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Moral Agency, Self-Consciousness, and Practical Wisdom¹

Abstract: *This paper argues that self-consciousness and moral agency depend crucially on both embodied and social aspects of human existence, and that the capacity for practical wisdom, phronesis, is central to moral personhood. The nature of practical wisdom is elucidated by drawing on rival analyses of expertise. Although ethical expertise and practical wisdom differ importantly, they are alike in that we can acquire them only in interaction with other persons and through habituation. The analysis of moral agency and practical wisdom is framed by Dennett's proposal that moral personhood requires satisfaction of six conditions, including self-consciousness.*

To have the status of moral personhood means two things: first, that one has the ability to take responsibility for one's actions, and second, that one ought to be treated in a certain way. One way to put this latter concept is to say that a person has certain rights and must be treated

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- [1] This paper was presented as part of a series of lectures at the University of Jyväskylä, Finland, in September 2006. A slightly earlier version was presented as part of a seminar with Hubert Dreyfus and Sean Kelly at the Norwegian School of Sports Sciences, in Oslo in June 2006. An even earlier version of this paper was published in French: 'Les conditions corporéité et d'intersubjectivité de la personne morale.' *Theologiques*, 12 (2004), pp. 135–64. The present version is substantially revised from earlier ones. I have greatly benefited from comments by Dreyfus, Kelly, Ejgil Jespersen, Arto Laitinen, Michael Quante, and an anonymous referee, as well as numerous participants in the seminars at Oslo and Jyväskylä. I have also benefited from a more formal comment by S. Mansour-Robaey (2004).

with respect. Moral personhood therefore involves the ability to take responsibility on the one hand and moral rights and obligations on the other. For purposes of this paper I want to separate these two aspects, and to do so I will distinguish between the *moral agent* who must be capable of taking responsibility for his or her own action, and the *moral subject* who has rights and is owed respect. I set aside the question of whether someone can be one without being the other, and I focus almost exclusively on the question of moral agency.

One way to think about moral agents, that is, persons who are capable of being responsible for their actions, whether their actions are moral or immoral, is to consider what conditions must be met to attain moral agency. Dennett, in an influential essay (1978), proposed that six conditions must be met to attain moral personhood, and I will take these to apply to the moral agent. First, the entity to whom we would attribute moral agency must have rationality. Second, we must be able to take the intentional stance toward it— that is, we must be able to attribute states of consciousness or intentions to it. Third, it must be the target of a certain kind of attitude (we have to treat it as a person, for example, with respect or, as the case may be, hostility). Fourth, it must be capable of reciprocity and thereby return that attitude. Fifth, it must be capable of communicating with others. The second, third, fourth and fifth conditions explicitly and importantly involve social dimensions, although, for Dennett, the precise nature of these social dimensions is still an open question. Finally, these first five conditions are necessary ones for the sixth: the entity must be capable of self-consciousness. Self-consciousness is here understood to be a higher-order reflective mental process, of which, as Dennett and others (Frankfurt, 1971; Wilkes, 1988) suggest, young children are incapable. In a variety of other contexts, however, Dennett suggests that a brain in a vat or a computer might be able to have this kind of self-consciousness (e.g., 1982; 1991). This implies that these conditions do not depend on embodiment in any strong sense, and at the same time it raises questions about the social dimensions that are involved in some of these conditions.

My intention is to explicate precisely how moral agency depends on both embodied and social aspects of human existence. The approach will be broadly Aristotelian in two senses. First, consistent with Aristotle's idea that the soul is the form of the body, I will argue that the agent who is capable of moral action is fully embodied, and this embodiment shapes the very nature of moral agency. I will also suggest that the form of human embodiment makes certain demands upon others. Second, Aristotle contends that without *phronesis* (practical

wisdom) moral virtue and the excellence of moral action are impossible. I will argue that someone has the capacity for moral agency only if they are *capable* of having (practising) *phronesis*. I don't mean that they actually have to have or practice *phronesis* — the only thing required is the capacity for *phronesis*. Furthermore, having the capacity for something is different from having the potential to obtain it. One has the capacity for X when one meets all the conditions necessary for X, although one might not meet the sufficient condition for X. When I've worked this out in terms of *phronesis* I want to return to take a more detailed look at Dennett's six conditions.

Although my argument is broadly Aristotelian, my approach will depend on contemporary studies — I will frame the argument in terms of a contemporary debate, and I will appeal to recent empirical science to support my conclusions. The contemporary debate to which I will appeal will first look like an odd detour on the way to a discussion of moral agency (but see Dreyfus and Dreyfus 1990, 2004 for precedent), but it has a point. The debate in question is about expertise and the nature of expert knowledge. I will not argue that *phronesis* is a kind of expertise, and indeed, I will argue that it is distinct from expertise; but I will suggest that the correct way to think about expertise will throw some light on the nature of *phronesis*. Specifically, through this detour, I want to suggest that *phronesis* involves an implicit self-relation that is both embodied and *endogenously* intersubjective. The notion that the self is *endogenously* intersubjective means that it is not just constrained or conditioned from the outside by its social environment, but is social *from the inside out*. And only by being intersubjective from the inside out, in a primary way, is it possible for it to be significantly social *from the outside in*, and subject to the constraints and conditions of social life.

The Debate On Expertise

What is expertise? What does it mean to have expert knowledge? A number of authors point to the relevance of the epistemological questions about the nature of expert knowledge to issues of intentionality, rationalist and representational notions of consciousness, and intersubjectivity (Pappas, 1994; Selinger and Crease, 2002). These questions are also directly related to the possibility of artificial intelligence and the creation of expert systems. One of the central questions that arise in this context is whether expert intelligence can be disembodied.

Hubert Dreyfus is well known for entering the debate just on this point. For him, expert judgment and behaviour are instances of embodied human performance on a continuum with basic life-world practice.

We are all experts at many tasks and our everyday coping skills function smoothly and transparently so as to free us to be aware of other aspects of our lives where we are not so skillful. (Dreyfus and Dreyfus 1990).

The target of Dreyfus's analysis is any account of expertise explained in purely cognitive terms — expert knowledge reduced to a set of explicable rules or propositional knowledge. For Dreyfus expertise is best characterized as a set of skills, and appealing to Dewey's (1922) distinction, expert knowledge is a matter of practical reasoning, of 'knowing how' rather than 'knowing that'. Knowing how, in contrast to propositional knowledge, involves embodied practice rather than cognitive deliberation — the exercise of skills of which one cannot fully give an account or fully articulate.²

Dreyfus relies on Heidegger's notion of pragmatic contexts as our primary way of engaging in the world — just those contexts in which expertise is practised. Again, following Heidegger, higher order reflection on how one does what one does only occurs when things or procedures fail to work effectively. Thus, in Heidegger's example, the hammer in the carpenter's hand is something like an extension of her body schema and is not a piece of the objective world until it breaks and reflective regard is turned toward the instrument rather than toward the project that involves hammering (Heidegger, 1968, §15).

