ACTA PHILOSOPHICA GOTHOBURGENSIA
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INTENTIONALITY AND INTERSUBJECTIVITY

Jan Almäng

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For my Mother

And

For my Father

Abstract

This is a dissertation about the problem of other minds. Its point of departure is the modern philosophical and cognitive-scientific discussion of our attribution of mental states to others, in particular as it is conceived of within the so-called theory theory. The theory theory, and the broader framework of which it is a part, are presented in part 1.

In the second part of the dissertation, it is argued that the conception of intentionality normally used in the modern discussions of intersubjectivity cannot adequately explain all facets of human actions. This is because some aspects of actions can only be explained by recourse to intentional states which are not necessarily cognitively accessible. Based upon the Merleau-Pontyian notion of body schema, I develop an alternative account of intentionality, viz. primordial intentionality.

The third part of the dissertation argues that the theory theory, and indeed all theories of intersubjectivity that conceive of our ascription of mental states to others as being essentially cognitive, fail to appreciate the nature of the intentionality involved in our habitual capacity for mentalising. The kind of intentionality which is primarily involved in intersubjectivity is not cognitive intentionality, but primordial intentionality. In a Merleau-Pontyian spirit, this mentalising is explicated as a body-schematic transfer. I argue that my Merleau-Pontyian theory can explain how we can habitually attribute mental states to others, and that it furthermore presents a novel solution to the problem of how it is at all possible for us to conceive of the mental states of others.

Keywords: analogical theories, body schema, embodiment, intentionality, intersubjectivity, other minds, simulation theory, theory theory, Dretske, Fodor, Gibson, Husserl, Meltzoff, Merleau-Ponty, Nichols, Stich, Strawson.

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All remaining errors are, as the saying goes, entirely my own responsibility.

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1. Introduction

There was a time when the discussion of the problem of other minds took place at the centre court of philosophy. Times change, and so do philosophical fashions. Those days are now long gone; the discussion of other minds is largely relegated to the periphery of philosophical debate, of concern mostly for some philosophers in the phenomenological tradition and some who are interested in cognitive science, psychiatry or developmental psychology. This is somewhat strange, considering that none of the solutions being proposed to the various problems of other minds has been anything near unanimously accepted among philosophers. Moreover, it is difficult to comprehend this diminished interest, since the problem of other minds is one of the classical problems in the philosophy of mind as well as being one which each and every non-philosopher has some grasp and experience of. All of us have encountered situations in which it has been important to determine the state of mind of another human being; each and every one of us has had to admit the difficult and problematical nature of reading the minds of other people.

1.1 The Problems of Other Minds

Understanding the nature of the contemporary debate on the problem of other minds is far from simple. To begin with, the so-called "problem of other minds" should be represented as "the problems of other minds". There are in fact at least three distinct but related problems. The most famous of these is the epistemological puzzle, which can be dissolved further into two separate problems. First of all, how reliable can our knowledge of other minds be? And secondly, what is the evidence for the existence of other minds and of mental states of other individuals? Traditionally it has been assumed that our knowledge of other minds is of quite a different nature than our knowledge of anything else. It differs from our knowledge of our own minds in the sense that whereas our knowledge of our own minds is, at least to a certain extent, privileged and plausibly can be conceived of as direct and infallible, our knowledge of other minds is indirect and fallible. Conversely, our knowledge of other minds is different from much of our

perceptual knowledge, because other minds cannot be perceived. At best, we can perceive signs indicating the presence of other minds.

The epistemological problems of other minds will not be discussed widely in this dissertation, though its conclusions do have some implications for that discussion. What I will discuss is the second and the third problem of other minds.

The *second* problem is sometimes referred to as the "genetic problem of other minds," sometimes as the "conceptual problem of other minds," particularly in the analytical tradition, and sometimes as the "constitutional problem of other minds," particularly in the phenomenological tradition. In this dissertation I shall use the second term primarily, despite the fact that I find it somewhat misleading.

In the phenomenological tradition, the conceptual problem of other minds is framed as the question of how it is possible to constitute the other as an individual to whom one can ascribe psychological states. In the analytical tradition, the problem is framed as the question of how it is at all possible for us to acquire the concept of another mind. The common issue is thus: how can we ever acquire the capacity to see other creatures *as* creatures with a psychological life?

We should not assume that this capacity necessarily involves a linguistic or conceptual capacity. Indeed, I think it would be a mistake to assume that. It is true that analytical philosophers ask how we can acquire the *concept* of another mind and how mental states can be *ascribed* to a certain creature. Undoubtedly, this appears to imply that the capacity involved is conceptual and that perceiving others as beings that have individual mental lives is to have a perception with a conceptual content to that effect. There is, however, much literature on whether or not perception is conceptual at all. I very much doubt that philosophers who like to frame the problem of other minds in terms of "concept acquisition" and "conceptual ascription" would like to presuppose a particular solution to that particular question about perception. Therefore, I shall assume in the following analysis that these terms are metaphors in this context. This should not be taken as an endorsement of the position of the non-conceptualist – though I belong to that camp myself – rather, as a note that the dissertation does not presuppose any particular outcome of that particular discussion.

The problem of linguistic and conceptual capacity does not arise within the phenomenological tradition since the term "constitution" does not have the same connotations. However, "constitution" is used in a wide variety of senses within the phenomenological tradition and for that reason might be slightly misleading if used to refer to this particular problem.

A third problem, also closely related to the conceptual issue, concerns the nature of our habitual ascription of mental states to others. This problem has been the object of much discussion recently in the context of cognitive psychology. Indeed, for many philosophers interested in cognitive science, this *is* the problem of other

minds nowadays. It is, in essence, the problem of how we ascribe mental states to others, or the means and capacity by which we manage to ascribe – correctly or not – psychological states to others. Within the context afforded by cognitive psychology, two approaches in particular have been popular during the last two decades. The first approach claims that we attribute mental states to others by means of theorising about them. The second approach claims that we attribute mental states by simulating them with our own mental capacities.

Relating to all three problems, in particular to the second and third, is an issue that can be described as the genetic problem of other minds. This is the problem of the psychological development of our capacity for attributing mental states to others. Research in developmental psychology is obviously important for arriving at a solution to the problem of how it is possible for us to attribute mental states to others, but it is also important for any adequate theory of how our capacity to attribute mental states to others works, since it is concerned with the actual development of this capacity. However, it is not always easy to draw a boundary here, since the conceptual problem is not independent of the problem of the psychological origin, and vice versa.

1.2 Body, Mind and Other Minds

Construing a coherent narrative of how we arrived at the present state of discussion on the nature of other minds, or intersubjectivity, is not without difficulty, but it is probable that, as Anita Avramides has pointed out, the problem of other minds arose with Descartes' philosophy of mind,[1] albeit not necessarily with Descartes. Even so, the problem of other minds does not become a major issue in philosophy until the 20th century. Moreover, when it does become a major problem, several different schools of philosophy pursue solutions independently of each other.

First, there is the phenomenological tradition. Edmund Husserl presented a radical program for philosophy in which philosophers should bracket all their presuppositions, including all assumptions of existence and study the things themselves as they appeared in a consciousness. Thus, Husserl's phenomenology is a study of phenomena. However, Husserl needed to make sure that phenomenological inquiries had objective validity, viz. that they were intersubjectively accessible; it became important for Husserl to show that it was possible to account for intersubjectivity within the realms of a phenomenological

[1] Avramides, *Other Minds*, p 45.

inquiry. Hence, Husserl came to devote a lot of time and energy to a study of how we constitute other human beings as beings with a body and a mind. However, Husserl's inquiries were shaped primarily by the framework of transcendental phenomenology and were addressed mainly towards rectifying the problems within that theory. It is devoted to a relatively little extent to theories and problems arising outside that framework.

Merleau-Ponty, the most significant theorist of intersubjectivity within the phenomenological tradition apart from Husserl, takes a slightly different approach. His inquiries are addressed primarily to clarifying the phenomenology of perception and of the body. However, he relies heavily on Husserl's prior conclusions and theories, even when he criticises and goes beyond them. Though both Husserl and Merleau-Ponty construe their inquiries largely independently of the discussion within the Anglo-Saxon tradition, there is a criticism of empiricism and behaviourism, in particular in the work of Merleau-Ponty, that has a bearing on the inquiries in the analytical tradition.

Husserl and Merleau-Ponty are the most important theorists within the phenomenological tradition when it comes to analysing the nature of intersubjectivity. It is true that Heidegger also has a theory of intersubjectivity, but he makes no attempt at answering the questions being pursued in this dissertation. Other philosophers of importance within that tradition include Edith Stein, Max Scheler and Jean-Paul Sartre. While these philosophers all present interesting solutions to the problem of other minds, these solutions are not of sufficient interest to the particular set of problems investigated here to merit an exhaustive analysis.

The line of inquiry within the analytical tradition has been even more ignorant of the other side. Despite the many similarities both in terms of questions asked and answers given, it is only in recent years that analytical philosophers have shown more than sporadic interest in the endeavours of the phenomenologists. Even so, the interest among analytical philosophers for the theories of Husserl and Merleau-Ponty on intersubjecticity is very limited. In two of the more recent attempts at elucidating the problem of other minds during the last couple of decades within the framework provided by analytic philosophy, there is no mention of either philosopher.[2]

As mentioned above, the problem of other minds, as conceived within the analytical tradition, arose with Descartes. Not that Descartes himself was particularly worried by the problem; unlike subsequent philosophers, Descartes believed that God not would not bother creating zombies, so on his account, an

[2] The attempts I have in mind are those of Hyslop, *Other Minds* and Avramides, *Other Minds*.

expression of humanity was sufficient evidence for the existence of other minds.[3] Descartes' real importance lay in his insistence on the radical separation of the mental and physical realms.

According to Cartesian dualism, mental states of affairs are non-physical. For Descartes, this implied that the mind of a particular individual is an entity different from her body. While Cartesian substance dualism is hardly a fashionable theory these days, a milder version of Cartesianism, property-dualism, is still very popular and may even be the dominant position in today's philosophy of mind. It is, roughly put, the position that mental or psychological properties are not (type-) identical with physical properties.

In essence, property dualism is what has generated the problem of other minds during the last centuries. I am not going to challenge property dualism – on the contrary, I am convinced that some version of it is correct. Now, property-dualism entails that a description of a type of a physical state of affairs can never amount to a description of a type of a mental or psychological state of affairs.[4] Philosophers have generally held that this, in turn, entails that a perception of a physical state of affairs can never amount to a perception of a mental or psychological state of affairs and that what we can perceive is at best some indication of mental states. Elucidating the nature of this indication-relation is the main business of many philosophers analysing the problem of other minds. In this dissertation, I shall argue that the inference is not warranted. Even though a description of a physical state of affairs would never amount to anything more than an indication of a psychological state, a perception of the physical state could at the same time be a perception of a psychological state.

