AGENCY AND EMBODIED COGNITION

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The things we do – our actions – can be contrasted with those things that merely happen to us. The dominant account of agency takes actions to be brought about and guided by intentions that represent the agent's performance of the action.[1] Merleau-Ponty offers an alternative view that denies intentions are essential for action. He holds instead that the agent's activity is brought about by her apprehension of her environment, without the need for any intervening thoughts that represent her performance of it. In this paper, I will argue that two considerations advanced in favour of the thesis that human cognition is embodied – that bodily activities are essential for cognition – are in tension with the dominant account of agency, and speak in favour of Merleau-Ponty's view.

1 Background

In this section, I will briefly outline the dominant view of agency, before saying a little about the idea of cognition as embodied.

The dominant account claims that actions are essentially brought about and guided by intentions that represent the agent's performance of the action. Intentions are mental states, and they have the content, 'I intend to φ'. Happenings are those events that befall

[1] My discussion here does not encompass mental actions, such as calculating a sum 'in one's head'.

the subject, but which are not brought about by her intentions. A central sort of happening is a bodily movement directly brought about by the subject's environment. Intentions must bring about bodily movement in the appropriate way for it to count as action. What counts as the appropriate way is an open question, and one that need not concern us here. Suffice to note that the qualification rules out cases like this one. I have a crossbow trained on the president, whom I intend to assassinate. I am terrified and sweating profusely as a result of my intention. My finger slips, releasing the arrow, which flies through the air and kills the president. My intention to kill the president brings about my killing her. But intuitively, my firing the crossbow is not an action I perform, but something that happens accidentally. My intention does not bring about the killing in the appropriate way.

Most theorists distinguish between intentions to do something in the future, and those to act now. Searle (1983) labels them 'prior intentions' and 'intentions-in-action', respectively; Bratman (1984) calls them 'future-directed' and 'present-directed' intentions; whilst Mele (1992) labels them 'distal' and 'proximal' intentions.

'Cognition' is a very broad term that refers to the various mental activities or processes involved in gaining knowledge and intelligent problem-solving. These include such things as attention, planning, memory, and recognition. The traditional view of cognition takes it to be largely independent from the body of the cognizing subject. It claims that mental states and activities are realised by the activities

and states of the brain, (and possibly the wider nervous system). It conceives of the body's role in cognition to be simply to support the brain: to move it around, to keep it alive, and to provide input for cognition in the form of sensory information. In principle, the mind could be removed from the body by removing the brain. All that is required is an alternative means of keeping it alive and providing sensory input for thought. The traditional view of cognition has been challenged in recent years by theorists who argue that the subject's bodily activities play an essential role in her cognition, over and above the simple gathering of sensory information and sustaining the brain. There are different versions of this thesis. The weakest version retains the claim that cognition is realised in the brain, but holds that the subject's embodied interaction with her environment is essential to cognition. A stronger thesis claims that many bodily activities are properly classified as instances of cognition, and many instances of cognition are constituted by bodily activities. On this view, it is not just brain states and activities that can be the vehicles of cognitive processes; bodily activities can also play this role. A third position holds that the way in which the embodied subject interacts with the world means that parts of her surroundings can be considered part of her cognitive processes. On this view, cognition can be realised in factors that lie beyond the subject's bodily boundaries.

I will discuss two considerations advanced in favour of the thesis that human cognition is embodied: the case of Otto's notebook, and

the notion of ecological control.

2 Otto's notebook

Clark and Chalmers (1998) use the case of Otto's notebook to argue that cognition can be extended beyond the subject's bodily boundaries. I will argue that there is tension between this case and the dominant view of agency. Clark and Chalmers' argument is controversial. Not everyone is happy to accept that cognition can be extended in the way they claim. I do not intend to defend their thesis here, so any sceptics should simply skip ahead to the next section. However, a sizeable number of people have been persuaded by the case of Otto's notebook, and so the following argument is addressed to them.

