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## DOING WITHOUT REPRESENTATION: COPING WITH DREYFUS

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Abstract. Hubert Dreyfus argues that the traditional and currently dominant conception of an action, as an event initiated or governed by a mental representation of a possible state of affairs that the agent is trying to realise, is inadequate. If Dreyfus is right, then we need a new conception of action. I argue, however, that the considerations that Dreyfus adduces show only that an action need not be initiated or governed by a *conceptual* representation, but since a representation need not be conceptually structured, do not show that we need a conception of action that does not involve representation.

An action is not simply an event. An action is something someone does, not just something that happens. What makes an event an action, on the traditional and currently dominant view, is that it is initiated or governed by a mental state that represents a state of affairs that the agent is trying to realise in the world. To represent is to specify a possible object or state of affairs, so to say that the Bayeux Tapestry represents King Harold receiving an arrow in the eye at the Battle of Hastings is to say that it specifies the possible state of affairs of King Harold receiving an arrow in the eye at the Battle of Hastings, and this representation is satisfied if and only if King Harold received an arrow in the eye at the Battle of Hastings. To say that the mental state that initiates or governs the movements involved in an action is *representational* is to say that it specifies a possible future state of affairs as something to be aimed for. My reflex reaction to a hammer-tap to my knee is not initiated or governed by a representation of my foot going up as something to be aimed for, and thus is not an action. Kicking a football, on the other hand, can be an action, as it can be initiated or governed in the right way.

Hubert Dreyfus argues that this conception of action is inadequate. An event can be an action, he argues, even if the agent has no goal, aim, purpose, plan, or intention in mind, so we need an account of action that does not involve mental representation of a possible future state of affairs. At least some action, he claims, involves responding to demands made by the environment without any mental representation of those demands or of the response to be made. Dreyfus offers a model of how such a response might be made, as we shall see, but does not offer an account of what makes such responses actions (for which praise and blame are appropriate) rather than other sorts of events involving the body, such as reflex reactions (for which praise and blame are inappropriate). If Dreyfus is right, then we need to embark on the enterprise of formulating a satisfactory conception of action without the concept of representation.

I intend to show that Dreyfus has not shown that we need to embark on this enterprise, as he has not shown that the traditional and dominant view of action is inadequate. We can construe the model Dreyfus offers, I argue, as involving mental representation. The considerations Dreyfus adduces against this construal, I argue, show only that the model should not be understood in terms of *conceptual thought*, but they are nonetheless compatible with construing the model in terms of *mental representation*, since conceptual thought is not the only form of mental representation. I begin with a detailed explanation of the position Dreyfus propounds before distinguishing conceptual from nonconceptual representation and arguing that the points Dreyfus makes against construing all action in terms of representation show only that action need not involve conceptual representation.

Consider this:

A ball heads for Hubert at breakneck speed. His racket shoots out to meet it, perpendicular to the court as it crosses the ball's trajectory at exactly the right moment, hitting the ball firmly and squarely. Perfect; an unanswerable return. Yet ask Hubert about the speed and trajectory of that oncoming ball, and the best angle and motion of the racket to respond to it, and he cannot answer you. He used to think about such things as a beginner, but now he is expert he does not. He simply feels his arm and racket respond appropriately.

And this:

A lift stops at the second floor and a woman steps in. The occupants shuffle until they feel comfortable. Because this is New York City, each feels comfortable at a minimum of  $x$  centimetres from the nearest other. Had it been Addis Ababa, the distance of comfort would have been  $y$ . A swift lift exit poll will show that each shuffler was aware of shuffling to a comfortable distance, but none can specify this distance. Neither are any aware that this distance is the same every time within their culture, or that it is different in other cultures. They are unaware, that is, that this feeling of comfort indicates a learned cultural practice, not merely a subjective preference.

Dreyfus gives these as examples of what he calls ‘skilful’ or ‘absorbed’ ‘coping’ (1996, § 36 / p.111; 2000, pp. 293-4, 300). Here are some more: ‘habitual activity such as driving to the office or brushing one’s teeth, unthinking activity such as rolling over in bed or making gestures while one is speaking, and spontaneous activity such as jumping up and pacing during a heated discussion or fidgeting and drumming one’s fingers during a dull lecture’ (Dreyfus 1991, p. 93). This ‘coping’ is clearly *action*, rather than involuntary reflex reaction to stimulation, and involves learned sequences of movement. But it does not require any deliberation or planning in advance and does not occupy attention while occurring. The shufflers in the lift shuffle to a culturally determined minimum distance without planning to and without knowing that distance; Hubert returns the ball without planning his movement and without even being able to specify it. Dreyfus claims that ‘coping does not require a mental representation of its goal’ (1996, § 37 / p. 111), and contrasts the ‘motor intentionality’ involved in coping with the ‘representational intentionality’ involved in deliberation, planning, and attentive behaviour (2000). Coping is doing without representation.