Before we proceed, we should note that not everyone would agree on using a dualistic framework for the problem. Behaviourists, for example, would like us to believe that mental states are in some way identical to physical states, or sets of physical states. I am not going to argue directly against behaviourism – though I consider it a ludicrous position – I shall simply assume that it is false. However, I will present an argument against behaviourism by Wilfrid Sellars, which I believe is correct. Another position that denies the dualistic assumption is eliminative materialism. While it is more sophisticated than behaviourism it is in my opinion equally incorrect. Again, it would take the dissertation too far to argue against eliminative materialism, so I shall simply assume that that theory is false as well.

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[3] Avramides presents a much more detailed analysis of Descartes' theory. See Avramides, *Other Minds*, ch ii.

[4] Note that this does not preclude that mental states of affairs may supervene on physical states of affairs. In order for us to conclude that a psychological state supervenes on a physical state, we need not only information about the supervenience base, but also information about the bridge-laws, which relate the physical states to the mental states.

There may be a third way to deny the dualistic assumption, by claiming that psychological states can *manifest* themselves in physical states in a certain sense. This objection is normally couched in terms that make it hard to distinguish from behaviourism, a theory which its adherents normally despise. Alasdair MacIntyre presents his version in a recent book on Edith Stein, "Here it is important that, as Stein had already suggested, what is expressed is not an external sign of some inner thought or feeling. It *is* the inner thought and feeling. So a blush is not an external effect of an inner sense of shame. The blush is not caused by the shame as it might be caused by exertion […]. The shame is present in the blushing".[5]

The trouble with these theories is that the physical and psychological states in question can occur independently of each other. It is possible to feel pain without expressing any pain-behaviour and it is possible to express pain-behaviour without feeling any pain. So, in what sense can the physical state be something more than a sign that indicates the psychological state? This question is rarely met with anything but silence.

I will however argue in this dissertation that some mental states are, for some perceivers, not enclosed within a first person sphere. This means that it is possible to perceive immediately from a third person perspective that someone is in a particular psychological state, even though psychological states cannot be analysed in terms of physical states.[6] This may sound mysterious but it will be clarified here in due course.

We have seen that philosophers in general assume that (some version of) property dualism is true; they conclude that the relation between the physical and psychological realms is one of indication. The physical state may at best indicate the presence of a psychological state. I take this to be true. However, philosophers in general also conclude from this fact that whereas one can have non-inferential and direct knowledge of one's own mental states – first person access not being based on observations of behaviour – one can only have inferential and indirect knowledge of the psychological states of third persons since only physical properties can be noninferentially and directly detected in (external) perception.[7] As indicated, I will challenge this conclusion in the last chapter.

In short, Cartesianism implies that psychological properties are not reducible to physical properties. Further, it has been concluded from this premise that no physical description of a state of affairs would ever yield a psychological state of affairs. Moreover, since, by assumption, only physical properties can be detected in

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[5] MacIntyre, *Edith Stein*, p 84.

[6] For an analysis that reaches the same conclusions, albeit for slightly different reasons, see Malmgren, "Immediate Knowledge of Other Minds".

[7] Internal perception is of course a different matter. But whenever I employ the term "perception" in the following, I will, unless otherwise stated, mean "external perception".

(external) perception, we perceive non-inferentially signs or expressions of the psychological states of others. These very widespread assumptions of modern philosophy created the problem of other minds. And it became a pressing matter to elucidate the nature and possibility of the inference from bodily signs or expressions to psychological states.

1.3 The Analogical Theory

Philosophers intrigued by the nature of other minds had to find a way to show how any inference from a physical state to a mental state can be warranted, or possible. The distinction between the epistemological problem and the conceptual one was not often particularly clear. One of the first philosophers of importance who attempted to solve the problem was John Stuart Mill.[8]

1.3.1 MILL

In true empiricist fashion, the initial step in Mill's theory is the observation that all our sensations are linked to sensations of our own body in a "peculiar manner." This connection is on a closer look twofold. First, there is the connection between "modifications" of our own body and "feelings," and then there is the connection between "feelings" and "outward demeanour". Based on these assumptions, Mill concludes:

> [T] hat other human beings have feelings like me, because, first, they have bodies like me, which I know, in my own case, to be the antecedent condition of feelings; and because, secondly, they exhibit the acts, and other outward signs, which in my own case I know by experience to be caused by feelings. I am conscious in myself of a series of facts connected by an uniform sequence, of which the beginning is modifications of my body, the middle is feelings, the end is outward demeanour. In the case of other human beings I have the evidence of my senses for the first and last links of the

[8] My account of the fate of the analogical account within analytical philosophy draws heavily on Avramides presentation in her *Other Minds*.

> series, but not for the intermediate link. I find, however, that the sequence between the first and last is as regular and constant in those other cases as it is in mine. In my own case I know that the first link produces the last through the intermediate link, and could not produce it without. [....] I bring other human beings, as phenomena, under the same generalizations which I know by experience to be the true theory of my own existence.[9]

Mill is usually credited with being the first to attempt an analogical solution to the problem of other minds. However, Mill conceived of his solution as being essentially inductive; the analogical inference is merely a hypothesis, which later would be confirmed inductively by the behaviour of the other.[10]

Mill's theory has all the classical ingredients. He accepts that knowledge is derived ultimately from perceptual experience. He insists that one cannot perceive the mental states of someone else. He concludes that the only way to prove the existence of other minds is by arguing analogically from the only mental states that one does know of, viz. one's own. One peculiar feature of Mill's theory though is the claim that only sensations count as mental states. This claim was later dropped from most analogical theories.

Mill was to encounter a contemporary critic, H. F. O'Hanlon, who presented the first version of an objection that has later been directed at most analogical theories of other minds. O'Hanlon argued that in order to be able to explain how we can ascribe sensations to another sphere of consciousness, Mill has to assume that it is possible to conceive of that sphere. However, by doing so Mill begs the crucial question of how we come to conceive of that sphere of consciousness in the first place.[11] This argument was later to be sharpened further by critical commentators, who claimed that whereas an analogical theory can infer the existence of mental states, they cannot infer that these mental states belong to someone other than myself.

1.3.2 RUSSELL

The next major philosopher to defend the analogical solution was Bertrand Russell. He explicitly attempts to show how our belief in the existence of other minds is

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[9] Mill, *An Examination of Sir William Hamilton's Philosophy*, p 191. The quote was brought to my attention by Avramides, *Other Minds*, p 166f.

[10] The presentation of the argument is indebted to Avramides' analysis of it. Ibid., p 164-171.

[11] Ibid., p 170.

justified. In so doing, he employs an analogical theory. Russell's starting point is common to almost all analogical theorists. The only thoughts and feelings that we are directly familiar with are our own. By implication, we can only warrant the belief that others have thoughts and feelings "in virtue of some inference in which our own thoughts and feelings are relevant". [12]

Russell's theory differs from Mill's in two important ways. The first is that Russell does not consider sensations to be the only relevant mental states – he explicitly mentions thoughts as another relevant class. The second is that Russell's inductive version of the analogical theory is different from Mill's. According to Russell's theory, we have observed in many instances that a physical occurrence, B, is caused by a thought, A. Thus, when I say I am thirsty, this utterance is caused by the thought that I am thirsty. And, needless to say, the same story could be told about a large class of other physical occurrences which we know from first person experience are preceded and caused by specific mental states.[13] Once we have gotten this far, according to Russell, we can proceed with an inductive argument for the existence of other minds. The argument is roughly that in most or all cases we have observed that all B's are caused by A's. By implication, whenever we observe a B without observing a preceding cause, we are warranted in inducing that it is very probable that this B was also caused by an A.[14]

1.3.3 HYSLOP

Couching the analogical argument in terms of inductive reasoning has not been a smashing success, since, as has been pointed out by innumerable commentators, the induction is based on a very small sample indeed, viz. one case. Needless to say, analogical arguers have *attempted* to get around this problem by means of a variety of more or less clever moves. One of the more recent such moves has been made by Alec Hyslop. His argument, in effect, is that even though we only have one instance to go by, the requisite information for an argument to get off the ground is nevertheless in place.

In fact, we do indeed often know from first person experience that a specific mental state normally causes a specific physical state. Pain, for example, normally causes pain-behaviour. According to Hyslop, that information is all that is needed, since we can start by inferring that our mental states are caused by physical brain

[12] Russell, "Analogy", p 6.
[13] Ibid., p 6ff.
[14] Ibid.

states and then infer that other physical brain states of the same kind would also cause the same physical states.[15]

The trouble with this argument is that the assumption that mental states are caused by physical brain states seems to rely significantly on scientific evidence from neuroscience. However, in most, if not all, neuroscientific studies, it is assumed that the participants have a mind and mental states of their own. This argument, in effect, has to assume the existence of other minds, unless the defender of it has participated in the particular neuropsychological study himself!

1.3.4 CARNAP

Rudolf Carnap presented yet another analogical theory that created more problems than it solved. In *Die Logische Aufbau der Welt*, Carnap recognized three types of objects, psychological, physical and cultural, setting out to show how the latter two could be constructed from the first. Carnap further distinguishes between the "autopsychological", viz. the psychological domain accessible from a first person perspective, and the "heteropsychological", viz. the psychological domain accessible from a third person perspective. Carnap, who while writing the *Aufbau* was no behaviourist, accepted the relevant assumptions of empiricism – that we can only perceive physical properties and that psychological properties do not reduce to physical properties.[16] The heteropsychological manifests itself through the mediation of a body and is never known immediately. Further, while the bodily states of an individual stand in an expressive relation to his psychological states, heteropsychological states can only be construed on the basis of autopsychological states. Carnap even claims that another person's sequence of experience is merely a rearrangement of autopsychological experiences and their constituents.[17]

Nevertheless, even though it is possible to construe the other as being in a psychological state similar to my own, such a construction does not amount to cognition. According to Carnap's account, statements regarding the heteropsychological lack truth-value! The reason for this intellectual scandal is that it is in principle impossible to experience heteropsychological states. Hence, statements regarding the heteropsychological can never be verified. The grim conclusion reached by Carnap is thus that whereas it is possible to construe heteropsychological states based on autopsychological ones, these constructions

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[15] Hyslop. *Other Minds*, p 52ff.