Otto has Alzheimer's disease, so uses information in his surroundings to help organise his life. He always carries a notebook with him. Whenever he learns some new information, he writes it in the notebook, and looks it up whenever the need arises. The notebook is an integral part of his day-to-day life. Clark and Chalmers claim that Otto's notebook plays the same functional role for him as biological memory plays for other people. The information contained in his notebook is easily accessible to his consciousness and reliably there when he needs it. It guides his actions as biological memory does for other people. For example, when Otto hears about an exhibition he wants to see at the Art Exchange, he looks up the location of the Art

Exchange, sees that it is located on Gregory Boulevard, and sets off for Gregory Boulevard. The situation exactly parallels the case of Inga, who does not have Alzheimer's disease. When she hears about the exhibition, she accesses her biological memory, retrieves the belief that it is on Gregory Boulevard, and so travels there, just like Otto. Clark and Chalmers argue that since Otto's notebook plays the same functional role for him as biological memory, the information it contains should be classed as a store of beliefs (just as biological memory consists in stored beliefs). It follows that the vehicles of belief can be extended beyond the bodily boundaries of the subject, to include elements of the world.

An alternative analysis holds that Otto has no belief about some matter until he looks in his notebook – so he has no belief about the location of the Art Exchange until he looks this up. In response, Clark and Chalmers suggest that we do not ordinarily think of beliefs as disappearing when they are not conscious, so that a subject stops believing that p when she no longer consciously believes p, and only starts believing p when she becomes conscious of doing so. Thus it's unclear why we should think of Otto as only having beliefs corresponding to the information contained in his notebook when he is conscious of it, that is, when he looks it up. Clark and Chalmers suggest further that the alternative analysis contains too many explanatory items: the information contained in the notebook, *and* the biologically based belief Otto forms when he reads it. We can do without one of these explanatory entities – the biologically based belief – and the

resulting, more parsimonious explanation is the one we should prefer.

Clark and Chalmers use the case of Otto to argue for the claim that the vehicles of *belief* can extend beyond the subject's bodily boundaries. However, a parallel argument is available to show that *intentions* can be likewise extended. Suppose that Otto does not just record new information in his notebook. He also writes down his decisions. For example, upon deciding to go to the exhibition, he writes 'Go to the exhibition at the Art Exchange at 1.30pm, on 22nd November 2010'. Before making any decisions, Otto always consults his notebook to see what he has already decided to do. This allows him to ensure that his decisions are consistent with one another, and carrying them out does not require him to be in different places at the same time. Sometimes he revises previous decisions. At other times, Otto does not revise old decisions, but simply ensure his new ones are consistent with them. When Otto gets up in the morning, he consults his notebook to see what he intends to do. He then does it. Once he has completed a task, he checks in his notebook to see what he has decided to do next, and then sets about doing that. The decisions that Otto writes in his notebook play the same functional role as biologically based intentions. They are immediately and reliably available to consciousness. They structure his practical reasoning about what to do – he consults his notebook before making new decisions so that he can ensure they are consistent. They bring about his actions – he carries out the decisions he has recorded in his notebook. Thus just as the

information Otto records in his notebook constitutes his beliefs, so too the decisions he records in his notebook constitute his intentions. In short, if we have reason to accept that Otto's beliefs are contained in his notebook, then we equally have reason to accept that his intentions are contained in it – that is, we have reason to think that the vehicles of intentions can extend beyond the subject's bodily boundaries.

Otto's notebook has implications for the dominant conception of agency. The dominant view holds that all actions are essentially brought about by intentions that represent their performance. One might initially think that the case of Otto does not affect the dominant view of agency. His actions are still initiated by his intentions. It's just that these are realised in his notebook rather than his brain. But whilst there is perhaps no outright conflict between the case of Otto and the dominant view of agency, there is nevertheless some tension between them. Otto's notebook is an item in the world. Otto's access to his intentions is therefore perceptual – he sees what is written in his notebook.[2] This means that Otto's actions are immediately driven by his perceived surroundings without the need for any intervening

[2] Clark and Chalmers argue that it begs the question to think of Otto's access to his notebook as perceptual. But this is only so if one thinks of perception as exclusively directed at things external to the mind. One might instead think of perception as sensory experience, and it is clear that Otto is aware of his notebook via his senses. The label we choose here makes no difference to my argument.

biologically based thought. On the dominant view a central sort of happening involves bodily movement immediately brought about by the agent's environment (which she may or may not perceive). Yet Otto's movements are both actions, *and* brought about by his perceived environment.