One way to summarize Dreyfus's position is to say that expertise is a matter of intuition, not intellectualization: 'Action becomes easier and less stressful [as the expert] simply sees what needs to be done rather than using a calculative procedure to select one of several possible alternatives' (Dreyfus, 2002, p. 371). The expert not only *sees* what needs to be done, but also how to achieve it *without deliberation*, immediately — non-reflectively recognizing new situations as similar

[2] Dreyfus appeals to Merleau-Ponty's (1962) notion of the lived body and the concepts 'intentional arc' (a rapport between the embodied agent and the world which allows the agent to respond to the solicitations of the current situation) and 'maximal grip' ('the body's tendency to respond to these solicitations in such a way as to bring the current situation closer to the agent's sense of an optimal gestalt' [Dreyfus, 2002, p. 367]). Such aspects of embodiment depend on practiced activities controlled by body schematic adjustments that operate as the basis for expert practices (Dreyfus, 2002). Basic motor skills are obviously essential for many kinds of expertise, and more generally, expert knowledge concerns how to make moves in whatever game (profession) one is playing. The understanding required for making such moves can be traced to embodied (sensory-motor) practices that provide a basis for learning and smooth interaction with the surrounding world.

to previously encountered ones, and intuiting ‘what to do without recourse to rules’. The expert recognizes important features as contextually sensitive (Dreyfus and Dreyfus 1986). Thus, expertise is *in the practice*, and the expert is primarily a practitioner.

Dreyfus is here arguing against a position taken by Doug Lenat and his colleagues (see Lenat and Guha, 1990; Hayes-Roth *et al.*, 1983), who take a more traditional approach that conceives of expertise as possessing a body of propositional knowledge. Lenat considers expertise to be reducible to rational (computational) rules and information. As such, expertise can be rationally reconstructed as primarily a mental intellectual phenomenon. Lenat argues for a kind of expertise that Dreyfus rules out — an expert who is rich in propositional facts about X, but has never done or experienced X. The expert need not be a practitioner, and as a result it seems that this kind of expertise can be disembodied and instantiated in a computer.

In contrast to both Dreyfus and Lenat, Harry Collins (1996; 1998; 2000; 2004) develops a social explanation of expertise. Collins distinguishes between interactive expertise and contributory expertise. Interactive expertise consists in the kind of knowledge that we can pick up through association and sufficient communication with experts giving us the ability to enter into their language games. In contrast, contributory expertise consists of the kind of know-how that the expert has, and that one gets only through practice (see Giles, 2006). In agreement with Lenat, Collins thinks that Dreyfus overemphasizes embodiment, and in agreement with Dreyfus, he thinks that Lenat overemphasizes propositional knowledge. Both Dreyfus and Lenat, however, ignore the importance of social interaction. In an account that takes social dimensions seriously, expertise is thought of as ‘distributed’ — embedded in social practices and localized settings (laboratories and social networks), reflected in standard technologies, and promoted in specific rhetorical means of recruiting professional experts (Mialet, 1999).

Collins (2004), pursuing this path, thus argues for a different kind of expertise that Dreyfus rules out, interactive expertise — the kind of expert knowledge that someone may attain via social learning procedures — specifically, linguistic and communicative processes. But, in contrast to Lenat’s interpretation, this expertise is not based on propositional knowledge — it is the result of a socialization process that requires conversational interaction with another.

What I am saying is that it is possible to learn to say everything that can be said about bicycle-riding, car-driving, or the use of a stick by a blind

man, without ever having ridden a bike, driven a car, or been blind and used a stick. One could learn to pass the corresponding Turing Tests purely by spending enough time talking with the practitioners of the relevant domains without actually practicing the practices. But that is not the same as being able to make the knowledge explicit or to be able to encode it in a computer program (Collins, 2004, p. 127).

Collins offers himself as an example. As a sociologist of science he has to have some kind of expertise in the science that he studies, gravitational wave physics. Collins gains this expertise, not by learning a set of scientific propositions, and not by becoming a practitioner of the science, but by hanging out with the scientists, conversing with them, seeing what they do, etc., to the point that he becomes proficient in the language of gravitational waves and not only can hold up his side of a conversation, but can make scientifically productive suggestions — even though he is not a practitioner. Collins, Evans, Ribeiro, and Hall (2006) provide empirical evidence that this is the case. Collins is able to provide written answers to technical questions in the field of gravitational wave physics that cannot be distinguished by a group of gravitational wave physicists from answers provided by other gravitational wave physicists.

For Collins, expertise is like a language or language-game. He cites Wittgenstein's example of a talking lion. From Dreyfus's perspective, even if the lion spoke a familiar language, we would not understand the lion because it carves up the world in a way that does not correspond to the human world. For example, for us, a chair offers a different kind of affordance than for the lion. Dreyfus would say that unlike the lion we have a body that can use a chair to sit, so 'chair' if it were in the lion's vocabulary, would mean something different. Collins' point against Dreyfus, however, is the claim that if the lion hung around with humans long enough, the lion would come to know the meaning of chair, despite differences in embodiment. Thus, 'the language of a community embodied in one way can be acquired by individuals with different shaped bodies, and who, therefore, cannot participate in the activities of that community' (Collins, 2004, p. 130; see Collins, 1996; 2000). On his account, even a computer, if it were somehow connected to a social-linguistic 'form of life' could acquire interactive expertise. His conclusion, then, is that embodiment contributes little to the acquisition of expertise.

The criticism of Dreyfus for ignoring the social aspects of expertise has been made in a different way. Both Iris Young (1998) and Maxine Sheets-Johnstone (2000) emphasize the cultural embeddedness of the body and criticize Dreyfus for assuming that the body, which acquires

skill, has no relevant biography, gender, race, or age. This approach nicely explicates the *external limitations* on expertise that cultural factors impose, and has much to say about social and political factors that limit embodied processes, but in itself it does not provide any positive account of how expertise develops except by adding these external limitations to Dreyfus's account. Moreover, Selinger and Crease (2002) point out that Dreyfus does have a place for the idea that 'cultural styles' affect how skills are learned (Dreyfus, 2000), but that this notion is simply not developed.

From Dreyfus's perspective, one develops the affective comportment and intuitive capacity of an expert solely by immersion into a practice; the skill-acquiring body is assumed to be able, in principle at least, to become the locus of intuition without influence by forces external to the practice in which one is apprenticed (Selinger and Crease 2002, pp. 260–1).

This way of putting it, however, suggests that we need to consider social forces that are only external to embodied practice; I'll suggest that there are also important intersubjective factors that are implicit or endogenous to embodied practice, and that considerations of this endogenous intersubjectivity are important for a full account of expertise.

In summary, Lenat rules out any important role for embodiment and emphasizes a cognitive–computational model consistent with traditional views of expertise as a mentalistic or intellectual phenomenon. This approach is rejected by both Dreyfus and Collins. Collins, however, like Lenat, also rules out any important role for embodiment and emphasizes a socially contextualized model of expertise. This model is primarily a linguistic–communicative one. Dreyfus critiques traditional and computational models, but ignores social dimensions and emphasizes pre-reflective embodied skills as the basis for expertise.

Some Necessary Conditions for the Acquisition of Practical Reason

My intention is not to equate the concept of *phronesis*, practical wisdom, as characterized by Aristotle (350 BCE), with the concept of expertise. But let me set aside the question of how they relate to each other for now (I will return to this question), and consider them both as instances of practical reason. In this sense, *phronesis* is like expertise in certain ways. Moreover, a discussion of the notion of *phronesis* can follow the lines drawn in the debate about expertise. For example,

Aristotle makes it clear that *phronesis* is not the same as *theoria* — that is, a theoretical knowledge that is propositional and learnable in a purely intellectual way. *Phronesis* cannot be programmed into a computer.³ It is, rather, as Dreyfus says of expertise, a kind of ‘know-how’. It is not reducible to a set of rules, however, and should also be distinguished from *techne*. The good person, the person with *phronesis*, sees what to do in an immediate way, and does the good thing in a close to automatic way, as if it were second nature.