[16] This short presentation of Carnap's theory is based on Avramides' presentation. See Avramides, *Other Minds*, 172ff.

[17] Carnap, *Der Logische Aufbau der Welt*, sec 140.

can never amount to knowledge. In other words, Carnap believes that he can solve the conceptual, but not the epistemological problem.[18]

1.3.5 HUSSERL

But the most elaborated version of the analogical theory was neither presented by any empiricist philosopher, nor in connection with the epistemological problem of other minds; rather, it was presented by Edmund Husserl in the course of an investigation of the conceptual problem. A more in-depth version of his theory will be presented later, but for now, we shall take a look at its core-features.

The key to Husserl's theory lies in the notion of *Paarung*, or "pairing," which is a specific kind of association. A pairing is brought about whenever two objects or data are in some sense apprehended as being similar enough to form a group. What happens in these cases is that an apperceptive transfer, or intentional overreaching, occurs in which each datum or object is constituted according to the meaning of the other datum or object. This means that a partial or total transfer of meaning takes place between the objects. For example, if object x is apprehended as having properties a, b, and c, and object y as having properties a, b, d and e, after the pairing both object x and y would be apprehended as having properties a, b, c, d and e, if the pairing was total.

Now, the personal ego is constituted as a psychophysical unity from the beginning, which means that one's body is constituted as being united with a soul: The body is in other words constituted as animated. When one encounters another human body that in some relevant sense resembles one's own, the two bodies are constituted as a group. When this happens, a process of pairing ensues. This enables an analogical transfer of meaning in which the constituting person partially transfers the meaning that his own body has for him to the body of the other. Since the body of the first person is constituted as a psychophysical unity, this meaning is transferred to the body of the second person. According to Husserl, it is possible to constitute the other analogically as a psychophysical unity based on this process, even though we can never directly perceive the psychological states of the other.

Insofar as they are read as attempts at solving the conceptual problem of other minds all analogical theories described so far have some features in common (Husserl's theory is probably the one theory that is most associated with this problem, but the other theories have to face it too). First, they all accept some version of property dualism, according to which psychological properties are not identical to physical properties. Second, they claim that psychological properties

[18] Avramides, *Other Minds*, p 174f.

cannot be non-inferentially detected in perception. The third common feature is that they agree that one can have non-inferential and direct knowledge of one's own mental states. The fourth common feature is that they attempt to show that the psychological states of the other can somehow be derived from the psychological states of the first person based on the physical appearance of the third person. This last and critical feature can be couched in terms of "projection" from the first person, or in terms of an analogical transfer of meaning.

1.3.6 SOME COUNTERARGUMENTS

We have already seen that attempts at framing the analogical solution as an inductive argument in order to solve the epistemological problem of other minds have met with severe criticism. That is probably one of the reasons for its demise during the last decades. Another, probably more significant, reason is the relative success of the argument that reasoning by analogy does not explain how we can conceive of another self. This argument is as old as the analogical argument itself, originating with O'Hanlon's criticism of Mill. I will refer to it as the "classical" counterargument to the argument from analogy. The basic premise of this argument questions whether it is possible to conceive of a second self from a purportedly solipsistic perspective.

This kind of argument received its most forceful and famous expression in Ludwig Wittgenstein's critique of the analogical theory:

> If one has to imagine someone else's pain on the model of one's own, this is none too easy a thing to do: for I have to imagine pain which I *do not feel* on the model of the pain which I *do feel*. That is, what I have to do is not simply to make a transition in imagination from one place of pain to another. As, from pain in the hand to pain in the arm. For I am not to imagine that I feel pain in some region of his body. (Which would also be possible.) [19]

[19] Wittgenstein *Philosophische Untersuchungen / Philosophical Investigations*, §302, "Wenn man sich den Schmerz des Andern nach dem Vorbild des eigenen vorstellen muß, dann ist das keine so leichte Sache: da ich mir nach den Schmerzen, die ich *fühle*, Schmerzen vorstellen soll, die ich *nicht fühle*. Ich habe nämlich in der Vorstellung nicht einfach einen Übergang von einem Ort des Schmerzes zu einem andern zu machen. Wie von Schmerzen in der Hand zu Schmerzen im Arm. Denn ich soll mir nicht vorstellen, daß ich an einer Stelle seines Körpers Schmerz empfinde. (Was auch möglich wäre.)"

Reasoning by analogy does not result in attribution of one mental state to another, but in attribution of a mental state located in another body to myself.

Arguments to the effect that an analogical inference would never be able to attribute the relevant psychological state to another self are supported by the assumption that only entities that are conceived of as selves can be ascribed psychological states. Hence, in order for an analogical theory to get off the ground, it must be possible to recognize other selves without having ascribed any psychological states to other selves. But this is not considered possible for various reasons. P. F. Strawson, for example, argues that it is not possible to recognize other selves if there are no logically adequate criteria for the ascription of psychological states on a behavioural or physical basis. His argument for this is that psychological properties are only contingently related to bodies, and that by implication selves are not identical to specific bodies. Hence, inferring that a mental state is attributable to another body is not tantamount to inferring that it is attributable to another self. Hence, the only self the analogical attributor has left to attribute the self to, is her own self.

Now, the obvious rejoinder in cases such as these is that the subject involved in making analogical inferences has noted a correlation between her own psychological states and those of a specific body. For example, I note that some of my specific volitions are related to movements of a specific body and that some states of the same body are related to specific phenomenal states that I have. This is not so in the case of other bodies; I assume as a result that the other body is related to another self. However, it could be argued that this counterargument presupposes a distinction between self and other and that that distinction is precisely what is at stake.

My own opinion is that the classical argument against the analogical theory is effective against versions of the theory that proceed from an assumed substance dualism, but that it does not succeed against analogical theories that assume that the subject doing the inferences has constituted itself as a psychophysical unity, as a substance that can be ascribed both physical and psychological properties. Strawson has an argument to the effect that it is not possible to conceive of one's own self as a psychophysical unity without having previously constituted others as other selves. However, I shall argue that his particular argument can be circumvented by developing a Merleau-Pontyian theory of embodied intentionality.

If I am correct, the classical argument against the analogical position is effective against most, but not all, analogical theories. In particular, it is not effective against the Merleau-Pontyian theory that I will develop and defend in the course of this dissertation. I will not investigate whether or not other analogical theories might avoid this objection. My own opinion is that at least some Husserlian theory – he presented different theories during his lifetime and has been interpreted differently

by his commentators – escapes the classical objection because he has at least a rudimentary notion of embodied intentionality. Analogical theories that lack this particular notion fare less well.

Another way of backing up the classical objection is to argue that the analogical theorist is committed to the existence of a private language of some sort. Thus, we have Strawson claiming that in order to master a psychological concept, one must be both a self-ascriber and an other-ascriber, because psychological terms have the same meaning whether they are attributed to the first or to the third person. But, the argument goes, if the analogical theory is correct, one is a self-ascriber before one is an other-ascriber. Hence, the analogical theory violates the requirement that mastery of a psychological concept presupposes that the subject is both a self- and other-ascriber of the concept. Hence, the analogical theory must be wrong.

Wittgensteinian versions of the argument are usually phrased differently. They point out that in order for the analogical argument to get off the ground, one must be able to identify the relevant psychological state from a first person perspective, but that in order to do so, one must have a criterion for that identification. This entails that one must be able to follow a rule privately in isolation from others. Alas, that is impossible, since, as Wittgenstein famously claimed, *seeming* to follow a rule, can never be tantamount to actually *following* that rule.[20]

In the face of this objection, analogical theorists can argue that an analogical theory need not be committed to a private language. The possibility of such a line of argument depends, however, on how one should interpret the notions of language and analogical inference. If there cannot be thought without language, then the surveyed theories are committed to a private language. However, if there can be thought without language, then the question is more open. I am inclined to believe that the surveyed theories do presuppose a private language in some relevant sense, since they are inferential; it is difficult to see how inferences are possible without language, though I shall not press the point.

A second possible way for the analogical theorist is to argue that one *can* have a private language. This is neither the time nor place to survey the very extensive discussion about private languages. I believe that there actually can be private languages, but I am not going to argue that point here. For my purposes, it does not matter since I will devise a Merleau-Pontyian argument from analogy that does not presuppose a private language.

Yet another objection raised against analogical theories is that they cannot get off the ground at all because they erroneously presuppose an apprehended similarity between the body of the first person and that of the third person. This criticism has been made by Alfred Schütz, among others, in a critique of Husserl's analogical

[20] Wittgenstein, *Philsophische Untersuchungen*, §258.

theory.[21] According to this line of objection, the body of the third person is presented in a distinct way from the body of the first person. The subject's own body is presented, so to speak, from the inside. I apprehend my own body as an instrumental organ which can act and is sensitive. This is not so for the other body, which can be presented in a variety of perspectives, but only visually. My own body, however, is only given visually in part, since I can only perceive my own body from a limited perspective. Hence, the dissimilarities between the perception of the body of the first person and the body of the third person are so numerous that it is not possible to apprehend them as being of the same kind; hence, an analogical argument would never get off the ground.

I am not at all certain that this is a successful argument either, but I believe that it has more going for it than the private language argument. The theory from analogy that will be developed here will be devised in a way that circumvents this particular objection. The Merleau-Pontyian theory that I will propose is a non-inferential theory that does presuppose a bodily similarity between the first person and the third person – or more precisely a kinematic similarity between movements performed and movements perceived. However, this similarity is not apprehended cognitively, but at a body schematic level: the body schema is able to "translate" the first-person perspective to that of the third person.

1.4 The Criterial Theory

Now, in the face of these objections to the analogical theory, some philosophers of mind developed a criterial theory of other minds. This theory has been spelled out in far too many ways and far too extensively for any just treatment of it to be possible here. The general idea behind it is that mental states are ascribed to others based on behavioural "criteria," rather than on signs of the presence of those states. According to the criteriologists, the analogical theory is essentially inductive since it claims that mental states are ascribed to others on the basis of inductively learned signs for their presence. Note that the criterial theory must be sharply distinguished from versions of behaviourism that claim that mental states are somehow identical to behaviour or behavioural dispositions.

The critical question for criterial theorists has been to spell out the notion of criterion in such a way that avoids the Scylla of behaviourism and the Charybdis of inductivism. Most endeavours within this line of enquiry have been undertaken by

[21] Schütz, "Das Problem der Transzendentalen Intersubjektivität", p 90f.

philosophers in the Wittgensteinian tradition. The general idea is that behaviour or some kind of physical state P is a criterion for a mental state M, iff P is non-inductive but defeasible evidence for M. The exact nature of this kind of evidence has been debated endlessly by criterial theorists. Some have claimed that the evidential connection in question must be necessary in some sense; others have claimed that the criterial theory entails anti-realistic semantics.