The following objection can now be raised. One might accept that the decisions recorded in Otto's notebook constitute his intentions. However, one might argue that they are only intentions to do something in the future. When Otto consults his notebook, he forms biologically based intentions to act *now*. These are the ones that bring about his actions. Otto's notebook thus poses no problem for the dominant view of agency. In response, consider this variation of the case. For Otto's birthday, his granddaughter buys him a small electronic device, which he starts to use all the time. Otto can record his decisions on the device, and access those he has already made. In this way it is like his notebook. But the device has another function. When the time to undertake a recorded decision arises, the device beeps and the screen instructs Otto to perform the relevant action. Otto reacts to these instructions by doing as they command. The instructions thus play the same role in bringing about Otto's actions as biologically based intentions to act now play in the ordinary agent. If we are willing to accept that Otto's recorded decisions constitute his intentions to act in the future, then we should also be willing to accept that the instructions that flash on the screen constitute his intentions to

act now.

One might, of course, claim that Otto forms a biologically based intention to now act when he reads the instructions. But we do not need to posit such an item to explain Otto's behaviour, and, other things being equal, we should prefer the simpler solution. It follows that Otto's actions are immediately initiated by his perceived surroundings. He sees the instruction to now φ, and he reacts by φ-ing, without the need to form a biologically based representation of this action. The case of Otto is therefore in tension with the dominant view of agency.

3 Ecological control

It may be possible to revise the dominant account of agency to accommodate the case of Otto. But there is more serious conflict between the dominant view and a second consideration advanced in favour of embodied cognition. This is a phenomenon Clark (2008) calls 'ecological control'.

An ecological control strategy for completing some task is one that reduces the need to process information by exploiting features of the system's morphology, its environment, and/or the dynamics of their interaction. Two examples will help to get the phenomenon in view (Clark 2008). The first involves the contrast between two walking robots. The first is a highly sophisticated robot called ASIMO (Advanced Step in Innovative Mobility). ASIMO's walking is effected by complex joint angle control systems, which calculate how each joint needs to move

relative to the others to propel ASIMO along. The second robot is a much simpler device called Puppy. The upper and lower segments of Puppy's legs are attached by springs that play a roughly analogous role to muscles and tendons. Puppy's feet are equipped with pressure sensors, and a few powered oscillatory movements are built into the robot. The morphology of Puppy's body – the shape, weight, the way in which its legs are jointed, etc. – interacts with the properties of the environment – gravity, the texture and gradient of surfaces – so that the small number of built in movements produces varied running and scampering motion. Puppy's motion involves far less information-processing than ASIMO's.

The second case involves the contrast between two ways of catching a ball. One way to accomplish this task is to use information about the ball's flight through space to build a detailed model of the ball's movement, which allows one to predict its future trajectory, and then move to intercept it. An alternative method is to simply run so that one perceives the ball as presenting 'a straight-line constant speed trajectory against the visual background' (Clark 2008: 16). The latter method involves far less information-processing. Puppy and the second method of catching a ball are ecological control solutions – they reduce the need to process information by exploiting features of the agent's morphology, her environment, and/or the dynamics of their interaction.