One of the most important questions about *phronesis* for Aristotle is how precisely one acquires it. On this score, Aristotle takes a position that is similar to Collins’ position on expertise. According to Aristotle, one acquires *phronesis* through a good upbringing, and this means hanging around with the right people — good people who provide good examples of good actions. Yet this is not sufficient. To attain *phronesis*, one must also *act* in a good way. It would not be enough simply to watch, or to converse with good people. One needs to imitate them, to act as they do and to do the kinds of things that they do. This seems closer to Dreyfus’ emphasis on being a practitioner. It suggests that for a correct understanding of *phronesis*, and perhaps for a correct understanding of expertise, it is not necessary to eliminate embodiment, and the practical action that it allows, in order to make room for a social dimension. Nor is it necessary to eliminate social dimensions in order to make room for the role played by embodiment.

I want to propose here an alternative model that relies on an *interactive* conception of embodied intersubjectivity.⁴ This model recognizes an intersubjectivity that is *endogenous* to the embodied practices that constitute practical knowledge. It takes account of the social, not just as a communicative-linguistic phenomenon, and not just as a social-cultural external limitation on embodied practices, but as a dimension that is already built into embodied action. This model looks to evidence

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- [3] Here I mean the emphasis to be on the term ‘programmed’ — if we understand programming in a traditional way. Of course that’s closely tied to the notion of a present day computer. So I wouldn’t rule out the idea that an artificial learning system that is not programmed but that moves around the world and can interact with others could get *phronesis* — e.g., some kind of sophisticated social robot which we do not yet know how to build. I would think that this kind of system would have to replicate embodied experience. Thanks to Evan Selinger for helping me to clarify this point.
- [4] Collins terms his model of expertise an ‘interactive’ model, highlighting the communicative interaction that is requisite for acquiring expertise. My use of the term ‘interactive’ is drawn from a debate in theory of mind. Interaction in that context refers to the ability we have to understand others perceptually, based on their embodied behaviour, movements, gestures, facial expressions, and context-related action. Interaction theory is proposed as an alternative to either ‘theory theory’ or simulation theories of social cognition. See Gallagher (2001; 2004b,c).

in three relevant areas: neuroscience, developmental psychology, and phenomenology.

Neuroscience

If we think of acquiring practical reason (*phronesis*, expertise) as involving action and the imitation of action, then recent work in brain imaging has shown what is clearly a neural basis for gaining practical knowledge. Specific brain areas (in the pre-frontal, pre-motor areas, the inferior parietal cortex, and other areas) have been shown to be activated not only when a subject *acts*, but also when a subject *perceives* another person doing an intentional action. These overlapping areas of ‘shared neural representations’ are also activated when the subject *imagines* doing an action and when she *prepares to imitate* the action presented by another (Decety and Grézes, 2006; Decety and Sommerville, 2003; Grézes and Decety, 2001; Jeannerod, 1997). These and similar studies supplement and expand the research on mirror neurons — neurons found in the premotor cortex of the macaque monkey and the human, that are activated both when we perform certain intentional actions (e.g., reaching, grasping) and when we observe others engaging in such actions (Rizzolatti *et al.*, 1996; Gallese *et al.*, Fadiga *et al.*, 1995).

Whenever we are looking at someone performing an action, beside the activation of various visual areas, there is a concurrent activation of the motor circuits that are recruited when we ourselves perform that action. ... Our motor system becomes active as if we were executing the very same action that we are observing (Gallese, 2001, p. 38).

When we see another person act our own motor system reverberates with that action. To what extent this neural activity is the basis for empathy is an open question. But it seems clear that these kinds of neuronal processes are involved in imitating, learning from, and understanding others. These activities involve neural processes that are implicit and endogenous to the motor system of the embodied self as it enters into intersubjective relations with others.

Developmental Psychology

There is corroborating evidence to be found in the field of developmental psychology. Colwyn Trevarthan’s (1979) notions of primary and secondary intersubjectivity are directly relevant to questions about the acquisition of practical reason. The notion of primary intersubjectivity refers to embodied processes that are emotional and perceptual, that constitute our primary and continuing ability to

understand others, and that characterize human behaviour from infancy (Gallagher, 2001). It includes the infant's ability to perceive meaning in the other's behaviour. Before the age of three, children already have a sense of what it means to be an experiencing subject, and that certain kinds of entities (but not others) in the environment are indeed such subjects. Evidence for this is found in instances of neonate imitation. Infants are able to distinguish between inanimate objects and people (agents), and can respond in a distinctive way to human faces, that is, in a way that they do not respond to other objects (see Legerstee, 1991; Johnson, 2000; Johnson *et al.*, 1998). This sense of others is already implicit, at least in a primitive way, in the behaviour of the newborn. Experiments by Meltzoff and Moore (1977; 1994) demonstrate that from birth the action of the infant and the perceived action of the other person are coded in the same 'language', an intermodal system that is directly attuned to the actions and gestures of other humans (Gallagher and Meltzoff, 1996).

As the infant develops, a number of other early interactive capabilities enhance primary intersubjectivity. These include the ability to detect the intentions of others.⁵ Infants also show affective and temporal coordination between their own gestures and expressions and those of the other person. Infants 'vocalize and gesture in a way that seems "tuned" [affectively and temporally] to the vocalizations and gestures of the other person' (Gopnik and Meltzoff 1997, p. 131).

Trevarthan's notion of *secondary intersubjectivity* acknowledges that children do not simply observe others; they interact with others, and in doing so they develop a further capability for shared or joint attention beginning around 9–14 months (Trevarthan and Hubley, 1978). The child alternates between monitoring the gaze of the other and what the other is gazing at, checking to verify that they are

[5] Baldwin and colleagues have shown that infants at 10–11 months are able to parse some kinds of continuous action according to intentional boundaries (Baldwin and Baird, 2001; Baldwin *et al.*, 2001). Eighteen-month-old children can comprehend what another person intends to do. They are able to re-enact to completion the goal-directed behaviour that an observed subject does not complete (Meltzoff, 1995; Meltzoff and Brooks, 2001). Infants also learn to track eyes, and it is likely that various movements of the head, the mouth, the hands, and more general body movements are perceived as meaningful or goal-directed. Such perceptions are important for an understanding of the intentions and dispositions of other persons as well as for social reinforcement (Allison *et al.*, 2000), and they are operative by the end of the first year (Baldwin, 1993; Johnson, 2000; Johnson *et al.*, 1998). At 5 to 7 months infants are able to detect correspondences between visual and auditory information that specify the expression of emotions (Walker 1982). Infants pick up on the emotional nature of human movement and can perceive it even in the outline of point-lights attached to various body joints (Moore *et al.*, 1997). As early as five months of age infants show preferential attentiveness to human shape and movement in such displays (Bertenthal *et al.*, 1984).

continuing to look at the same thing. Infants between 9–18 months look to the eyes of the other person to help interpret the meaning of an ambiguous event (Phillips *et al.*, 1992). Thus, around the age of one year, the infant goes beyond person-to-person immediacy and enters contexts of shared attention — shared situations — learning what things mean and what they are for.

Just these kinds of activities, which seem basic, not only for understanding and imitating others, but for learning how to act and how to feel about that action, and thus for the embodied and social acquisition of practical reason, do not disappear in later development, but remain active and are enhanced across the variety of human intersubjective-social experiences.