The criterial theory has been criticised from many different perspectives; it is probably safe to assume that this criticism is one of the major reasons it has lost popularity among philosophers in general. Another reason is the success of functionalism and various approaches in cognitive psychology, which, in the eyes of many, have managed to solve several of the problems associated with criterial theories. This has been particularly damaging since one of the main arguments by criteriologists has been that no other theory is viable.

However, let us have a brief look at some difficulties inherent in the criterial theory. Many criterial theorists, notably Strawson and Malcolm, argue that in order for a mental concept to have any meaning, it must have behavioural criteria. But it is not particularly difficult to construe mental concepts that *intuitively* have a perfectly clear meaning, but that lack any *obvious* criteria. This is the case with concepts such as *inverted spectrum*, and *dream that is totally forgotten before waking*[22], for example. Therefore, it appears that it is possible to acquire mental concepts without having any criteria for the ascription of them. Consequently, the only option for the criteriologist is to argue that these concepts are empty!

A related problem for the criterial theory is that it is far from clear that it can explain the acquisition of mental concepts. Some criterial theories, notably Strawson's, suppose that mental concepts cannot be self-ascribable before they are other-ascribable, or other-ascribable before they are self-ascribable. The argument is that having a mental concept entails being both a self-ascriber and an other-ascriber. By implication, it appears that for any particular concept, one has to become a self-ascriber and an other-ascriber at the same time. If this is so, how does one acquire the mental concepts in the first place? Clearly, it is impossible by definition to do so through inductive learning, correlating observed behaviour with introspected mental states. Hence, it would appear that we have to do it either through some kind of logical deduction or not at all. Needless to say, the first conclusion is as intolerable as the second.

Some philosophers have attempted to face this objection head on. Sidney Shoemaker has argued that it is misguided to attempt to devise a theory of the empirical discovery of the relation between criteria and their corresponding mental states. The price of his argument is high – he has to claim that the criterial relation

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[22] For this kind of argument, see Lycan; "Noninductive Evidence: Recent Work on Wittgenstein's 'Criteria'", p 120.

is necessary and non-contingent; many philosophers would consider the price much too high. Hilary Putnam for example, has argued that it is perfectly possible to conceive of a world whose inhabitants feel pain and think about it as pain, but who never speak about it or let it affect their behaviour in any way. They would be self-ascribers, without being other-ascribers. The only way out for the criterial theorist would thus be to claim that this world is impossible![23]

Other philosophers have attacked the criterial argument from an epistemological viewpoint. John McDowell for example, has claimed that the notion of defeasibility cannot perform the function that is assigned to it in the theory. According to the criterial theory, the behavioural criteria for a mental state in question are always defeasible. This means that while a specific behaviour is always a criterion for a mental state, it is not always accompanied by the mental state in question. For example, pain-behaviour is not always accompanied by pain.

That a physical state, P, is a criterion for a mental state, M, means that P is non-inductive evidence for M, such that M accompanies P in all, or at least in most, normal cases. This clause can be strengthened in various ways – it might be argued that the criterial relation is necessary, but we need not delve into that point here. The fact that P is not accompanied by M in abnormal cases makes the criterial relationship defeasible. During certain conditions, one is not warranted in asserting that M obtains if P obtains, though one is warranted in doing so in normal cases.

According to McDowell, though, this position is untenable. McDowell starts by pointing out that experiencing the satisfaction of the behavioural criteria for a given mental state cannot constitute knowledge that the particular mental state occurs in the behaving subject, since the criteria would not be defeasible otherwise. Criterial theorists like to claim that satisfaction of the criteria is evidential support for knowledge-claims. However, this entails that a person can be justified in claiming knowledge of something that, for all he knows, may not be the case after all! The criterial theorist can obviously retreat to claiming that satisfaction of criteria should not be taken as being a sufficient condition for a warranted ascription of a mental state. If this is the case, then the question arises as to what would constitute a warranted ascription on the criterial view. Well, it cannot depend on whether or not the ascription is veridical, since that would imply that it is possible that one person would be warranted in his knowledge-claim while a second person is not warranted, even though he has satisfactions of criteria that are qualitatively identical to the first person's. Neither is it possible to invoke theoretical knowledge as a supporting base of evidence, since that would obliterate the distinction between criteria and signs.

[23] Ibid., p 114ff. This, it should be noted, is a bullet criterial theorists are normally ready to bite.

Therefore, according to McDowell, the criterial theory leaves us clueless as to how we acquire knowledge of other minds.[24]

1.5 Functionalism and Mental States as Theoretical Entities

The decline and fall of the criterial theory in the philosophy of mind was concomitant with the rise of a different approach to the problem, viz. functionalism. Functionalism originated in the work of many philosophers, few of which presented the theory as eloquently as Wilfrid Sellars.[25] Sellars main innovation, which separates him from both criteriological and analogical theorists, was to conceive of mental states as essentially theoretical entities. In so doing, he managed to present a theory that promised to solve both the epistemological and conceptual problems of other minds while presenting a foundation upon which other theorists could construe a theory of our habitual capacity for ascribing mental states.

In the outline of his theory, Sellars initially asks us to consider the myth that we had ancestors who were Ryleans, named after the rather behaviouristic philosopher Gilbert Ryle. These ancestors mastered only a severely impoverished language, the descriptive vocabulary of which is only consisting of terms referring to publicly observable properties and objects. Though the expressive powers of this language are limited, they are still great. In particular, the language contains logical operators such as the subjunctive conditional and semantic terms such as "means".[26] Further, it not only contains observational terms but theoretical terms, referring to unobservable entities, as well. The latter are correlated with the entities that are referred to in the observational language. By implication, any theory employing the theoretical terms is justified insofar as it can explain empirical processes and laws with recourse to the unobservable entities.[27]

Sellars asks us to imagine the appearance of a genius named Jones in this culture. Jones is something as rare back in those days as a methodological behaviourist. He

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[24] McDowell, "Criteria, Defeasibility and Knowledge", p 371ff. McDowell is aware that the criterial theorist would try to counter this argument by invoking an anti-realistic conception of semantics. It would however take us too far astray of the main line of argument here to delve into his objections to this particular issue.

[25] Sellars, "Empiricism and the Philosophy of Mind".

[26] Ibid., p 309ff.

[27] Ibid., p 311f.

holds that a scientific account of psychological notions is only concerned with the observable behaviour of humans.[28] Note that he is not a philosophical behaviourist in the sense envisaged by the likes of Ryle; he is not committed to the thesis that ordinary psychological discourse must be logically analysed in terms of observable behaviour. By implication, there are no logical or methodological reasons preventing Jones from asserting that we have privileged access to our own minds, and that our mental states can be described in terms of propositional attitudes such as beliefs and desires.[29]

Jones' move is basically to accept the behaviouristic description of our empirical vocabulary, while introducing traditional psychological concepts into the theoretical vocabulary. The first step is to assume that when people perform normal verbal behaviour the observable behaviour is the culmination of a process beginning with certain non-observable events, viz. inner episodes. Furthermore, the model of these inner episodes is overt verbal behaviour. In other words, the inner episodes are describable in semantic terms. They are *thoughts*.[30]

Several points can be made regarding this theory. The first is that while inner episodes are introduced in the theoretical language, they are always correlated with possible empirical observations. For example, one would typically ascribe a thought to a person who is uttering something.

The second point is that even though thoughts are correlated with observable episodes, they are not observable themselves. In fact, as far as we know, they are not in any way definable in observational terms. Thoughts are introduced simply as non-observational theoretical entities.

The third point is that the description of thoughts in semantic terms means that thoughts can be described as being *about* something and as having a certain *meaning*. Thoughts are, in other words, describable as being intentional. This does not mean that thoughts are to be considered as imaginatively heard words and sentences or, even less plausible, as a kind of written words and sentences that flash by an internal eye.

The fourth point is that thoughts can cause behaviour. Thus, as Sellars points out, if someone were to exclaim, "This is an edible object" and proceed to eat the object in question, the cause of his behaviour is not the publicly observable statement, rather, considering his hunger, the thought that the object is edible.[31]

It is a small step from these considerations to assume that thoughts not only precede speech, but also underlie intelligent, non-verbal behaviour. Thus, to return to the fourth example, it is natural to assume that in a situation in which someone

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[28] Ibid., p 314f.
[29] Ibid., p 314f.
[30] Ibid., p 317.
[31] Ibid., p 318.

proceeds to eat an object without uttering anything, the agent has indeed had a thought, the content of which is that there is an edible object on the table.[32]

Sellars has shown how it is possible to assume that psychological concepts are essentially intersubjective and are learned, so to speak, in an intersubjective, publicly observable context even though psychological states are private and cannot be defined in observational terms.[33] Accordingly, mental states have the same epistemological status as other theoretical entities. The acquisition of mental concepts can be explained in a way similar to the acquisition of other theoretical concepts. Thus, it is not surprising that the dominant theorists in the later functionalistic tradition came to claim that our habitual capacity for the ascription of mental states is a matter of theorising. Sellars' idea was the breeding ground for the theory theory, the theory that mentalising consists in theorising.

One great advantage with theory theory is that it promises to solve both the conceptual and epistemological problems of other minds in one swift stroke. The conceptual problem is solved since psychological concepts are acquired in the same way as other "theoretical terms" like for example "black hole." The epistemological problem is also solved, since common-sense psychological reasoning now has the same epistemic status as advanced natural science.

More like an afterthought, philosophers in the functionalistic tradition came to assume that our habitual understanding of other persons also functions in the same way. The main point of the argument is that just as we have a linguistic theory that enables us to communicate linguistically, and a folk-physical theory that enables us to make sense of the movements of physical objects, we also have a theory of other minds, which enables us to predict and explain the behaviour of other people. These theories are all internalized and to some degree presumably not accessible for cognition, but are nevertheless *theories*.

The theory theory has however come under attack in recent years from an alternative theory, the simulation theory. Simulation theory can, but need not, be formulated within a functionalistic framework. The general idea behind simulation theory is that we understand others (in some sense) through imagining what we would do or think if we were in their situation. The simulation theory is, in a way, very similar to the old analogical theory. However, it need not encounter the same problems, since it is usually only framed as an answer to the question of how we habitually attribute mental states to others and predict their actions. In most versions of simulation theory, the mind is compared to a system that can be run either online or offline. When the mind is run online, all mental states and

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[32] Sellars also argues that this theory can explain why the first person reports of thoughts are epistemically privileged in comparison to third person reports. See ibid., p 320f.