Ecological control is usually more 'cost-effective' than higher

levels of information-processing. It typically uses less energy, and in some cases, also saves time. Since a creature that used less time and energy to accomplish its tasks would have an advantage over one that used more, we should expect evolution to favour ecological control. There is indeed evidence to show that this is the case. Various creatures, including humans, favour ecological control. Human walking, for example, has been described as a sort of controlled falling over. We exploit the physical properties of our bodies and those of our environment to move around with a minimum of energy expenditure. Similarly, consider Clark's (2008) example of the experienced barman taking orders for cocktails. Different cocktails are served in differently shaped glasses. The barman is very familiar with these conventions and immediately associates a certain sort of cocktail with a certain sort of glass. As he takes orders, he lines up the appropriate glasses on the bar. He can then simply look at the glasses to see which cocktails he should serve, rather than trying to remember the list. In this case, the barman manipulates his physical environment to accomplish the cognitive task of remembering the orders. Manipulating one's physical environment in this way is more 'cost-effective' than remembering a list of orders 'in one's head'. There are many more examples of humans employing ecological control strategies for all types of tasks.[3]

The fact that humans (and other creatures) favour ecological

[3] Human preference for ecological control strategies is fairly uncontroversial, but there is disagreement over which embodied cognition thesis this supports.

control is at odds with the dominant view of agency. The problem is that the dominant account conceives of action as requiring a lot of information processing. Information about the agent's environment, her body, and the relation between them is gathered by the senses, including – for the ordinary agent – proprioception. Using this sensory information, together with that contained in the agent's other mental states, such as her beliefs and desires, intentions are formed that take into account what the agent wants to do, how she believes the world is organised, and how she is situated with respect to that world. These intentions represent the action to be performed. They are, in other words, internal models of the action. Since, on the dominant view of agency, action is not just initiated by intentions, but guided by them as it unfolds, there is further information processing, as the agent continues to receive sensory information about her body, her environment, and their relation, which is used to produce further intentions to control the unfolding action. Given that we have evolved to prefer ecological control, and given the large amount of information processing involved in producing intentions to initiate and guide action, we should expect humans to have evolved mechanisms for action that do not (always) require intentions. Thus we have reason to think that the dominant view of agency is incorrect.

One might object that this argument equivocates two notions of intention. Theorists distinguish between personal and subpersonal intentions. Personal intentions are, in principle, available to

consciousness. (In practice, the subject need not be conscious of all her personal intentions, and for some, there may be psychological reasons why she is not conscious of them, for example, it may be too painful for her to acknowledge an intention to kill her dog.) They are also the sort of state that can figure in the subject's practical reasoning. Subpersonal intentions, on the other hand, are not available to consciousness and incapable of figuring in her practical reasoning. They occur as part of hypothesised subpersonal processes responsible for the control of action. Personal intentions are more coarsely-grained representations of action, whilst subpersonal intentions represent actions in much finer detail. The case against the dominant view of agency rests on the claim that the formation of intentions occurs as part of a dense process of information manipulation. The conception of intentions as formed in response to sensory feedback and involved in the fine-tuning of action as it unfolds, is a notion of *subpersonal* intention. However, agency is a personal level phenomenon – only persons can be agents. We should thus understand the dominant account as claiming that all actions are essentially brought about by *personal* intentions. Moreover, one can consistently endorse this claim, whilst holding that the subpersonal mechanisms that effect action do not involve subpersonal intentions. One could thus accept that our preference for ecological control makes it unlikely that action involves dense amounts of information-processing, but merely take this to show that action is not brought about by subpersonal intentions, allowing

one to retain the dominant conception of agency.

The above response reduces the amount of information-processing taken to underlie action by reducing the number of intentions taken to be involved in controlling the agent's behaviour. The claim is that action only involves personal intentions. The subpersonal mechanisms responsible for bringing about behaviour do not involve intentions. The intuitive picture is that personal intentions initiate and guide action, whilst subpersonal mechanisms are responsible for its fine control. However, the formation of personal intentions still involves processing information. Thus the dominant account of agency will still be vulnerable to the argument from ecological control if it posits *too many* personal intentions. (One may wonder what counts as 'too many'. I will return to this issue below.)

