theorize their activity? We need an argument for the fundamentality of non-technological action. To do this, though, we should look once again at evolutionary biology for reflections about the distinction between organism and niche since, after all, that is really the distinction philosophers of action are making on when they distinguish the non-technological from the technological.

Many have argued that the relationship between organism and environment is dynamic such that there is reciprocal interaction between the two both during ontogenesis and while the organism is living its life. This though makes it difficult to determine where the pre-niche organism's activity ends and the niche's processes begin. Consequently, the apparent innocence of the concept of the pre-niche organism is a mirage. That concept may be useless for sophisticated theorizing about an organism's actions.⁵⁵

⁵⁵ See J. S. Turner, *The Extended Organism: The Physiology of Animal-Built Structures* (Cambridge, MA: Harvard Univ. Press 2000). See also J. Odling-Smee, K. Laland, and M. Feldman, *Niche Construction: The Neglected Process in Evolutionary: A Monograph in Population Biology* (Princeton, NJ: Princeton University Press, 2003); K. Laland "Niche Construction, Human Behavioral Ecology and Evolutionary Psychology" in R. Dunbar and L. Barrett, eds., *Oxford Handbook of Evolutionary Psychology* (Oxford: Oxford University Press, 2007), pp. 35 – 48.

For example, many species of termites cannot survive outside the massive structures they construct. These structures are exquisitely tuned to termite needs.⁵⁶ Should we build a theory of termite behavior on the basis of imagining the termite apart from its niche? We could, but it would be a radically deficient account of termite behavior, since this lonely termite would not be doing much, as in the absence of its mound it is likely a dead termite. A theory of termite behavior on the basis of reflections about this niche-less termite would at least be simple.⁵⁷

The philosopher of action wishing to conserve the view that there is something fundamental about the intended movement of the non-technological body is forced to face up to the fact that human technology defines the ecological niche in which human beings live. That is, the non-technological human agent is an agent without a niche. But, then what *is* a human being without a niche? It is no small feat to imagine this creature. Even if we could imagine it, what intellectually revealing connection does the activity of this imagined human have to actual human beings, who are not and have never been non-technological?

⁵⁶ For (a lot) more on termites and other insects and their niches, see Kevin Laland, John Odling-Smee, and Scott Turner, “The Role of Internal and External Constructive Processes in Evolution” *Journal of Physiology* 592, pt. II (2014): 2413 – 2422.

⁵⁷ Even some biologists who would reject a robust application of niche construction theory for *all* species accept it is hardly simple to distinguish humans from their niches. For example, Theodosius Dobzhansky wrote, “Man alone adapts himself, in a large part, by actively or even deliberately changing the environment, and by inventing and creating new environments.” (Theodosius Dobzhansky, *Evolution, Genetics and Man*. (Wiley, New York 1955), p. 339). Dobzhansky here treats shifts in the human environment as adaptations of the human beings themselves. That is, he is saying that human beings and their behavior cannot be fully understood as products purely of a genotype, but must be understood as products of a complex interplay between genome and technology.

One might object that bringing evolutionary biology into a *philosophical* discussion of human agency is unwarranted. But, contemporary philosophers of action have expressed a methodological commitment to theorizing agency and action so that it emerges entirely from, as David Velleman puts it, “our scientific view of the world,” which requires us to view “all events and states of affairs as caused, and hence explained, by other events and states, or by nothing at all.”⁵⁸ This rather general rule cannot be glossed merely in terms of requiring “naturalistic conception[s] of explanation,”⁵⁹ where that in turn is understood in no more detailed terms than an agent and her actions being part of the naturalistic causal order. For, any ‘scientific’ view of human action must treat the agent and her actions in at least a scientifically informed manner, i.e., in a manner that is sensitive to the specific explanatory demands of the relevant sciences, and not merely as part of any *conceivable* causal order. The best concept of human agency is sensitive to the *actual* world. So, in addition to rejecting substance dualism in action theory, we should *accept* that agency must be understood in at least a minimally biologically informed manner. This, I’ve been arguing, requires thinking of the agent and her actions as thoroughly embedded within a rich technological ecology.

Another way to put this point is as follows. Contemporary philosophy of action insists on a ‘scientific’ understanding of human agency and the actions that flow from it. And yet if we are to treat action ‘scientifically’ then surely we must appreciate that action is, if anything, as much a biological phenomenon as it is a psychological phenomenon. Therefore, philosophers of action ought to take seriously what biologists have to say about human activity. So, what do biologists have to say? Every human being’s – and indeed every organism’s – developmental environment directly shapes that organism’s traits and capacities. In particular, if agency is a human capacity, then one makes an error in attempting to

⁵⁸ J. David Velleman, “What Happens When Someone Acts?” *IOI Mind* 403 (1992): 461 – 481, p. 467.

⁵⁹ *Ibid.*, p. 468.

understand agency in terms of the bare human body outside its technological niche.⁶⁰ For, the fiction of the non-technological body is, in the absence of careful articulation, not a part of our scientific view of the world. So, it is unclear why should we privilege that fictional account of the body in our accounts of agency over the more complicated reality, namely, the reality of the human body as a biotechnical hybrid.

7.

Next, the philosopher of action might argue that while the biotechnical hybrid view of the action may be correct, it remains the case that a necessary condition for something being part of a human body is that it is at least *contiguous* with (or has a causal history that makes it contiguous with) the skin-limned surface of that body. Thus, the non-technological body is metaphysically prior to the technologically-extended body, and so it has a claim on being fundamental in any theory of agency.