[33] Sellars believes that roughly the same story can be told for phenomenally conscious states as well. That is a more complicated problem that need not be discussed in the present context.

processes employed originate in the subject that runs them. However, the mind can also be run offline. In this case, the "input" to the system is changed, i.e. some mental states that originate in the subject are replaced with mental states that the other is supposed to be in. Subsequently. the mind is run with this "pretend-input" and the output is ascribed to the other, either as a mental state or a behavioural prediction, depending on the nature of the simulation.

There are various problems associated with theory theory and simulation theory; those will be discussed extensively in the following sections. Suffice it to say for now that I will criticise the theory theory for presenting an erroneous solution to how we habitually ascribe mental states to others. My own theory bears some similarities to the simulation theory but differs greatly from its standard interpretations.

1.6 A Brief Outline of Things to Come

This is where we stand: We have encountered several different theories of other minds. The analogical theory has for various reasons gotten into severe disrepute. In particular, the question has been raised if it is at all possible to conceive of mental states that belong to someone else by employing an analogical inference. I am not overly convinced by those arguments, but they have convinced many a good philosopher that there is something deeply flawed with the analogical theory. I shall not spend much time defending the standard version of the analogical theory. Though, I will have to criticise some aspects of the counterarguments in order to defend an alternative version of the analogical solution of the conceptual problem.

Even if the analogical theory can solve the conceptual problem of other minds, the standard version does not present a very convincing theory of our habitual ascription of mental states to others. In other words, it is not overly plausible that some kind of cognitive inference mechanism is at work whenever we attribute a mental state to others. This is, at any rate, something that I shall argue in the process of elaborating and defending my own alternative, Merleau-Pontyian, theory.

If my theory is correct, it is also highly implausible that attribution of mental states is a matter of theorising. The mainstream functionalistic account of mentalising, the so-called "theory theory," and the analogical theory both assume that mental-state attribution is a matter of inferential processes. However, according to the theory I am defending this would be a misconstruction of the nature of the intentionality that is involved in most cases of mentalising.

The task of this dissertation is to present an alternative theory of our habitual ascription of other minds that manages to avoid the pitfalls of the theories surveyed here. Moreover, I will also attempt to show how this theory can solve the conceptual problem of other minds. I will not discuss the entire field of mental state ascription, from the ascription of character traits to ascriptions of pain. Instead, I will concentrate on an important subclass of mental state ascriptions that has been neglected in the discussion, the attribution to a subject of embodied intentionality, or *primordial* intentionality, as I shall call it. Primordial intentionality is intimately connected with the body. It is best exemplified by the perception of *affordances*, that is, the way a subject is intentionally related to her possible actions in a given environment. My contention is that the ascription of states of primordial intentionality to another subject is done by what Merleau-Ponty coined a "transfer of the body schema." It is by virtue of having a body schema that we can perform habitual physical actions, or a creature can be in states of primordial intentionality. Primordial intentionality, consequently, is a distinct kind of intentionality. According to the theory of body schematic transfer, we are able to project our own body schema onto the body of the other and in so doing apprehend some of his intentional states and predict his future course of action.

The argument presented is an analogical theory in a wide sense. Unlike normal analogical accounts, my theory does not presuppose that the analogical process involves any kind of inference. However, it is similar to standard analogical accounts in the sense that it claims that attribution of mental states is done on a first person basis. In order to be other-ascribable, states of primordial intentionality have to be self-ascribable.

The defended theory is Merleau-Pontyian in spirit, since the positive arguments in the dissertation centre upon the key notions of *embodied*, or *primordial*, intentionality and transfer of body schema. However, it is not Merleau-Ponty's theory since Merleau-Ponty did not draw the same conclusions that I do. For example, Merleau-Ponty did not think that a transfer of the body schema was sufficient for experiencing a clear distinction between self and other; in my account it is. In general, I will not make much of an exegetical interpretation of Merleau-Ponty; rather, I use his arguments and positions freely. I will also employ both empirical studies and philosophical theories from various other authors. The point is not to analyse the standpoint of Merleau-Ponty, but to elucidate the problems of intentionality and intersubjectivity with the help of some thoughts that can be found in Merleau-Ponty. The dissertation is Merleau-Pontyian in spirit but not in a literal sense.

To sum up, the general plan is to elucidate a set of problems in the so-called "Anglo-Saxon," or "analytical," philosophy of mind from the standpoint of a broadly Merleau-Pontyian phenomenology. The first part, comprising chapters two

through four, sets the stage as it outlines some contemporary standpoints in the analytical philosophy of mind. Chapter two consists of a short introduction to the world of functionalism and the psychological theory it made respectable, cognitive psychology. The focus is on the so-called "representational theory of mind."

As we have seen, functionalism gave rise to a very popular theory of how we actually manage to habitually predict behaviour and ascribe mental states to others. According to this theory, the so-called "theory theory," our capacity for mental state ascriptions is theoretical in nature. The third chapter presents and analyses some aspects of the theory theory and how it fits into the framework of functionalism.

One of the main contentions in this dissertation is that the theory theory, including the various versions into which it can be modified within the framework provided by cognitive psychology, fails to account for how we habitually apprehend the mental states of others and predict how they will behave. More specifically, I will argue that the theories presented within the framework of cognitive psychology cannot accurately describe the intentionality of intersubjectivity. An initial cause for concern is presented in chapter four, which distinguishes between two main types of intentionality, cognitive and primordial intentionality, and discusses how philosophers have attempted to account for something akin to primordial intentionality within the framework provided by cognitive psychology. Roughly put, cognitive intentionality is the kind of intentionality which represents the world in a particular way for a cognizing subject. Primordial intentionality is the kind of intentionality involved when a subject apprehends the possible physical actions an environment affords.

The second part of the dissertation, comprising chapters five through seven, discusses and analyses various aspects of primordial intentionality, and argues that cognitive psychology cannot coherently explain its nature. The fifth chapter presents the notion of body schema and, more specifically, a Merleau-Pontyian version of that notion. The body schema is our embodied capacity for habitually performing certain physical actions, such as walking and cycling. In virtue of having a body schema, an individual can be in states of primordial intentionality. Primordially intending an object consists of apprehending which physical actions the object affords.

The sixth chapter argues that primordial intentionality is an intentionality sui generis and that it cannot be reduced to cognitive intentionality or described within the representational theory of mind. The argument has two steps. In the first step, I argue that primordial intentionality is irreducible to cognitive intentionality. In the second step, I argue that it does constitute a kind of intentionality.

The general strategy behind the first step is to develop and defend Merleau-Ponty's distinction between concrete and abstract movements. This distinction

roughly corresponds to the distinction between habitual and non-habitual actions, or actions which are responses to the affordances of the environment and actions which are not. I try to show that concrete movements cannot be explained only by recourse to the propositional attitudes of the agent. The strategy behind the second step is to analyse the notion of primordial intentionality within the framework provided by Fred Dretske's naturalised theory of intentionality. I argue that primordial intentionality fulfils the criteria for intentionality that Dretske presents.

While several other philosophers and cognitive scientists have argued that there is a special kind of intentionality connected with physical action, I believe that my argument is novel in several respects. Most importantly, I develop the notion in connection with Merleau-Ponty's notion of body schema and Gibson's notion of affordance, and I explain how primordial intentionality is related to cognitive intentionality. The argument is roughly that a person can be in states of primordial intentionality in virtue of having a body schema; further, a state of primordial intentionality is tantamount to intending the affordances of the surrounding environment. The affordances get their specific nature from the kind of practice in which the agent is involved. So, what the agent does *within the context* of a particular activity can only be explained through recourse to his states of primordial intentionality. But why *he is engaged* in a particular activity in the first place is best explained in the traditional way by recourse to his propositional attitudes.

The seventh chapter discusses the possibility of implementing primordial intentionality within the framework provided by cognitive psychology, and more specifically, within so-called "homuncular functionalism." According to homuncular functionalists such as Jerry Fodor, know-how can be implemented as the "propositional knowledge" of various sub-modules of the mind. If this account were correct, primordial intentionality would have the symbol-processing properties that cognitive psychologists assume cognitive intentionality has. I criticise this theory on two accounts. First, it cannot provide an adequate distinction between habitual and non-habitual actions. Second, I argue along the lines of Merleau-Ponty, that perceptions can have spatial content in virtue of the perceiver having a body schema and that this cannot be explained within the framework provided by homuncular functionalism.

The third part of the dissertation, comprising chapters eight through ten, provides an analysis of the problems of intersubjectivity based on the notion of primordial intentionality that was developed in the second part. The major part of this work occurs in chapter 8, where a Merleau-Pontyian theory of body-schematic transfer is put forward. Merleau-Ponty presents his theory within the framework of Husserl's analogical theory of the constitution of other minds. In a specific sense, my theory is also an analogical theory – just like Husserl's. According to Husserl, the analogical transfer occurs at the level of cognitive intentionality. I argue,

however, that there is a kind of intentionality of intersubjectivity that operates at the primordial level. According to my account, the analogical process occurs at this level and can be explicated as a transfer of the body schema. One important aspect of this is that a body-schematic transfer does not involve any inferential processes.

The ninth chapter contrasts my theory with approaches within the theory theoretical tradition and counters possible and actual objections from that point of view. It also relates my theory to the simulation theory. The tenth chapter presents P. F. Strawson's theory of other minds and, in particular, his argument that no analogical attribution of a mental state to another self is possible, since it will end up being an attribution of a mental state to the attributor himself. Since my Merleau-Pontyian theory is broadly analogical, I show how it can avoid the pitfalls of the standard analogical theory and, indeed, solve the conceptual problem. If my argument is correct, other mental states such as states of phenomenal consciousness can also be attributed to other individuals on an analogical basis without running into objections of the kind presented by Strawson. The conclusions of the dissertation are summarised in the eleventh chapter.

Part One: Functionalism, Cognitive Psychology and Some Modern Theories

2. Functionalism and the Nature of Mental Representations

The rise of functionalism suddenly made notions referring to mental states scientifically acceptable again. What functionalists such as Sellars showed, was that these states can be made respectable within a scientific framework, even if one does not assume that they are identical to observable entities of any kind. As a consequence, a "new" theory, or rather a newly refurbished version of an old theory, of the mind and the nature of psychological states could emerge, viz. cognitive psychology. Unlike behaviourists, cognitive psychologists like to describe and explain human behaviour in reference to mental entities or events and do not normally want to describe these entities and events in terms that refer to publicly observable entities or events.