So how many personal intentions does the dominant conception of agency claim are involved in action? One might suppose this question has already been answered: the dominant view is that each action is initiated and guided by a personal intention representing its performance. But matters are not so simple, because actions can be individuated in different ways. One might, for example, think of my behaviour today as constituting a single action – finishing this paper. My day's activity includes many sub-activities such as showering, switching on my laptop, etc. Alternatively, one might count each of these sub-activities as a single action. Yet each of these involves smaller parts. Showering, for example, involves testing then altering the

water temperature, washing the parts of one's body, selecting a shampoo, applying it to one's hair and then rinsing it away, singing, and so on. It could be maintained that each of *these* components is a single action. One could even individuate actions more finely.

The thesis that each action is brought about by the agent's intentions is supposed to account for an important feature of agency: the agent is essentially in control of her actions. It is beyond the scope of this paper to provide a complete account of control. But I take it we have sufficient intuitive grasp on this idea for my purposes here. This fact means that the dominant account must individuate actions quite finely. We can see this by considering the position that results if one individuates actions coarsely, so that my day's activity counts as a single action. On the current proposal, my activity is initiated by an intention with the content, 'I intend to finish my paper today', but subpersonal mechanisms are responsible for bringing about the sub-activities, such as showering, switching on my laptop, etc. It is counterintuitive to suppose that I am in control of my activity on this picture. My engagement in the day's sub-activities happens as a result of automatic processes. It is true that these processes are set in motion by my intention. But I have no control over how they will bring about my intended goal, and so which sub-activities they will engender. This problem is not alleviated by individuating actions a little more finely so that each sub-activity counts as a single action. On this proposal my activity of, for example, showering is initiated and guided by a personal

intention with the content, 'I intend to shower'. But all the components of showering – washing the parts of one's body, selecting shampoo, etc. – are brought about by subpersonal mechanisms. Again, this means that I have no control over which of these components will be brought about by such mechanisms, and so it is counterintuitive to suppose that I am in control of my showering. These considerations reveal that the dominant view requires actions to be individuated more finely still. Each component of showering must be classed as a single action, and as such, initiated and guided by an intention; this satisfies our intuitive ideas about control. But now it's clear that there are a lot of intentions involved in acting on the dominant view of agency. Even a relatively simple activity such as showering requires the formation of several representations of action, and so involves a lot of information-processing, which leaves the dominant account of agency vulnerable to the argument from ecological control.

A worry someone might now raise is that although we prefer ecological control strategies when they are available, it's not clear that any such strategy *is* available in the case of action. To put the matter slightly differently, I have claimed that the dominant view takes there to be *too many* intentions/*too much* processing involved in acting. But what counts as too many/too much is an open question. The amount posited by the dominant view might just be the amount required for action. The next section of this paper will assuage this worry. I will present Merleau-Ponty's account, which denies that

intentions are essential for action. My claim is that his view is more in keeping with our preference for ecological control, which gives it an advantage over the dominant account. It is also, I will argue, better placed to accommodate the case of Otto's notebook. Merleau-Ponty's account is thus preferable to the dominant view of agency, although whether it should ultimately be accepted is an empirical matter.

4 Merleau-Ponty's account of agency

Merleau-Ponty's central claim is that an action is a piece of behaviour that is initiated and controlled by the agent's apprehension of her environment. The agent's apprehension of her surroundings can bring about her actions without the need for any intervening thoughts – such as intentions – that represent the agent's performance of the action.