Phenomenology

Trevarthan's developmental concept of *secondary intersubjectivity* was already foreshadowed by the phenomenological analyses of Heidegger (1968) and Gurwitsch (1931), and these are analyses that have also been taken up by Dreyfus. Understanding the meaning of something is dependent on pragmatic contexts. Aron Gurwitsch, following Heidegger's analysis of equipment and circumspective engagement with the surrounding environment, and the larger action contexts of human existence, indicates that our understanding of the other's expressive movements depends on meaningful instrumental/pragmatic contexts. Things and situations provide scaffolds for understanding the actions of others — and in those pragmatic contexts we see and come to learn and imitate what they do.

For both Heidegger and Gurwitsch, our encounters with others are primarily through these pragmatic contexts. In effect, they overlook the effects of primary intersubjectivity which give us a more direct, perception-based relationship with others. Accordingly, they give priority to the pragmatic as a basis for the social — other people appear with meaning only on the basis of pragmatic contexts. As Gurwitsch puts it, 'we continuously encounter fellow human beings in a determined horizon. ...' (1931, p. 36). 'In these horizontal situations the "co-included" others appear. That they *come to light in this situation*, and are not "near by" or "merely beside" it, signifies that they appear as belonging to the situation in their specific roles and functions' (p. 97). Here Gurwitsch suggests that our understanding of others is from the beginning framed in terms of the roles that they play in relation to our projects. 'But it is always a matter of a person *in his role*.

Understanding is yielded here by virtue of the situation and is, therefore, limited to what is inherent in it' (p. 114).⁶

For Trevarthan, and for several phenomenologists (other than Heidegger and Gurwitsch), however, secondary intersubjectivity is dependent upon the development of primary intersubjectivity. Primary intersubjectivity characterizes infancy but continues to be primary in terms of how we interact with others. We perceive the intentions of others — their meaning — in the embodied expression of movements, gestures, facial expression, and so forth. These primary intersubjective processes are based on what Merleau-Ponty (1962) calls *intercorporeality* — a natural interaction of bodies that generates meaning in so far as we see the intentions of others in their expressive movements.

I live in the facial expressions of the other, as I feel him living in mine ... (Merleau-Ponty, 2003, p. 218).

The very first of all cultural objects, and the one by which all the rest exist, is the body of the other person as the vehicle of a form of behavior (Merleau-Ponty, 1962, p. 348).

Primary and secondary intersubjectivities together give us access to a shared world, and allow us to enter into its meaning in a pragmatic way.

Insofar as I have sensory functions ... I am already in communication with others No sooner has my gaze fallen upon a living body in the process of acting than *the objects surrounding it immediately take on a fresh layer of significance* (Merleau-Ponty, 1962, p. 353).

Husserl (1973) explains how this intercorporeality can happen in phenomenological terms that correlate well with the neuroscience of shared representations. He describes a kinaesthetic (motoric) reverberation in our own bodies as we observe the comportment of others, which helps us to understand what they are doing and experiencing. These interactive or intercorporeal aspects of embodiment indicate an *endogenous intersubjective* dimension of embodiment that should not be ignored in the analysis of the acquisition of practical reasoning, whether that be expertise or *phronesis*.

These intercorporeal aspects are thus both *embodied and intersubjective* in a primary way — and specifically in a way that allows for the secondary contextualization of action in pragmatic and

[6] For a critique of Gurwitsch and Heidegger on this point, see Gallagher (2004; 2005).

social settings, which, I suggest, is necessary for both the development of expertise and the acquisition of *phronesis*.⁷

The Differences Between *phronesis* and Expertise

In the previous section we discussed some capacities that likely operate as enabling conditions for the acquisition of expertise and *phronesis*. The interaction model developed here is one that requires both embodiment and intersubjectivity to allow for the capacities to act in socially and pragmatically contextualized settings. Indeed, embodiment and intersubjectivity are not disparate issues since embodiment already involves an endogenous intersubjectivity. Acquiring an understanding of actions and a capacity to act in the kinds of contextualized settings that help to define expert knowledge or skill requires those intersubjective (intercorporeal) capacities for understanding and interacting with others. Although something similar can be said of *phronesis*, still, something more must be said about the difference between *phronesis* and expertise.

Is *phronesis* equivalent to expertise? Is the acquisition of *phronesis* best explained on a skills-acquisition model? In regard to acquisition, we noted, Collins's model of expertise is consistent with an Aristotelian model of *phronesis*: one acquires *phronesis* by hanging around with good people.⁸ But on the Collins model of expertise, there is no guarantee that one's social interaction with experts will necessarily make one an expert, or lead to expert practice. This is reminiscent of Plato's complaint in the *Meno*: a son who is raised by good parents and given the best education amongst the best of society still may turn out bad. To attain *phronesis*, as Aristotle insists, one must also *act* and *interact* in a good way. It would not be enough simply to watch, or to converse with good people. One needs to imitate them, to act as they do and to do the kinds of things that they do: *phronesis*, like expertise, is *in the practice* — and in this regard only some combination of the Dreyfus and the Collins models could add up to Aristotle's model.

But let's look at the Dreyfus model more closely. In every case (according to Dreyfus, for expertise and for *phronesis*) Dreyfus outlines a multi-step acquisition process: novice to advanced beginner to competence to proficiency to expert. In each case the novice stage

[7] A fuller account that would go in a direction distinct from the standard theory-of-mind approaches would require some consideration of the importance of narrative. For this more developed account see Gallagher and Hutto (in press); Gallagher (2006); Hutto (2006; 2007).

[8] In contrast to a position like Lenat's, one certainly does not get *phronesis* by simply taking an ethics course.

starts like this: ‘Normally, the instruction process begins with the instructor decomposing the task environment into context-free features that the beginner can recognize without benefit of experience. The beginner is then given rules ...’ (Dreyfus and Dreyfus, 2004). Seemingly we start with rules and/or theory, and then work our way out of dependency on these mentalistic beginnings to gain a non-mentalistic expertise through practice. But is this the way it works in all cases? It seems that it may work for learning to drive or to play chess. But what about learning first language or learning to walk? In the case of language, I think we learn the rules (grammar) only after we learn to speak; in terms of walking — are there any rules? These are things we learn by pure practice, where, by ‘pure’ I mean without applying a rule. How do we learn our everyday coping skills? Not by working our way through theory or a set of rules. Again, how do we come to understand others and gain our ‘people skills’— *not by theory*. We are not given rules, we are given people, and we start to interact with them and imitate them (as indicated in the explanations of primary and secondary intersubjectivity). Not theories, not rules, but pure *doings*.⁹

How do we gain *phronesis*? Aristotle suggests, by hanging out with the right people. Learning from example. Imitating. In contrast, although Dreyfus, who equates *phronesis* with ethical expertise, clearly supports the idea that practice is key, he also seems to be a friend of theory or rule-based learning in the acquisition stages.

On analogy with chess and driving, it would seem that the budding ethical expert would learn at least some of the ethics of his or her community by following strict rules, would then go on to apply contextualized maxims, and, in the highest stage, would leave rules and principles behind and develop more and more refined spontaneous ethical responses (Dreyfus and Dreyfus, 2004, p. 254).

Still, Dreyfus is not a friend of theory in the actual practice of expertise or *phronesis*. Thus, he argues against Habermas and Benhabib’s implicit moral theory, and the idea that persons of practical wisdom are ethical cognitivists, relying on rules and principles; and in this regard he favours aspects of Gilligan’s emphasis on care over over-rational justice (Dreyfus and Dreyfus, 2004).