2.1 Functionalism and Cognitive Psychology

The guiding intuition behind Sellars' version of functionalism is that a psychological theory is warranted in referring to an unobservable entity, iff (i) the theory can predict and explain observable events and (ii) the theory is not inconsistent with any observed events. Thus, the essential point is that psychological states need not be described in observational terms as long as they are correlated in a psychological theory with observable events.

As an ontological doctrine, functionalism attempts to steer clear from the Scylla of behaviourism and the Charybdis of type-type identity theories and eliminative materialism. Most, if not all, of its adherents, believe that functionalism can save not only common sense psychology, but also psychology as a theoretical discipline. The stakes are in other words very high.

According to standard functionalism, psychological states *supervene* on physical states but are not immaterial. Psychological states are type-individuated by reference to their causal relations. A psychological state is what it is in virtue of its causal relations with perceptual input, other psychological states and behavioural output.

A token of a particular psychological state is realised in a physical state; it is token-identical with that physical state. But since a psychological state can be realised by a variety of physical states, it is not type-identical with any physical state.

An interesting feature of functionalism is that it does not specify anything about the nature of psychological states and processes. It is silent on the question of what a psychological state is; psychological states and processes need not even have semantic properties. A consequence of this is that, in principle, there are no limits to how complex the psychological states or processes may be. As long as the psychological theory that posits these states and processes can explain and predict publicly observable phenomena, and as long as the theory itself is as simple as possible, there are neither limits to what kinds of states and processes it may posit nor to their internal relations.

Another interesting feature of functionalism is that the psychological states and processes being posited need not be phenomenally conscious or consciously accessible. To some, this may seem to be reason enough for discarding functionalism altogether, but that path will not be followed here.

An obvious advantage of functionalism is that it manages to square a physicalistic ontology with common sense psychology. It succeeds because psychological states, if only individuated by reference to their causal properties, can be realized in physical entities such as the brain. Thus, to believe that it is raining outside, according to this account, is to have a physical state in the brain which interacts causally with perceptual input, behavioural output and other physical states in roughly the same way as folk psychology describes the psychological state of believing that it is raining outside as interacting with perceptions, behaviours and other psychological states.[34]

Now, if we assume that there cannot be any non-physical causal processes and that there are non-observable psychological states and events, functionalism is one of very few possible theories of the nature of psychological states that can be true. Note however, that functionalism expressed in this way does not imply that all psychological theories are reducible to physical theories, and by implication, that psychological concepts and theories are redundant at best and false at worst. At any rate, this is what Jerry Fodor has argued in *The Language of Thought*.[35]

If physical reductionism is true in the sense that psychological theories are not so much false as redundant and possible to eliminate, then it would follow that any

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[34] This outline roughly follows Fodor's outline in "Fodor's Guide to Mental Representation", p 8ff. Another consequence, which may or may not count as an advantage is that psychological states need not be realized in physical organs resembling the brain, but could also in principle be realized in computers or robots.

[35] The following argument is, though severely abbreviated, more or less entirely borrowed from Fodor, *The Language of Thought*, p 9ff.

psychological law or theorem can be expressed in terms belonging to the theoretical vocabulary of physics. In order for this to be the case, a particular psychological kind would have to be identical to a particular physical kind. Thus, a particular psychological state would not simply be token-identical with a particular physical state; they would be type-identical. If this were not the case, it would not be possible to reduce psychological theories to physical theories, since it would not be possible to translate the terms that refer to psychological kinds into terms that refer to physical kinds.

The problem is that on most accounts, psychological states are multiply realizable; they can be realized physically in many different ways. Let us assume, for example, that two psychological states, *a* and *b*, supervene on the physical states *a'* and *b'* and are type-identical, but not token-identical. If psychological states are multiply realizable, and there are very good reasons to assume that this is the case, *a* and *b*, can be type-identical, without *a'* and *b'* necessarily being type-identical.

However, if this is so, a description of the physical instantiation of any particular type of psychological state would have to be very disjunctive. Not only would it have to cover all historically known instantiations of the belief, it would also have to cover all possible instantiations of the belief. If we also assume that creatures that are physically very different from ourselves could possibly also come to be in psychological states that are type-identical with states that we may be in, the reductionist, in order to be successful, would also have to describe all possible physical instantiations of the belief in all possible creatures. Moreover, if it were logically *possible* that beliefs need not be physically instantiated, reductionism would be downright wrong.

If Fodor is right, any attempt at reducing a psychological generalization to the theoretical language of physics would result in a very large disjunction of physical laws or descriptions of states of affairs. In particular, it should be obvious that the kinds and properties referred to in psychological vocabulary do not correspond to specific physical kinds and properties. If they did, a correct translation of a psychological generalization into the theoretical language of physics would bring about a long disjunction of generalizations.

2.2 Folk Psychology and the Representational Theory of Mind

Cognitive psychology has emerged as one of the more successful philosophical alternatives to behaviourism. One of the major reasons for this has been that its

philosophical defenders have adopted the conceptual and theoretical framework of functionalism. In the eyes of its adherents, cognitive psychology is vindicated by the fact that it fits so well with our commonsensical intuitions about human psychology and physicalistic ontology. The guiding intuition behind cognitive psychology is precisely what is usually called "commonsense psychology," or "folk psychology." Folk psychology is the kind of psychological reasoning that we employ in our everyday dealings with other humans. As a consequence, a lot of trivial examples demonstrate our folk psychological abilities.

Consider for example the case of Alan, who is in love with Lisa. Consequently, Alan desires that Lisa should love him. He believes that, quite generally, a prerequisite for becoming loved by someone is to be liked by the person in question. He also believes quite generally that one way of becoming liked by someone is to give the person in question something that he or she likes. He also believes that women in general like flowers. It is no surprise, then, that our folk psychological theory predicts that Alan will give Lisa flowers.

However, it may be that Alan has some other belief or desire that prevents him from acting as predicted. For example, Alan might believe Lisa to be an exception to the generalisation in that she does not like flowers. Perhaps he has a desire not to look like a fool – which he believes he will do if he gives someone flowers – or that he believes that she is allergic to flowers, or whatever. But even if some such set of beliefs and desires were to prevent him from taking action, we could predict and explain his non-action in our folk-psychological theory as well, since his non-action is also explained by recourse to his propositional attitudes.

The general idea behind folk psychology as conceived of by cognitive psychologists is that *if* an agent has a belief that if he does x, y will automatically follow, and a desire that y should occur, *then* he will, ceteris paribus, actually do x. This idea comes in modified versions as well; it could be that the outcome is only probable, in which case the agent will have to weigh the probabilities of the different outcomes of his behaviour against their relative value before deciding what to do, and so on. Alternatively, it may be the case that the agent believes that if he does x, z will also follow automatically, and our agent prefers a state of affairs in which neither y nor z are realized over one in which both y and z are realized. In such a case the agent will, ceteris paribus, not do x, and so on indefinitely.

Jerry Fodor has given us three compelling reasons for accepting folk psychology as being a roughly true theory.[36] The first reason is that folk psychology works almost all the time, no matter which individual we are trying to predict or explain, or in what situation that individual happens to be. Thus, we are normally able to

[36] Fodor, *Psychosemantics*, p 2ff.

predict someone's behaviour if we know what he believes and desires, and based upon his behaviour we are often able to infer what he believes and desires.[37]

The second reason lies in the depth of the theory. The generalizations which are employed in folk psychological reasoning rarely lead directly to behavioural predictions at all, except via certain other assumptions. The generalizations we do employ in psychological reasoning are normally of the kind "if x and y are rivals, they wish each other's discomfiture, other things being equal." This principle is presumably operative whenever we predict how rivals will behave towards each other in a particular given situation. However, it will not lead directly to behavioural predictions, except via further assumptions about the beliefs and desires of the involved subjects. If the rivals are known to hate each other, it will lead to different behavioural predictions than if they are loving brothers who have come to love the same woman by accident.[38]

The third reason is that folk psychology is indispensable. According to Fodor, there is no possible way of reducing psychological notions and explanations to non-psychological notions and explanations – witness the failure of behaviourism. As a consequence, we are unable to frame explanations and predictions of human behaviour in non-psychological terms. Remove the psychological vocabulary from our language and we will be unable to explain our own actions to others or to predict and explain the actions of others.[39]

Fodor is perhaps the most important theorist of the cognitive mind. He has in a large number of books and essays defended the basic assumptions of cognitive science. Fodor's motivation has always been that cognitive psychology is the only kind of psychology available which vindicates folk psychology.

However, we should immediately insert a caveat here: Even though Fodor has produced the best defences and outlines of how the cognitive mind works, he has repeatedly changed his views on several topics. Recently, he actually undermined the very idea of a cognitive psychology by insisting that it cannot plausibly be true![40] Even so, Fodor remains the best defender of cognitive or computational psychology. Many of the theories of other minds discussed later in this dissertation only have a chance of being true if Fodor's theory of the human mind is at least roughly true.

The guiding assumption behind Fodor's work also lies behind most cognitive psychology. It is that behaviour can be explained and predicted only with recourse

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[37] Ibid.

[38] Ibid., p 6f.

[39] Ibid., p 8ff.

[40] "So far, what our cognitive science has found out about the mind is mostly that we don't know how it works." See Fodor, *The Mind doesn't Work that Way*, p 100.

to the beliefs and desires of the agent. We can formulate this assumption as the principle Belief-Desire.

> (Belief-Desire) A correct theory T of normal human psychology, viz. one that can correctly predict and explain human behaviour, need only refer to behaviour, perceptual input and propositional attitudes such as beliefs and desires.

There are some problems associated with this principle. For example, it seems that we often have to postulate psychological states which are not propositional attitudes. Thus, sometimes we explain someone's behaviour by recourse to his phenomenal states – for example pain; other times we explain his behaviour by recourse to his moods, and so on.

I do not intend to investigate whether or not the cognitive psychologist can explain these cases convincingly. However, in the course of the dissertation (see part 2), I will look in depth at another problem with Belief-Desire, viz. that it does not clearly distinguish between intelligent behaviour caused by the propositional attitudes of the agent and behaviour which is not so caused but which is nevertheless intelligent and cannot be reduced to reflexes.