But why does Dreyfus insist that coping is doing without representation? He approaches the point in two ways. One is to borrow from connectionist forms of artificial intelligence research and a certain neuroscientific theory of animal learning to model this coping, and claim that the resulting model is one of doing without representation. The other is to provide reasons for believing that we can do without representation drawn from our everyday experience and from experimental psychology. I intend to show that Dreyfus has not shown that we can do without representation, but only that we can do without *conceptual* representation. The connectionist and neuroscientific models and the everyday and experimental data that Dreyfus draws on, if I am right, suggest only that coping does not involve the application of concepts in rational thought. They leave open whether coping involves another form of representation or does not involve representation at all.

The key distinction here is between representations that are composed of concepts and representations that are not. A concept is an inferentially relevant constituent of a representation, and possessing a concept consists in having a set of inferentially related representations with a common constituent. Possessing the concept ‘cat’, for example, consists in possessing a set of inferentially related representations concerned with cats, such as the beliefs that cats are domestic pets, are tame, and are smaller than houses. A representation is conceptual, then, only if it is composed of concepts, which means that it stands in inferential relations to a set of other representations possessed by the same organism. A nonconceptual representation, on the other hand, does not stand in inferential relations. It can be possessed by an organism that does not possess the concepts required to express that representation (see Crane 1992; Brandom 1994, pp. 88-9; McDowell 1994, ch. 1). A nonconceptual representation *is* a representation: it specifies a possible state of affairs. But it is independent of what Wilfrid Sellars (1956, pp. 298-9) called ‘the logical space of reasons’: it cannot be inferred from other mental representations, other mental representations cannot be inferred from it, and it cannot be linguistically articulated, say in response to a question. An intention would consist in a nonconceptual representation if it consisted in a state of the brain or mind that specified a possible future state of affairs as something to be aimed for, but was independent of the logical space of reasons. I aim to show that Dreyfus has not ruled out the possibility that coping involves such nonconceptual representation, and so has not shown that we can do without representation rather than without conceptual representation.

Dreyfus models the production of coping on the simulated neural networks developed in connectionist computer research and on the neurological model of animal learning developed by Walter Freeman. Connectionist computers differ from traditional symbol manipulation computers in that they do not involve the systematic application of computational rules to sets of representations. Instead, the distributed movement of energy through the network as a whole produces an output on the basis of an input. The network does not store particular rules for recognising and dealing with particular inputs, and does not store memories of previous inputs. Instead, the machine is made up of a set of nodes that can activate or inhibit one another by passing energy along connections of various strengths. The strengths of the connections are modified by use in such a way that the system as a whole tends towards producing the same or similar output given the same or similar input. The activation structure of a connectionist machine at any one time, then, results from its previous responses to input, and this structure plus the structure of a particular input produce a certain output. If the minds of lift passengers work like connectionist machines, then this would explain why they move to a comfortable distance without knowledge of that distance: repeated exposure to similar situations has structured them in such a way that proximity of less than  $x$  centimetres to a co-passenger causes energy to move through them in such a way that they increase the distance to at least  $x$  centimetres (see Dreyfus 1996, §§ 47-50 / pp. 115-7).

Dreyfus paints a similar picture through his adaptation of Walter Freeman's (1991) neurological model of animal learning. Neural connections formed by repeated exposure to similar situations and attempts to deal with them are stimulated by sensory input to produce a burst of global neural activity that requires a certain amount of energy. Since the neural system tends towards minimal energy states, or 'attractors', every burst of neural energy is followed by a relaxation of the sensory-motor system towards a specific attractor 'like a soap bubble relaxing into a spherical shape' (Dreyfus 2000, 297). Which attractor the system tends towards depends on the structure of the system, which is a result of learning, and the amount and distribution of neural activity initiated by the sensory stimulus. The relaxation of the sensory-motor system into a specific state causes the organism to move in ways appropriate to the situation. If this is how Hubert's brain works, then this would explain his tennis abilities: years of practice have structured his sensory-motor system in such a way that the sight of an oncoming tennis ball, within the context of a game of tennis, causes a burst of energy to rush through his sensory-motor system, and the consequent relaxation of the system towards an attractor state causes his arm to shoot out in exactly the right way (see Dreyfus 2000, pp. 296-7).

These models of coping clearly present an alternative to computational theories of action. The mind or brain, on these models, does not need to make inferences from beliefs. The lift passengers do not need to recognise their proximity to one another as being one of a certain distance, compare this with the belief that only a distance exceeding a certain amount is culturally acceptable, and conclude that they should increase the distance accordingly. Hubert does not need to calculate the speed and trajectory of the oncoming ball in relation to his bodily position and posture in order to act appropriately. But it is not clear that these models involve no representation. It is not clear, that is, that the amount and distribution of energy passing through the neural system should not be construed as a representation and execution of appropriate bodily movement. Perhaps the neural system prior to the relevant stimulation specifies the socially acceptable distance for lift passengers or the act of hitting the tennis ball

squarely and firmly, and given the right stimulation the system then specifies appropriate movement. Dreyfus supports his claim that coping does not involve representation with two considerations drawn from everyday experience of coping and one drawn from experiments on a brain-damaged ex-soldier named Schneider. But the considerations he adduces, I intend to show, suggest only that coping does not involve the inferential manipulation of representations.