This provides us with a lens through which we can read Maurice Merleau-Ponty's famous discussion of how a blind man's stick, through repeated use, becomes "a bodily auxiliary, an extension of

⁶⁰ See especially Kim Sterelny, Kelly C. Smith, and Michael Dickison, "The Extended Replicator," *Biology and Philosophy* II (1996): 377 – 403; and Paul Griffiths and Russell Gray, "The Developmental Systems Perspective. Organism-Environment Systems as Units of Development and Evolution," in Pigliucci and Preston, *Phenotypic Integration – Studying the Ecology and the Evolution of Complex Phenotypes*. For a detailed discussion of how this relates to human culture, see William Wimsatt, "Entrenchment and Scaffolding: An Architecture for a Theory of Cultural Change" in L. Caporael, J. Griesemer and W. Wimsatt, eds., *Developing Scaffolding in Evolution, Cognition, and Culture*, (Cambridge, MA: MIT Press, 2013): 77 – 106.

the bodily synthesis.”⁶¹ The stick is part of the body because when the blind man is using it to see, the stick is contiguous with the blind man’s hand, understood as a non-technological element of the man’s body.

This allows the boundaries of the blind man’s *agency* to extend from the surface of the blind man’s hand to the tip of the stick. But, this extension is possible only thanks to that apparatus being contiguous with the man’s hand, which is a proper part of his body. So, on this view, although it would be wrong to say that the blind man’s action of viewing the world does not involve his stick (since, as Merleau-Ponty argued, the blind man does not experience his action as somehow ‘stopping’ with his hands), the action of feeling the world around him involves the stick only in virtue of the stick being contiguous with the blind man’s body. Thus, at least when it comes to explanatory priority, the blind man’s body is more fundamental than the stick. For, it figures in the explanation of why the stick is part of the action.

One can then show that all actions involving prostheses and niches include those prostheses and niches only because they are properly contiguous with the body. While this would require jettisoning the traditional notion of basic action as involving only psychological states and movements of the non-technological body, it would put in its place an account according to which being in a special relationship with the skin is necessary for something being a part of the agential body. The surface of the skin retains the kind of fundamentality that philosophers of action may want it to have.

This approach, though, has a flaw. Mere contiguity with the skin seems too low a bar for something being a part of the body. Lots of things can touch the surface of a person’s body, from a leaf fluttering down from a tree during an autumn rainstorm to a properly fitted prosthetic leg. The theory of body philosophers of action employ in their accounts of agency should be able to provide grounds for a

⁶¹ Maurice Merleau-Ponty, *Phenomenology of Perception*, translated by Colin Smith (NYC: Routledge Classics, 2002), pp. 175 - 176.

principled distinction between these two cases. The philosopher of action might posit a threshold view of bodily contiguity, where *robust contiguity* is necessary for something being part of the body, and everything that has less-than-robust contiguity with the body failing to be part of the body, at least for the purposes of action theory. Thus, since Jones could easily drop the butter knife as his fingers get buttery and one of Clare's shoes could easily pop off her foot when she stumbles on a tree root, these movement of these things is not parts of their respective agent's actions. But the same things cannot so easily occur with properly fitted prostheses.

What is it, thought, about robust contiguity with skin that makes it seem so natural to introduce it in the context of a struggle to understand the extra-mental features of action? What philosophers of action (or at least those tempted by the view being considered in this section) might hold is that robust contiguity with the skin is a close to an infallible guide for determining what meets that standard. But that is a false view.

First, robust contiguity with the skin is not necessary for reliable integration with the mind. Consider people with complete state locked-in syndrome (LIS). These deeply unfortunate people are globally paralyzed. Voluntary muscle movement, normal communication, and for some even eye movement are impossible. But, they retain consciousness and full cognitive capacities.⁶² Imagine an LIS patient fitted with technology that allows her to wirelessly mentally communicate with and control robots. Suddenly, this person's mind explodes into public view. She uses the robots to speak to visitors, to tease

⁶² I am drawing from E. Smith and M. Delargy, "Locked-in Syndrome" 330 *The BMJ* (2005): 406 – 9; and C. Schnakers, S. Majerus, S. Goldman, M. Boly, P. Van Eeckhout, S. Gay, F. Pellas, V. Bartsch, P. Peigneux, G. Moonen, and Steven Laureys, "Cognitive Function in the Locked-in Syndrome" 255 *Journal of Neurology* (2008): 323 – 30.

the local staff, to change her bed linens, to visit friends and family, to write her memoir, to produce and direct the cinematic version of the memoir, to walk up on to the stage at Cannes and receive the Palme d'Or for this film, to go for a drive in the French Alps with her lover, to throw a log onto the fire in the chateau in which they are staying, and so on. All the while, her body remains prone. Does it matter that her intentions are realized in what has never even grazed the surface of her skin? It doesn't. Gross physical contiguity with the skin is not necessary for something being part of the agential body.

Second, robust contiguity with the skin is obviously not sufficient for something being part of the agential body. As we regrettably suffer the increasing weaknesses and accumulating infirmities of advancing age, many parts of our bodies become frustratingly unreliable. Legs no longer reliably run, backs no longer reliably lift, hands no longer reliably grasp, and so on. Sharp minds become strangers to crumbling limbs and joints. The young, too, can suffer from exhaustion, hunger, emotional outbursts, and intoxication, compromising the reliable integration of their bodies with their minds.

8.

I conclude, then, that for the purposes of understanding human agency, the body is extended by and enmeshed in technologies. Our agential bodies extend beyond the skin, and so the boundaries of our actions are not determined by the surfaces of our skin.