If *phronesis* is similar to expertise in some ways, in other ways it is not. I say this not only in regard to questions of acquisition, but also in regard to what these practices are. Accordingly, I want to avoid talking about ‘ethical expertise’, or equating ethical ‘know how’ with

[9] We learn by doing, but also, in the longer term we learn by narratives. See note 7.

expertise (in contrast to Dreyfus and Dreyfus, 1990; 2004; but also Varela, 1999). We can start to see the difference between *phronesis* and expertise in Aristotle's distinction between *phronesis* and cleverness, as well as in his distinction between virtuous action and *techné*.

There is a faculty which is called cleverness; and this is such as to be able to do the things that tend towards the mark we have set before ourselves, and to hit it. Now if the mark be noble, the cleverness is laudable, but if the mark be bad, the cleverness is mere smartness; hence we call even men of practical wisdom clever or smart. *Practical wisdom is not this faculty, but it does not exist without this faculty.* ... practical wisdom is to cleverness — not the same, but like it it is impossible to be practically wise without being good (Aristotle, 350, 1144a22).

It seems to me that a similar distinction should be clearly made between *phronesis* and expertise. Just as one could be a clever criminal, so one could be an expert terrorist. In neither case, however, could we talk about *phronesis* or any sort of practical moral wisdom. Dreyfus is right and properly Aristotelian in characterizing *phronesis* as non-mentalistic and as not relying on rules or maxims; the *phronimos* (the good person) copes case-by-case, attending to differences in situations. But this is not the complete picture of *phronesis* — something more is required.

Consider the following characterizations made by Dreyfus (2004), following Heidegger. The *phronimos* is the 'master of his or her culture's practices' (p. 266). Ethical experts are 'experts capable of responding appropriately to a wide range of interpersonal situations in their culture. Such social experts could be called virtuosi in living This is obviously Aristotle's *phronimos*' (p. 268). And summarizing Heidegger: 'people have skills for coping with equipment, other people, and themselves' (p. 266). The question is whether *phronesis* is reducible to people skills or virtuosity in interpersonal dealings? Is virtuosity equivalent to virtue? Just as I can be a clever criminal, I can be a virtuoso in selling used cars, managing an organization, convincing people to vote for me, or managing a classroom, etc. But none of this requires that I do the right thing — the good thing. A person could know and have the *know how* for how to do exactly the right thing, to act morally — and in this respect perhaps we could say that they have ethical expertise — and they may even be inclined to act that way — but they nonetheless decide not to act ethically, but to use their knowledge to act in a way that is not ethical. Such a person might have ethical expertise, but would not have *phronesis*.

Having said this, one comes to a very difficult philosophical point. What exactly is it that makes *phronesis* so different from expertise? Is

it just that the practice of *phronesis* leads to the moral good, and expertise does not necessarily do so? Why not say, for example, that *phronesis* is expertise in what constitutes the moral life? One might claim that to have *phronesis* is to have expert practical knowledge and skill in how to live the good life in the company of others. One might claim that the expertise of an expert in human affairs, for example a marriage councilor, is really a kind of *phronesis*. The problem that doesn't go away is that one might remain an expert marriage councilor and for whatever perverse reasons, intentionally deliver advice that will undermine the marriage of your clients when, in fact, the best thing would be to preserve the marriage. The expertise used to improve lives, which may be the same as that used to destroy lives, simply cannot be equated with *phronesis*. Rather, *phronesis* is precisely the thing that would prevent you from using your expertise for bad purposes.

On the Dreyfus model of expertise, one would have to practice one's skill, and that seems quite consistent with the notion of *phronesis*. But what precisely is the skill that one practices when one has *phronesis*?

What makes *phronesis* different from expertise, and even expertise in how to live the good life (if there is such an expertise) is, I suggest, the particular object or target involved. The particular target of *phronesis* is one's self — and specifically one's self in various but very particular situations, and in respect to how these situations can be integrated into the whole of one's life. Thus, Aristotle says: 'Practical wisdom also is identified especially with that form of it which is concerned with a man himself — with the individual; and this is known by the general name "practical wisdom"' (1141b28). Moreover, the target is not one's self as an object; but oneself as situated agent, moral practitioner. And we can note that while there are textbooks on different areas of expertise (rule books for driving and playing chess), there is no textbook on one's own self or on the unique situations in which one finds oneself.¹⁰ Regardless of who you are, or the kind of person you are, you can read a textbook on chess, and then practice, practice, practice to the point that you become the intuitive expert. This gives you a skill and makes you an expert, but it doesn't necessarily change the kind of person you are. In contrast, for Aristotle, it is not the character of the actions that make them virtuous, but the character of the agent:

[10] So-called 'self-help' books are not about you or me in the particular situations of our lives, but supposedly about everyone in general (what Heidegger would call *Das Man* — everyone and no one at the same time).

The agent also must be in a certain condition when he does them; in the first place he must have knowledge, secondly he must choose the acts, and choose them for their own sakes, and thirdly his action must proceed from a firm and unchangeable character (1105a31).¹¹

Phronesis, in contrast to expertise, involves making decisions about my own actions, and what is genuinely best for the situation defined as including myself.

Phronesis is practical (not theoretical or propositional) self-knowledge that we gain as we live through our situated and embodied actions. *Phronesis* involves a practical knowledge about oneself *from the inside out*, and from within the particular situation in which one exists. Yet, even if *phronesis* is about the self, in the way discussed, we are not entirely alone in our *phronesis*. The basis for the practical knowledge of oneself required for *phronesis* is found precisely in the embodied and intersubjective capacities that we discussed above. Although this is a know-how gained from the inside out, it is not a purely subjective knowledge, since from the inside (endogenously), and from birth, we are intersubjectively involved with others, and our self is shaped by these encounters.

Phronesis, Moral Agency, and Self-Consciousness

With this clarified concept of *phronesis* I would like to return to our starting point and revisit the conditions for moral agency as outlined by Dennett, and offer the following qualifications.

The kind of *rationality* (condition 1) involved in moral agency is not the sort that can be captured in computational models, but the kind of practical rationality that is involved in *phronesis*. Even if it were possible to reduce expertise to a set of rules and a disembodied body of propositional knowledge (and I think that Dreyfus is right, it is not), this is not possible for *phronesis*. The kind of rationality required for *phronesis* is at once embodied and intersubjective, and we begin to pick it up from our earliest encounters with others.

We must be able to take the *intentional stance* toward the person who would be a moral agent (condition 2). Dennett cites Strawson on this. He ‘identifies the concept of a person as “the concept of a type of entity such that *both* predicates ascribing states of consciousness *and* predicates ascribing corporeal characteristics” are applicable’

[11] Dreyfus and Dreyfus (1990) take the second condition to be problematic because it suggests abstract reflection on action rather than a pre-reflective embeddedness of action. I am in agreement with them, however, that a non-intlectualist interpretation of this is possible. For a conception of embedded or situated reflection that is not the kind of detached intellectualism Dreyfus and Dreyfus want to avoid, see Gallagher and Marcel (1999).