The first experiential consideration is the feeling of coping appropriately. A tennis shot may feel appropriate if it accords with the player's training, Dreyfus points out, even if it fails to result in the player's aim of returning the ball over the net, due to some factor beyond the player's control. And the shot may feel awkward and graceless if it fails to accord with the player's training even if it succeeds in returning the ball over the net (2000, pp. 293-4). But this does not show that the bodily movement is not represented in the player's brain or mind: since the brain or mind might represent *both* the movements to be made *and* their intended outcome, the satisfaction of one representation might be independent of the satisfaction of the other. Dreyfus adds that the intention to return the ball over the net can only be satisfied or not satisfied, whereas the movements involved in playing the shot can feel more or less appropriate (2000, p. 296). But this shows that the movements are not represented *only if* representations are such that their satisfaction is an all-or-nothing affair. And there seems no reason to accept this restriction on what is to count as a representation. It seems perfectly acceptable to claim that a mental representation might specify an *ideal* bodily movement, or an *ideal* posture to reach, to be approximated to as closely as possible. The degree of satisfaction felt by the tennis player could then be understood as the degree to which the actual movements approximate to the represented movements. The degree to which the player is concentrating, for example, may be correlated with the degree to which other neural activity is occurring contemporaneous with the coping, and this other activity may interfere with the ideal energy flow required for the coping.

The second experiential consideration is knowledge: when playing tennis well, 'I cannot represent how I should turn my racket since I do not know what I do when I return the ball' (1996, § 38 / p. 112). Expert tennis players cannot formulate beliefs about the movements needed for an appropriate shot in a certain situation (2000, pp. 296, 297, and 299). But this shows only that the player does not have a conceptual representation of the appropriate movements. If the representation were conceptual, then in non-pathological cases the player would be able to infer related beliefs about the appropriate movements, such as that they are the appropriate movements, or that they would not be appropriate had the ball been coming from another angle. Moreover, any representation standing in the logical space of reasons, as Robert Brandom (1994, ch. 2 and ch. 4) and John McDowell (1994, ch. 1 and ch. 3) stress, *must* be conceptually structured, so if the player were able to infer related beliefs from the representation, then the representation would have to be conceptually structured. But a nonconceptual representation, by definition, is structured in such a way that beliefs cannot be inferred from it and it cannot be inferred from beliefs.

The experimental consideration that Dreyfus draws on is concerned with the quirks of Schneider that feature in Maurice Merleau-Ponty's *Phenomenology of Perception*. If asked to grasp his nose, for example, Schneider is quite capable of carrying out this task, but if asked to point to his nose he is incapable of doing it. 'If I know where my nose is when it is a question

of holding it, how can I not know where it is when it is a matter of pointing to it?', asks Merleau-Ponty (1962, p. 104). Dreyfus answers that Schneider's act of grasping his nose is not initiated or governed by a representation, for if it were then Schneider would possess a representation of the location of his nose and hence would be able to point to his nose (2000, pp. 293-5). But this quirk shows only that Schneider's act of grasping his nose does not involve a *conceptual* representation whose constituents, such as concepts indicating the location of the nose, must by definition be available to be deployed by Schneider in representations of other actions. It does not rule out the possibility that Schneider has a nonconceptual representation of the action of grasping his nose, but no representation of the action of pointing to it; for the latter could not be inferred from the former since the former is not conceptually structured.

The same is true of Schneider's other quirks. They show only that Schneider is acting without the kind of representations that would facilitate formulation of representations of conceptually related actions. And Merleau-Ponty's own analysis of the Schneider case, and of other experimental data, should be read as concluding that coping is independent of thought or conceptual representation. Cases in which 'the "intellectual notion of the gesture to be made" does not appear to be obscured, and yet in which the patient cannot copy a triangle', he writes, show that 'the body has its world and that objects or space may be present to our knowledge but not to our body' (1962, p. 139). Merleau-Ponty argued not that coping does not involve representation, but only that coping is independent of the intellect and knowledge. This leaves open the possibility that the abilities that Schneider lacks involve nonconceptual representation, where the intellect and knowledge involve conceptual representation.

We must agree with Merleau-Ponty that this is all that the experimental data supports: it does not show, as Dreyfus claims it does, that coping does not involve representation at all. We have seen that the experiential considerations that Dreyfus adduces also fail to show that coping does not involve representation, although they do suggest that coping does not involve conceptual thought. So there is no reason not to construe the model of coping that Dreyfus bases on connectionist machine research and Freeman's neurological research as a model of nonconceptual representation in action rather than representation-free action. Dreyfus has not shown, that is, that '[o]ne does not need a goal or intention to act' (1996, § 34 / p. 111), but only that one does not need a conceptually formulated goal or intention. As the goal or intention cannot be reported, cannot be inferred from other mental representations, and does not allow the inference to other mental representations, it is independent of the logical space of reasons whose occupants must be conceptually structured. I can shuffle about in a lift or play tennis without deploying my conceptual capacities. I don't have to think, I only have to do it. But thought is not the only representation: a mental state may specify a possible state of affairs without being conceptually structured. So Dreyfus has not shown that we need to redraw the boundary between actions and other sorts of event.<sup>1</sup>

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