If we now assume for the moment that Belief-Desire is correct, the question immediately arises as to what a propositional attitude is. Well, according to Fodor, a psychological state as described in a certain theory is a propositional attitude if it meets three criteria.[41]

The first criterion is that a propositional attitude must be semantically evaluable. This means that it can be assessed in relation to a non-psychological world; it has conditions of satisfaction. Beliefs can be true or false; desires can get fulfilled or frustrated. Alan's belief that Lisa likes flowers is true iff its condition of satisfaction, i.e. that Lisa likes flowers, is met. Lisa's desire that someone gives her flowers is fulfilled if its condition of satisfaction is met and someone gives her flowers, and so on. The property of being evaluable in relation to the non-psychological world makes propositional attitudes semantic.[42]

In addition, if a psychological state is semantically evaluable it is possible to distinguish between the *attitude* and the *content* of the state. To have a propositional attitude is to have a specific attitude with a specific propositional content. The propositional content is what makes the state semantically evaluable. But it is also possible to have different attitudes towards the same propositional content. Thus, you may not only desire that the sun will shine tomorrow, you may believe the very same thing.

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[41] Fodor, *Psychosemantics*, p 10.

[42] Ibid., p 10.

The second criterion is that the psychological theory which characterises the propositional attitudes must not be, "*crazy* from the point of view of common sense; the causal powers of the attitudes must be, more or less, what common sense supposes that they are".[43] It is clear from the context that this means that the theory must be commonsensical within the limits imposed by Belief-Desire. Thus, it will not do to argue that Belief-Desire is crazy in order to refute the psychological theory; on the other hand, if Belief-Desire were crazy, then there would be few reasons to devise this psychology in the first place.

The third criterion is that a propositional attitude must have a certain kind of causal powers. The important point here is that the causal and semantic properties being invoked in the theory are properties of the same entity. It is a semantically evaluable state that has the causal powers. The causal powers of the state respect the semantic content of the state. Thus, if the semantic content of the state somehow implies the truth of another proposition, the propositional attitude will normally cause another propositional attitude with that content. The proposition that Claudius killed Hamlet's father logically implies the proposition that someone killed Hamlet's father. Therefore, in normal circumstances anyone who comes to believe that Claudius killed Hamlet's father will also come to believe that someone killed Hamlet's father. The first psychological state gives rise to the second psychological state.[44]

It follows from Belief-Desire that there are three kinds of causality relevant to the propositional attitudes: world to mind, mind to mind, and mind to world. The first kind of causation is obviously of crucial importance in belief-fixation. Something happens in the environment. This event causes your perceptual organs to respond in a certain way, which under normal circumstance gives rise to the belief that the something just has happened. The second kind of causation is when one propositional attitude causes another propositional attitude.[45] This is obviously the type of causation involved in inferences of different kinds; it is patently obvious that a lot of our beliefs and desires cause other beliefs and desires. The third kind of causation is when propositional attitudes cause behaviour – this is the same type of causation people invoke when using folk psychology to explain behaviour.[46]

Fodor has a psychological theory waiting in the wings that happens to explain how propositional attitudes can meet these criteria, viz. the Representational Theory of Mind (RTM). We can summarize this theory in this way:

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[43] Ibid., p 15. Fodor acknowledges though that the psychological theory must not conform to all of our commonsensical intuitions.

[44] Ibid., p 12ff.

[45] Ibid., p 12.

[46] Ibid.

> (RTM) There is a potentially infinite set of mental representations, which are the immediate objects of the propositional attitudes. Mental processes are causal sequences of tokenings of mental representations.[47] [48]

If RTM is a correct theory, the workings of the mind can be causally described. Certain kinds of input cause certain mental representations, which causally interact with other mental representations. The mental representations, in turn, cause "output," viz. behaviour.

The set of mental representations is constituted by a language of thought. In essence, this means that all mental representations have quasi-linguistic properties. To believe something, for example that it is raining in Moscow, is to have a token of a symbol that means that it is raining in Moscow stored in the Belief-Box.[49] To desire that it should rain in Moscow is to have the same symbol stored in a different way, in the Desire-Box.

According to Fodor, mental representations must be driven by a language of thought for at least two reasons. The first reason has to do with the productivity of mental representations. There are an infinite number of possible situations in which we may find ourselves and in the same way, there is an infinite set of propositional attitudes we may have. There is no limit to the complexity of the representations we may have, other than neurological ones. In this respect, the structure of mental representations mirrors that of language – there are no limits to how complex a sentence can be. In short, thought is, just like language, productive, and a theory of mental representations which assumes the existence of a language of thought, can neatly explain why this is so.[50]

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[47] Ibid., p 16f. The thesis that a propositional attitude has a mental representation as an immediate object is obviously not to be construed as saying that such attitudes are *about* mental representations. Rather, it means that propositional attitudes can be about the world in virtue of being related in a suitable way to mental representations.

[48] It is important to point out that the term "representation" is used by philosophers and psychologists in a wide variety of ways. It will also be used in several different senses in this dissertation and will not always be synonymous with Fodorian mental representation. The meaning of the term should be clear from the context. As a general rule of thumb here, a representational state normally means an intentional state with content that is, due to the nature of the state, accessible for cognition. The exception to this rule is found in chapter 6.3, where Fred Dretske's theory of intentionality is discussed.

[49] Cognitive psychologists sometimes describe the workings of the mind in terms of boxes: there is one box in which all beliefs are stored, another which stores all desires, and so on. The boxes may store representations with the same content, but the boxes have different functional roles, so representations with the same content will have different causal roles depending on which box they are stored in.

[50] Fodor, *The Language of Thought*, p 31f.

The second feature of mental representations which a theory of mental representations as driven by a language of thought can explain has to do with causality. As has been stressed, the causal properties of propositional attitudes respect their semantic properties. Any representational theory of the mind thus needs to postulate constituents of representations which meet both these criteria. Fodor believes that a language of thought does precisely that. He tries to show this by describing the workings of the mind in analogy with the workings of a computer. A symbol, on this account, has both semantic and syntactical properties. The latter are actually physical properties, such as the physical shape of the symbol. As it happens, the shape of a symbol can causally interact with its environment as a physical property.

Referring to findings of modern logic, Fodor's next move is to point out that the semantic relations that exist between two symbols can be "mimicked" by their syntactical relations. By implication it is possible to build machines – computers – whose only operations consist of transforming symbols for propositions. These transformations will be sensitive only to the syntactical properties of the symbols; i.e., the shapes of the symbols determine which transformations are made, and consist only of altering the shapes of the symbols. By implication, the causal properties of the symbols that represent propositions mirror the semantic properties of the propositions.[51]

Thus, Fodor's explanation is that mental representations consist of symbols with a semantic value and a syntax, which can causally interact with other symbols in virtue of its physical shape and with the world in a way which respects the semantic properties of the symbols. According to Fodor, the only theory that isn't patently false which meets these criteria is the Computational Theory of Mind. We can summarize this theory as:

> (CTM) The mind functions as a syntax-driven machine that transforms symbols the way a computer does, while at the same time respecting the semantic content of the symbols.

CTM may seem to be counterintuitive since we began this chapter with the claim that ordinary folk were more or less right in their psychological intuitions. That has landed us in a position that claims that the mind works roughly in the same way as a computer, which probably would not strike either ordinary folk or philosophers as particularly commonsensical. But there is nothing in the guiding assumptions behind cognitive psychology to prevent CTM from being true.

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[51] Fodor, *Psychosemantics*, p 18ff.

3. Theory Theory and Simulation Theory

As we have seen, a guiding intuition behind cognitive psychology is that ordinary folks have a theory about human behaviour and that that theory is roughly right. Many philosophers and psychologists go a step further and claim that we always predict and explain other people's mental life by employing some theory. These theorists subscribe to the *Theory theory*.

In contrast, some philosophers have questioned whether this view is correct. According to them, our own psychological system, which is normally used to generate behaviour, can be employed in a simulation of the other. In these cases, we do not act in the normal way on the outcome of the process, but *predict* the action of, or *attribute* the mental states to, *the other*. Our psychological system is run "offline." We adjust our own situation imaginatively so that it corresponds to that of the other, and then run our own psychological system. These theorists subscribe to the *Simulation Theory* of mentalising.

This chapter focuses mainly on the theory theory. There are several reasons for this. The main reason is that theory theory is the more diversified theory – there are comparatively few simulationists around. A second reason is that I will defend what could be taken to be a kind of simulation theory myself, which means that it – or at least a version of it – will be developed and defended at length in later chapters.

3.1 A Very Short Introduction to the World of Theory Theory and Simulation Theory

Before we proceed to analyse these alternative theories more in detail, we must make a few distinctions, which are not always respected in contemporary discussion of the subject. In particular, we must distinguish between cognitive psychology on one hand, and theories of mentalising on the other. Cognitive psychology is a class of theories of how the human mind works, not a specific theory of how humans *mentalise*, that is, to have an understanding of the mental processes of others. On the

contrary, it is possible to construe different explanations for this ability within the framework provided by cognitive psychology.

One of the main reasons behind the rise of theory theory however, was the need for vindication of cognitive psychology. Most of the philosophical protagonists of cognitive psychology like to defend it by claiming that it squares so well with how we mentalise. We do often explain people's behaviour with reference to their propositional attitudes combined with some kind of general psychological principle. The theory theory was seen, for that reason, as a way of spelling out a commonsensical intuition – that we employ some kind of theory when we mentalise. However, as I have emphasized above, it is quite possible that cognitive psychological theory is true even if mentalising has nothing at all to do with theorising.

There is a second reason related to why cognitive psychologists need not be much bothered about the outcome of the mentalising debate. In order to explain why, I will introduce a second distinction. It is the distinction between explicit mentalising on the one hand and implicit or habitual mentalising on the other hand. The important point with regard to cognitive psychology is that the intuitions that support it are entirely to be found within the realm of explicit mentalising. Unfortunately for the theory theorists, the *really* interesting discussion with regards to mentalising concerns our ability for implicit and habitual mentalisation. I will now explain why this is so.

No one can deny that we employ a theory in *some* contexts of mentalising. Psychologists and sociologists, to mention only the most obvious candidates, make their livings theorising about behaviour. (A case could be made that the present author has done it too during the last few years.) While it may always be retorted that they hardly employ their commonsensical knowledge of psychology in such cases, the distinction between theoretical and commonsensical knowledge is not always easy to uphold.

A second kind of example suggests that we are really theorising, albeit in a loose sense, when we mentalise. When we are asked by one person to explain the behaviour of a third person, we normally refer to the beliefs and desires of the third person while presupposing that people normally attempt to realise their desires, if their beliefs are true. It should be relatively uncontroversial that in these cases we are theorising in some sense. The basic reason for this is that the process by means of which we mentalise is explicit. The principles that we employ in these cases are available for cognition. By implication, there should be little disagreement as to the nature of these processes.