(Dennett, 1978, p. 177). This says something about all of us, both ‘ascribers’ and ‘ascribees’. Our ability to do this, which is the ability to recognize an entity in the environment as another person, and thus also to be a person to whom ascriptions of agency are made (because interaction goes two ways — see condition 4), exists from infancy. The ability to parse intentional action can be found in very young infants and is an aspect of primary intersubjectivity that is enhanced in the contextualized situations of secondary intersubjectivity. This capacity is clearly a condition for the development of *phronesis* to the extent that it is the beginning point for an understanding of others that involves our own motoric (action) reverberations, and therefore provides the basis for understanding and forming our own intentions.

In the intersubjective and richly affective interaction that characterizes primary intersubjectivity (and this is also true of the more developed and nuanced intersubjectivity that is built upon it) it is clearly possible for infants (as well as adults) to be the target of certain emotional attitudes (condition 3). Faces, and more generally, human forms of embodiment, in a certain manner, demand our attention, if not our respect. This is a point that could be developed further in support of the notion of obligation that goes along with moral personhood. That we are called to respond to others with some kind of moral sense and comportment is, as Levinas (1969) has pointed out, determined to some extent simply by the human form, and especially by the face and what the face expresses.¹² Insofar as the development of *phronesis* involves our social interactions this condition also plays an important role for moral agency.

It is also clear that normal infants (and some non-human animals) emotionally reciprocate (condition 4). This emotional interaction shapes our sense of self in an intersubjective mirroring that forms a necessary basis for social life and the possibility of moral practice. Gallese (2001), for example, seeks to extend the neural mirror system to include emotion and the possibility of empathy. Phenomenologists like Scheler (1970), who emphasizes the perceptual nature of intersubjective understanding, speak of our ability to ‘see’ the joy in the face of the other. It is also the case that infants look to their mothers’ gestures for reassurance when they encounter a new object or situation (see Hobson [2002] for review). These emotional interactions are clearly part of what Aristotle identified as the source of *phronesis*; not only being with and observing others, but acting with their

[12] To what degree this may extend to non-human animals is a good question. My daughter, who is vegetarian, has a simple rule. She doesn’t eat anything with a face.

emotional confirmation or caution, and coming to know what actions are good and what are bad.

Dennett's fifth condition involves the ability to communicate with others. The communication necessary for attaining moral agency, however, involves not just the verbal or signed transference of propositional knowledge, but the capacity to pick up on and understand the non-verbal expression of others. The communication of intentions and feelings is accomplished not simply in verbal discourse, but through embodied and perceptually informed interactions. Moreover, the kind of knowledge that results from such communication cannot always be summarized in propositional form. Again, it may be something that reverberates in an intuitive way in one's own action system, and as such form the basis of the intuitive sense of what the other expects or approves.

Dennett's final condition is self-consciousness. Self-consciousness in Dennett's sense, involves the ability to take a second-order volitional attitude toward oneself, as if from the outside – that is, as if I were acting upon another person (Dennett, 1976, p. 193). If, however, a higher-order reflective self-consciousness is necessary for making explicit moral decisions, it is not clear that on Aristotle's conception of *phronesis* responsible moral action always involves this kind of self-consciousness. *Phronesis*, to the extent that it involves something of a second nature, often leads to action that is intentional, but also close to automatic. The good person intuitively knows what to do and does it without much deliberation.

Such intentional action, however, is not done unknowingly or unconsciously. Phenomenologists like Husserl and Merleau-Ponty suggest that intentional action is always accompanied by a pre-reflective self-consciousness — a self-awareness that is implicit to experience itself. On this view, we could say that the person with *phronesis* knows what they are doing on an implicit level which is best expressed not by reflective or theoretically abstract propositions, but by descriptions on the highest pragmatic level of discourse (Gallagher and Marcel 1999). The person who is acting morally will not describe their action in self-conscious abstractions, nor as an exercise of muscles or motor programs. If I am asked, 'What are you doing right now', I don't respond by saying 'I am doing a morally good action'. Nor do I describe my action in terms of muscles moving or neurons firing (see Gallagher, 2006). Rather, I respond in contextually embedded terms — 'I'm driving my daughter to school'. This kind of situated self-consciousness develops within the dimensions defined by primary and secondary intersubjective interaction where our motor

systems reverberate with the actions of others, and the right or appropriate thing to do is reinforced in narratives that we begin to hear and understand at a very early age. I'm doing the kind of thing that I've seen others do, and that makes intuitive sense to me as appropriate action in this context. To explain what makes it appropriate may require some further self-conscious deliberation, and it may be difficult to express or justify, but prior to such self-conscious, reflective deliberation the person with *phronesis* has an embodied and intersubjective self-surety about the rightness of the action. In principle, this is not the kind of thing that could be instantiated in a disembodied machine or brain in a vat.

There is more to be said about self-consciousness. Dennett's characterization of self-consciousness as a higher-order cognitive act involving multiple orders of intention seems appropriate if we find ourselves in situations that require deep deliberation and the kind of Herculean and lonely internal struggles described in Kantian moral philosophy. For the most part, however, the Aristotelian *phronimos* is not victim to such struggles. His or her reflection is self-situated, shaped by a self-knowledge that has been honed to something close to an intuitive level. In either of these cases, the Aristotelian or the Kantian, one might argue that what gives moral significance to self-consciousness is nothing intrinsic to self-consciousness itself. This seems clear from Dennett's discussion. What gives self-consciousness its moral significance is its function in moral deliberation. It allows us to stand back from our proposed action and ask whether this is appropriate or not. It gives us a perspective on ourselves that allows us to deliberate about our planned actions.

In contrast to this functional understanding of self-consciousness, José Bermúdez (1995; also Gallagher, 1996) has argued in a way that suggests that self-consciousness may have intrinsic moral significance. Bermúdez employs what he terms the 'principle of derived moral significance', which states that 'if a particular feature or property is deemed to confer moral significance upon a life that has it, then any primitive form of that feature or property will also confer moral significance, although not necessarily to the same degree' (1995, p. 383). On this basis he argues that a kind of self-consciousness that is something less than the sort described by Dennett should still have moral significance. This minimal form of self-consciousness is characterized by three features: first, a primitive proprioceptive sense of one's body; second, the capacity to differentiate between self and non-self; and third a recognition that the other is of the same sort as oneself. Bermúdez cites evidence from experiments on neonatal

imitation to show that this sort of self-consciousness can be found in very young infants. Whatever moral significance this minimal self-consciousness has, however, it is not due to the sort of function that Dennett is interested in. So Bermúdez seems to be suggesting that it has some kind of intrinsic moral significance simply because it is a form of self-consciousness.

I want to stake out a middle position between these two extremes. If an embodied (proprioceptive), minimal self-consciousness cannot serve the same function as reflective, higher-order self-consciousness in moral deliberation, it can nonetheless serve a variety of purposes that are morally significant. First, just this kind of minimal self-consciousness may be involved in monitoring my own action in a way that allows me to know what I am doing without having to reflect on it. In this regard, this pre-reflective self-consciousness is the basis for the kind of situated reflection that is involved in the intuitive responses that constitute action guided by *phronesis*. As such, it helps to contribute to the capacity for *phronesis*. Second, it plays an essential role in intersubjective interaction from the very beginning. The proprioceptive-kinaesthetic aspects of this self-awareness are involved in and may be activated by our perception of others. Insofar as it is part and parcel of the earliest form of imitation, it likely continues to play a role in our ability to learn from others. In that respect too, it contributes to the capacity for *phronesis*.