The most basic apprehension of one's surroundings is perceptual. Merleau-Ponty holds that the agent perceives her surroundings as having a value for her in terms of how she can interact with them. She perceives the world around her as 'requiring' or 'demanding' or 'being appropriate for' certain forms of behaviour. She perceives, for example, cups of tea as for-drinking, boats as for-sailing, and a bus shelter as offering an opportunity to shelter from the rain. In other words, the agent perceives what are sometimes called 'affordances' (Gibson 1979). The agent perceives these affordances as differing in their 'attractive power'. Certain affordances are more salient than

others, and will solicit the agent more strongly. We might say that her environment merely *suggests* that she perform certain actions, whilst *demanding* that she perform others. The salience of perceived affordances is affected by various factors, such as the agent's current task, her desires, her emotional state, and her habits. For example, if I am cleaning my house, the dirty bath solicits me to clean it more strongly than if I am cooking dinner. My desire for a new bike makes the bike shop stand out for me as an opportunity to purchase a cycle. When I am bored of working, the television draws me to switch it on. My habit of cycling a certain way to work every day makes that route stand out as salient, even when I am travelling elsewhere.

Merleau-Ponty claims that perceived affordances can bring about the agent's behaviour without the need for any intervening intentions – or any other type of thought – that represent its performance. The agent simply perceives her environment as offering an opportunity to φ, and immediately responds by φ-ing. Her behaviour is drawn forth by her perception of the world. This is made possible by the possession of motor skills. Motor skills are physical abilities. They range from very simple skills such as the ability to scratch an itch, to more complex capacities like the ability to play the piano. One acquires motor skills through practice, through which the body becomes familiar with the behaviour, until engaging in it is experienced as 'second nature' – it feels utterly familiar. Motor skills are twofold capacities. When one develops a skill, one acquires a way of

behaving. But one also acquires the ability to perceive appropriate situations as offering opportunities for action that are relevant to that skill. Thus, for example, when I learn to climb, I acquire the ability to move my body up a cliff face by using little fissures and ledges in the rock as hand holds and foot holds. But I also learn to see which fissures and ledges are big enough for me to use as handholds and footholds. I learn to see certain features of the rock *as* hand and footholds, that is, as affording me passage up the cliff face.

Merleau-Ponty holds that the agent's perception of her environment can bring about her behaviour without any contribution from thought. However, we ordinarily think that certain actions are brought about by the agent's thinking. Suppose, for example, that I reason about where to eat, decide to go to my favourite Indian restaurant, and then set off. We think in this case that my action of setting off for the restaurant is brought about by my decision or intention to now go there. There would be little point in practical deliberation if we did not think that our thoughts could result in action. Merleau-Ponty does not consider such cases in any great detail. However, I have argued elsewhere that he can accommodate cases like this in the following way.[4] Action is, for him, brought about by the way in which the agent apprehends her environment. Her apprehension of her surroundings is primarily perceptual. Sometimes

[4] See Romdenh-Romluc 2007, and Romdenh-Romluc, forthcoming.

thought brings about action by influencing the agent's perception of her environment. For example, I stated above that how the agent perceives her surroundings is affected by her current task so that she perceives those affordances that are salient to what she is doing as more urgent. The agent may not perceive affordances that are not connected with her current task at all. Since the agent can take on tasks by intending to do so, this is one way her intentions can affect her behaviour. They influence the way that she perceives her environment, in particular, they influence which opportunities for action stand out as salient.

A further way in which thought can influence action is by adding further value to the agent's apprehended environment, over and above the value she perceives it as having. It will help clarify this proposal if we consider acquiring a new skill. Once an agent possesses a skill, she can perceive appropriate environments as offering her the opportunity to exercise it. This perception can initiate and control the skilled behaviour. However, before she has learnt how to engage in the activity, the agent does not perceive opportunities to do so. But acquiring the skill requires her to repeatedly attempt to engage in the relevant activity until she becomes proficient. One might wonder how she can begin to perform the relevant actions, when she does not perceive the world as offering her opportunities to do so. What brings about her initial attempts to perform them? Sometimes the agent will simply copy someone else's actions. However, this is not so in all cases

of skill acquisition. Sometimes, the agent's *thoughts* play a role in bringing about her first attempts at performing the relevant actions. This is the case, for example, when I am learning to fly a plane. I have to *think* about the functions of the various knobs and dials, and it is this that guides my first attempts at flying. Merleau-Ponty can accommodate this sort of case by holding that the agent's thoughts represent her surroundings in ways that are relevant to her activity. They represent the opportunities for action that are afforded by her environment. In this way, the agent's thoughts add further value for action to her surroundings, over and above the values she perceives it as having. Thus in the above case, I represent one dial as for-gauging-the-air-pressure, the gear stick as for-changing-the-plane's-direction and so on. This composite apprehension of my environment, which combines both perceived values and the values for action I represent in thought, then brings about my activity.