Let me add that with respect to the aspect of moral personhood that involves rights and obligations, one can argue that just this sort of pre-reflective self-awareness is necessarily involved in the experience of pain, whether this is emotional or physical pain.¹³ This is not an unusual way to think about the mutual obligation we have towards one another: *Primum non nocere*. If we recognize the other as someone who can experience pain, then we have a moral obligation to behave in a certain way towards him. In part, at least, that intuition is included in knowing what constitutes good action towards another.

I have argued that it is possible to define moral personhood in the sense of moral agency in terms of the capacity for *phronesis*. Someone who has the capacity for *phronesis* (whether it is actualized or not) is someone who is capable of moral agency. On this definition, moral agency depends on an embodied and intersubjective existence in which the rationality at stake is practical rather than theoretical, and is characterized by a situated self-consciousness, emotionally informed

[13] For an argument that pre-reflective self-awareness is required for phenomenal experience, for the “what it is like” of experience, and therefore for the phenomenal experience of pain, see Gallagher and Zahavi (in press).

by an intersubjectivity that is endogenous to our own action systems. One's capacity to act as a moral agent (that is, to act morally or immorally, responsibly or irresponsibly), and to act morally towards others, is just this capacity to act on an intuitive insight into one's own self in a way that is not divorced from but rather fully implicated in our relations with others.

This view suggests that one may fail to meet the conditions of moral agency and thereby to be responsible for one's actions if certain aspects of one's social development or embodied neurobiology are compromised.

References

- Allison, T., Puce, Q., and McCarthy, G. (2000), 'Social perception from visual cues: Role of the STS region', *Trends in Cognitive Science*, 4 (7), pp. 267–78.
- Aristotle (350), *Nicomachean Ethics*. Trans. W. D. Ross. In R. McKeon (ed.). *The Basic Works of Aristotle* (New York: Random House).
- Baldwin, D. A. 1993. Infants' ability to consult the speaker for clues to word reference. *Journal of Child Language* 20: 395-418.
- Baldwin, D. A. and Baird, J. A. 2001. Discerning intentions in dynamic human action. *Trends in Cognitive Science* 5 (4): 171-78.
- Baldwin, D.A., Baird, J. A., Saylor, M. M. and Clark, M. A. 2001. Infants parse dynamic action. *Child Development*, 72: 708-717.
- Bermúdez, J. 2005. The moral significance of birth. *Ethics* 106: 378-403.
- Bertenthal, B. I. Proffitt, D. R. and Cutting, J. E. 1984. Infant sensitivity to figural coherence in biomechanical motions. *Journal of Experimental Child Psychology* 37: 213-30.
- Collins, H. M. 2004. Interactional expertise as a third kind of knowledge. *Phenomenology and the Cognitive Sciences* 3 (2): 125-43.
- Collins, H. M., 1996. Embedded or embodied: Hubert Dreyfus's *What Computers Still Can't Do*. *Artificial Intelligence* 80 (1) 99-117.
- Collins, Harry, Robert Evans, Rodrigo Ribeiro, and Martin Hall. 2006. Experiments with Interactional Expertise. *Studies in History and Philosophy of Science* 37a (4).
- Collins, H. M., & Kusch, M. 1998. *The Shape of Actions: What Humans and Machines Can Do*. Cambridge, MA: MIT Press.
- Collins, H. M. 1990. *Artificial Experts: Social Knowledge and Intelligent Machines*. Cambridge, MA: MIT press.
- Collins, H. M. 1995. Humans, machines, and the structure of knowledge. *Stanford Humanities Review* 4 (2): 67–83.
- Collins, H. M. 2000. Four kinds of knowledge, two (or maybe three) kinds of embodiment, and the question of artificial intelligence. In J. Malpas, and M. A. Wrathall, (eds.), *Heidegger, Coping, and Cognitive Science: Essays in Honor of Hubert L. Dreyfus*, vol. 2 (179-195). Cambridge, MA: MIT Press.
- Decety, J. and Grézes, J. 2006. The power of simulation: Imagining one's own and other's behavior. *Brain Research* 1079: 4-14.
- Decety, J. and Sommerville, J. A. 2003. Shared representations between self and other: a social cognitive neuroscience view. *Trends in Cognitive Sciences* 7 (12): 527-533.

- Dennett, D. 1976. Conditions of personhood. In A. Rorty (ed). *The Identities of Persons* (175-96). Berkeley: University of California Press.
- Dennett, D. 1982. Where am I. In Hofstadter, D. R., & Dennett, D. R. (eds.), *The Mind's I: Fantasies and Reflections on Self and Soul* (217-229). London: Penguin.
- Dennett, D. 1991. *Consciousness Explained*. Boston: Little, Brown, and Company.
- Dewey, J. 1922. *Human Nature and Conduct: An Introduction to Social Psychology*. London: George Allen and Unwin.
- Dreyfus, H. 1991. *Being-in-the-World: A Commentary on Heidegger's Being and Time*. Cambridge: MIT Press.
- Dreyfus, H. 1992. *What Computers Still Can't Do: A Critique of Artificial Reason*. Cambridge: MIT Press.
- Dreyfus, H. 2000. Could anything be more intelligible than everyday intelligibility? Reinterpreting Division I of *Being and Time* in the light of Division II. In J. Faulconer and M. Wrathall (Eds.), *Appropriating Heidegger* (155–170). Cambridge: Cambridge University Press.
- Dreyfus, H. 2002. Intelligence without representation Merleau-Ponty's critique of mental representation: The relevance of phenomenology to scientific explanation. *Phenomenology and the Cognitive Sciences* 1: 367-383.
- Dreyfus, H. and Dreyfus, S. 1985. From Socrates to expert systems: The limits of calculative rationality. In C. Mitcham and A. Huning (Eds.), *Philosophy and Technology II: Information Technology and Computers in Theory and Practice*. Boston: D. Reidel Publishing Company, pp. 111–130.
- Dreyfus, H. and Dreyfus, S. 1986. *Mind Over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*. New York: Free Press.
- Dreyfus, H. and Dreyfus, S. 1990. What is Morality? A Phenomenological Account of the Development of Ethical Expertise. In D. Rasmussen (Ed.), *Universalism vs. Communitarianism: Contemporary Debates in Ethics*. Cambridge: MIT Press, pp. 237–264.
- Dreyfus, H. L. and Dreyfus, S. E. 2004. The ethical implications of the five-stage skill-acquisition model. *Bulletin of Science, Technology and Society* 24 (3): 251-64.
- Fadiga, L., et al. 1995. Motor facilitation during action observation: a magnetic stimulation study. *Journal of Neurophysiology* 73: 2608-2611.
- Frankfurt, H. 1971. Freedom of the will and the concept of a person. *Journal of Philosophy* 68: 5-20.
- Gallagher S. 2006. The narrative alternative to theory of mind. *Consciousness and Emotion* 7: 223-229.
- Gallagher, S. 2005. Phenomenological contributions to a theory of social cognition. *Husserl Studies* 21: 95–110.
- Gallagher, S. 2001. The practice of mind: Theory, simulation, or interaction? *Journal of Consciousness Studies* 8 (5–7): 83–107.
- Gallagher, S. 2004a. Les conditions corporéité et d'intersubjectivité de la personne morale. *Theologiques* 12 (1-2): 135-64.
- Gallagher, S. 2004b. Understanding interpersonal problems in autism: Interaction theory as an alternative to theory of mind. *Philosophy, Psychiatry, and Psychology* 11 (3): 199-217.
- Gallagher, S. 2004c. Situational understanding: A Gurwitschean critique of theory of mind." In L. Embree (ed.), *Gurwitsch's Relevancy for Cognitive Science* (pp. 25-44). Dordrecht: Kluwer.
- Gallagher, S. 1996. The moral significance of primitive self-consciousness: A response to Bermúdez. *Ethics* 107 (1): 129-140.

- Gallagher, S. and Hutto, D. (in press). Primary interaction and narrative practice. In: Zlatev, Racine, Sinha and Itkonen (eds). *The Shared Mind: Perspectives on Intersubjectivity*. Amsterdam: John Benjamins.
- Gallagher, S. and Marcel, A. J. 1999. The self in contextualized action. *Journal of Consciousness Studies* 6 (4): 4-30.
- Gallagher, S. and Meltzoff, A. 1996. The earliest sense of self and others: Merleau-Ponty and recent developmental studies. *Philosophical Psychology* 9: 213-236.
- Gallagher, S. and Zahavi, D. (in press). *The Phenomenological Mind*. London: Routledge.
- Gallese, V. 2001. The 'shared manifold' Hypothesis: From mirror neurons to empathy. *Journal of Consciousness Studies* 8 (5-7): 33-50.
- Giles, J. 2006. Sociologist fools physics judges. *Nature* 442 (8). Online publication 6 July 2006.
- Gopnik, A. and Meltzoff, A. N. 1997. *Words, Thoughts, and Theories*. Cambridge, MA: MIT Press.
- Grézes, J. and Decety, J. 2001. Functional anatomy of execution, mental simulation, observation, and verb generation of actions: A meta-analysis. *Human Brain Mapping* 12: 1-19.
- Gurwitsch, A. 1931. *Die mitmenschlichen Begegnungen in der Milieuwelt*. Berlin: Walter de Gruyter, 1977; *Human Encounters in the Social World*. Trans. F. Kersten. Pittsburgh: Duquesne University Press, 1978.
- Hayes-Roth, F., Waterman D.A. & Lenat, D.B. 1983. An overview of expert systems. In Hayes-Roth, F., Waterman, D., and Lenat, D. (Eds.) (1983). *Building Expert Systems*. Addison-Wesley.
- Heidegger, M. 1968. *Being and Time*, trans. J. Macquarrie and E. Robinson. New York: Harper and Row.
- Hobson, P. 2002. *The Cradle of Thought*. London: Macmillan.
- Husserl, E. 1973. *Ding und Raum* (Husserliana XVI). Den Haag: Nijhoff.
- Hutto D.D. 2006. "Narrative Practice and Understanding Reasons: Reply to Gallagher." *Consciousness and Emotion: Special Issue on Radical Enactivism*, ed. R Menary.
- Hutto D.D. 2007. "The Narrative Practice Hypothesis." In *Narrative and Understanding Persons*. Hutto, D. D. (ed.). Royal Institute of Philosophy Supplement. Cambridge: Cambridge University Press.
- Jeannerod, M. 1997. *The Cognitive Neuroscience of Action*, Oxford: Blackwell Publishers.
- Johnson, S. C. 2000. The recognition of mentalistic agents in infancy. *Trends in Cognitive Science* 4: 22-28.
- Johnson, S. et al. 1998. Whose gaze will infants follow? The elicitation of gaze-following in 12-month-old infants. *Developmental Science* 1: 233-238.
- Legerstee, M. 1991. The role of person and object in eliciting early imitation. *Journal of Experimental Child Psychology* 51: 423-433.
- Lenat, D. B. and Guha, R. V. 1990. *Building Large Knowledge Based Systems*. Reading, Massachusetts: Addison Wesley.
- Levinas, E. 1969. *Totality and Infinity*. Trans. A. Lingis. Duquesne University Press.
- Mansour-Robaey, S. 2004. Le corps, ses représentations et le statut de la personne morale. *Theologiques* 12 (1-2): 156-59.
- Meltzoff, A.N. 1995. Understanding the intentions of others: Re-enactment of intended acts by 18-month-old children. *Developmental Psychology* 31: 838-850.

- Meltzoff, A. N. and Brooks, R. 2001. "Like Me" as a building block for understanding other minds: Bodily acts, attention, and intention. In B. F. Malle, et al. (eds.), *Intentions and Intentionality: Foundations of Social Cognition* (171-91). Cambridge, MA: MIT Press.
- Meltzoff, A. and Moore, M. K. 1977. Imitation of facial and manual gestures by human neonates. *Science* 198: 75-78.
- Meltzoff, A. and Moore, M. K. 1994. Imitation, memory, and the representation of persons. *Infant Behavior and Development* 17: 83-99.
- Merleau-Ponty, M. 1962. *Phenomenology of Perception*, trans. C. Smith. London: Routledge and Kegan Paul.
- Merleau-Ponty, M. 2003. *Nature: Course Notes from the College de France*, D. Seglard, ed. R. Vallier, trans. Evanston: Northwestern University Press.
- Mialet, H. 1999. Do angels have bodies? Two stories about subjectivity in science: The cases of William X and Mister H. *Social Studies of Science* 29 (4): 551-582.
- Moore, D. G., Hobson, R. P. and Lee, A. 1997. Components of person perception: An investigation with autistic, non-autistic retarded and typically developing children and adolescents. *British Journal of Developmental Psychology* 15: 401-423.
- Pappas, G. 1994. Experts. *Acta Analytica* 9 (12): 7-17.
- Phillips, W., Baron-Cohen, S. and Rutter, M. 1992. The role of eye-contact in the detection of goals: Evidence from normal toddlers, and children with autism or mental handicap. *Development and Psychopathology* 4: 375-383.
- Rizzolatti, G., et al. 1996. Localization of grasp representations in humans by PET: 1. Observation versus execution. *Experimental Brain Research* 111: 246-252.
- Selinger, E. 2003. The necessity of embodiment: The Dreyfus-Collins debate. *Philosophy Today* 47 (3): 266-279.
- Scheler, M. 1970. *The Nature of Sympathy*. Trans. P. Heath. Hamden, CN: Archon Books. Original: *Wesen und Formen der Sympathie*. Bonn: Verlag Friedrich Cohen, 1923; Fifth edition, 1973 in *Collected Works VII*. Bern: Francke Verlag.
- Selinger, E. M. and Crease, R. P. 2002. Dreyfus on expertise: The limits of phenomenological analysis. *Continental Philosophy Review* 35: 245-79.
- Sheets-Johnstone, M. 2000. Kinetic tactile-kinesthetic bodies: Ontogenetical foundations of apprenticeship learning. *Human Studies* 23: 343-370.
- Trevarthen, C. 1979. Communication and cooperation in early infancy: A description of primary intersubjectivity. In M. Bullowa (ed.), *Before Speech* (321-347). Cambridge: Cambridge University Press.
- Trevarthen, C. and Hubble, P. 1978. Secondary intersubjectivity: Confidence, confiding and acts of meaning in the first year. In A. Lock (ed) *Action, Gesture and Symbol: The Emergence of Language* (183-229). London: Academic Press.
- Walker, A. S. 1982. Intermodal perception of expressive behaviors by human infants. *Journal of Experimental Child Psychology* 33: 514-35.
- Wilkes, Kathleen V. 1988. *Real People: Personal Identity without Thought Experiments*. Oxford: Clarendon Press; New York: Oxford University Press.
- Young, I. 1998. Throwing like a girl. In D. Welton (Ed.), *Body and Flesh: A Philosophical Reader* (259-273). Oxford and Malden, MA: Blackwell Publishers.