On Merleau-Ponty's account, an action is essentially brought about by an agent's apprehension of her surroundings. She does not need to represent the action to be performed (although she may sometimes do so). It is hopefully clear how this view can accommodate the case of Otto. Otto records his plans on a device that flashes instructions 'φ now!' when the planned time to φ comes around. I argued that just as the information about the world that Otto records in his notebook should be classed as belief, so too, the instructions that flash on his device screen should be classed as

intentions to act now. On this account, Otto's beliefs and intentions have vehicles that extend beyond the boundaries of his body. His beliefs and intentions are contained in his notebook/recording device. The case is at odds with the dominant account of agency in that Otto immediately responds to the instructions that flash on the device screen by doing what they command, without first forming a biologically based intention to do so. Otto's actions are therefore brought about by his perceptions of his surroundings – in particular, his perception of the device – rather than by internal representations of his actions. Merleau-Ponty's account of agency can easily explain this phenomenon. Otto's decision – a thought - to use the device to record his intentions adds value for action to the device; he represents it as 'to-be-followed'. This is analogous to the way the novice pilot represents a certain dial as for-testing-air-pressure. When Otto is in the habit of using the device, he will come to see it as 'to-be-followed', just as the pilot comes to see the knobs and dials as affording certain actions. The way Otto apprehends the device – the way he represents it in thought, and later, how he perceives it – allows the instructions it flashes to immediately draw forth behaviour. His perception of the instruction to φ now immediately initiates his φ-ing without the need for any further thought that represents φ-ing.

Merleau-Ponty's account also posits an ecological control strategy for action. Ecological control strategies exploit features of the agent's morphology and/or her environment, and/or the dynamics of

their interaction to reduce the amount of information-processing required for some task. On the dominant account of action, the agent perceives the world, her body, and how she is situated relative to it, has a number of beliefs and desires that represent the way the world is, and the way she wants it to be, *and* forms intentions to represent the performance of certain actions. As we have seen, to form intentions is to process information. Merleau-Ponty's account removes the need for this stream of information-processing. Action is simply brought about by the agent's apprehension of her environment. This is primarily perceptual, but can incorporate beliefs about the world, such as the novice pilot's beliefs about the function of the dials and knobs. It also incorporates the subject's desires, since these will affect the salience of things and so how they show up for her in perception. Moreover, what makes it possible, on Merleau-Ponty's account, for action to be accomplished in this way is the structure of the agent's body – the way it can acquire motor skills through practice. Merleau-Ponty's account thus suggests a way to accomplish action in a manner that reduces the need to process information, by appealing to aspects of the agent's embodiment. In this way, it posits an ecological control strategy for action.

5 Conclusion

The dominant view of agency claims that all actions are essentially brought about by mental states – intentions – that represent their

performance. I have argued that two central considerations that motivate the conception of cognition as embodied – that is, as essentially bound up with the agent's bodily capacities – are in tension with the dominant view of agency, which motivates the search for an alternative. One such alternative is the account of agency offered by Merleau-Ponty. On his view, actions are essentially brought about by the way that the agent apprehends her environment. Her apprehension of her surroundings is primarily perceptual, but can incorporate thought about her environment. Merleau-Ponty's account can accommodate the two considerations advanced in favour of an embodied conception of cognition. We thus have reason to prefer it to the dominant view. Whilst I do not take myself to have decisively refuted the dominant view, and established beyond all doubt that Merleau-Ponty's account of action is correct, I hope to have shown that Merleau-Ponty's conception of agency is a promising avenue for research in this area, and worthy of further consideration.[5]

References

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