The nature of the habitual process of mentalising, however, is different. The process is not made explicit; if it were, it would not be habitual. When we habitually explain or predict behaviour, we are not performing any operation that we are

aware of, even though we are aware of the outcome of the process. The operation is performed subconsciously and automatically in the mind, but the result of it is nonetheless critical for our understanding and / or experience of a particular situation.

Let us assume, for example, that we believe not only that Alan loves Lisa, but also that he happens to like movies which feature Sir Alec Guinness. If we were to overhear a conversation between Alan and Lisa in which Lisa asks Alan whether or not he would accompany her to a cinema rerun of *Ladykillers*, we would, based on our folk psychological knowledge in general and our knowledge of Alan in particular, predict that he would gladly accept. We need not reflect explicitly on the situation in order to reach this conclusion. We simply know that Alan would gladly accept. Neither would the need arise to reflect explicitly about Alan's behaviour, since his behaviour makes sense to us. It just passes as something that lies in the nature of things. In short, we would employ our habitual system of interpretation, explanation and prediction of other agents.

Nevertheless, there are at least two kinds of cases in which we would need to reason explicitly about his behaviour. Let us assume that we are talking to Brian, who is unaware both of Alan's preference for old movies featuring Alec Guinness and of his love for Lisa. If, as expected, Alan accepts Lisa's suggestion that they go to the movies, Brian would perhaps enquire if we knew the reasons behind Alan's behaviour. In such a situation we would need to explain Alan's behaviour explicitly to Brian. Presumably, we would do so by stating that he likes Lisa and Alec Guinness' old movies, tacitly assuming that people tend to prefer being with people that they like and watch movies that they like, and so on. In other words, we would employ an explicit form of reasoning.

The second kind of case in which we would have to take recourse to our explicit form of reasoning is when the action we are trying to explain does not make any sense to us. In short, our habitual system of interpreting others fails to result in a determinate belief about what is going on; we do not seem to understand them. In such cases, we employ psychological generalizations explicitly and reflect on which beliefs and desires the subject has which could explain his behaviour to us. In the same example, if Alan were to reject Lisa's proposal that they should watch *Ladykillers*, we would be very puzzled initially, since that action makes no sense to us. As a consequence, we would presumably start to reflect on why Alan might behave in such a way. In some cases, we would fail to find an explanation, while in other cases we could manage to find one. Perhaps we would remember that Alan had mentioned a long time ago that he did not dare visit a particular cinema because the usher had once given him a beating. At the time, we thought that he was joking, but in light of the recent events we may come to believe that he was

seriously afraid, so afraid indeed that he did not even dare visit the cinema with Lisa.

For obvious reasons, in the normal course of events we primarily employ our habitual capacity for mentalising. We do not need to explicitly reflect on people's behaviour all the time. In addition, even though it is probably true that the theory theory is true with respect to our explicit mentalising, *it does not follow that our habitual interpretations of others employ the same kinds of processes as our explicit interpretation*. For, while it is easy to access the principles by which we reason explicitly about other people, it lies in the nature of things that we have no such simple access to the habitual process of mentalising. If nothing else, this can be witnessed by the various theories of mentalising currently on the market.[52] In this dissertation I shall concentrate almost entirely on our habitual understanding of other persons and refrain from discussing in depth our explicit form of mentalising.

3.2 A Look at Simulation Theory

Though simulation theorists are not committed to a particular theory of the architecture of the mind, their main theses are usually framed in mechanical metaphors. The human mind, for example, is described as a "system" that "runs" psychological states in processes which normally generate an "output." The output is normally a propositional attitude or an action. The system can be run "online," which is the normal case when we are acting or reasoning. But the system can also be run "offline", as when we are mentalising. In this case, we use our normal psychological system, but instead of using it in order to generate beliefs and desires for ourselves or to act in the world, we use it to attribute the output to someone else. Since the output is not something that we do or believe ourselves, but something that we attribute to someone else, the system is used offline.

In normal cases of mentalising, the starting state of the system must be different from when the system is run online. It would appear that I cannot simply assume that the target of the mentalising process has the same propositional attitudes that I have.

Let us assume, for example, that i) Brian believes that Alan loves Lisa, and ii) Alan believes that Lisa likes flowers, and iii) Brian neither loves Lisa nor believes

[52] This crucial but often neglected distinction is also the reason why one should be wary of inferring too much from empirical studies of mentalising. It is not always clear in such cases if the participants are employing their explicit or their habitual capacity for mentalising.

that Lisa likes flowers. In such a case, if Brian were to predict Alan's behaviour and attribute mental states to him. He should start with bracketing his own feelings for Lisa – he dislikes her – and his beliefs about her attitudes to flowers – he believes that she is allergic to them. He will, in the context of a simulation, "replace them" with what he takes to be Alan's psychological states, and subsequently run his psychological system. The output of that system will presumably be a decision to give Lisa flowers. But Brian will obviously not give Lisa flowers. The system is, as we have seen, run offline, so Brian will attribute the output to Alan, or, in other words, predict that Alan will give Lisa flowers.

Simulation theorists believe that they find support for their theory in the fact that we have a simulative capacity when planning for future events. When we evaluate various plans, we usually do not employ a theory, but are rather running our own mental system offline and attempting to simulate what will happen. Thus, if we are evaluating whether to jump over a fence, we perform an offline-simulation of the jump. If we succeed, we may go on to jump. If not, we will probably refrain from jumping.

Perhaps the most interesting characteristic of Simulation Theory is that it is not committed to any particular theory of mental architecture. All that it requires is that there is a capacity for running certain mental systems offline with pretend input. But that capacity is not, at least prima facie, limited to classical architectures that accord with RTM and CTM. This means that simulation theorists need not be particularly bothered with problems associated with the classical theory – a worry that should be significant in the case of theory theorists.

Robert Gordon and Alvin Goldman are, alongside Jane Heal, probably the staunchest supporters of the simulation theory. They do disagree on some key issues, however. Most simulation theorists, including Goldman, propound a theory that is similar to the old analogical theories of other minds, in that it is grounded in some kind of introspective access to one's own mental states. This is not so for Gordon, who wishes to avoid the problems he considers to be associated with such a move.[53] According to the introspectionist version of the simulation theory, mentalising consists of a simulation of *oneself* in an imagined situation, followed by ascription of the output to whomever one happens to be simulating. Gordon's version, on the other hand, places emphasis on *the imaginative transformation of the self into the other*. On this account, the mentaliser attempts to transform himself into the target of the process by adjusting his own emotional and cognitive resources to get as close to the other as possible, and then simply run the simulation.

Consequently, Gordon claims that his version of the theory can rely on *ascent-routines*, but not the introspectionist version. Whenever a person, p, is interrogated as to whether he believes b, he does not proceed by introspecting his own mental

[53] I rely mostly on Gordon, "Radical Simulationism".

states but answers the question by asking himself whether b is the case or not. Hence, he employs an ascent routine; he answers the question by answering another question at a lower semantic level, viz. one that does not employ any mental notions.

According to Gordon, the same procedure is used during a simulation of others. It is particularly noteworthy that Gordon claims that his theory allows for the possibility that children who do not master the notion of a mental state, and do not theoretically understand that mental states belong to someone, can still make rudimentary behavioural predictions and mental attributions. Such children can still simulate others; they just put themselves in the other person's shoes. Thus, when someone asks them a question, for example, "does Patrick believe P," they imaginatively identify themselves with Patrick and ask their own transformed self whether P or not-P is the case. The outcome of this deliberation is subsequently ascribed to Patrick as his belief.

The advantage of Gordon's theory is that one can *attribute* a specific mental state to someone, without *possessing the concept* of the mental state. This is possible because the process of ascription is subserved by a process in which the mentaliser transforms his self into another self, and, from the viewpoint of this imagined identification, asks himself how he takes the world to be. Subsequently, the answer to this question is taken by the mentaliser to be what the imagined self will believe, desire or do. Gordon's version of simulation theory supports the claim, as a consequence, that no projection ever occurs of a mental state from one self to another, but an imaginative transformation of the person.[54]

A critical problem for Gordon's version of the simulation theory as pointed out by Goldman is that while an ascent routine may work for attitudes such as beliefs, it is difficult to see how it can work for other attitudes such as hope. While someone may well manage to answer the question "which nation do you believe will win the next World Cup?" by using an ascent routine, it does not seem possible to employ the same method when answering the question, "which nation do you hope will win the next World Cup?"[55]

Another problem with Gordon's views is that in order to imaginatively identify myself with someone else, I must be able to "bracket" some of my own beliefs and desires, and replace them with those of the target. It is difficult to see how this process could be performed by using ascent routines.

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[54] Gordon, "Simulation without Introspection or Inference from Me to You".

[55] Goldman, Alvin, "The Mentalizing Folk", p 183. But intuitions vary here. Some have the intuition that this is possible. Thus, Helge Malmgren, in conversation, has argued that one might get an answer to the last-mentioned question by simulating the hoped-for world and asking oneself what is true in it. It is, for example, possible to be in a state in which one hopes, "Oh, if only Sweden will win the next World Cup", without mentioning or presupposing any mentalistic notions.

Alvin Goldman's version of the simulation theory is not necessarily inconsistent with certain forms of theory theory, since he only claims that simulation is the default method of mentalising, not that it is the only available one.[56] Unlike Gordon's, Goldman's version of the simulation theory resembles the traditional analogical account of other minds. For example, he is perfectly content with the idea that mental simulation really is a transfer of mental states from the first person to the third person, and that these mental states are recognized as mental states by the attributor. He is even willing to admit that in some cases metarepresentational states are run in simulations and attributed to the target of the mentalising process.[57]

Goldman's version of mental simulation is controversial because he claims that recognition of phenomenal states is essential for the ascription of mental states to the third person. Goldman's hypothesis is that "mental-state concepts such as desire, belief and so forth are understood, in part, in terms of non-dispositional characteristics of conscious experience, characteristics that can be introspected by the subject of the experience".[58] The idea is that occurrent attitudes have a specific phenomenology that can be detected by introspection. Thus, acquiring mental concepts is primarily a process of learning to correctly represent one's own conscious experiences, i.e. learning to classify occurrent beliefs as beliefs, occurrent desires as desires, and so on. By implication this is a prerequisite of being able to ascribe mental states to others. It should be emphasized that this account does not imply that people who lack the appropriate mental vocabulary necessarily lack occurrent conscious experiences of beliefs and desires. What they would lack, however, is the capacity to represent these experiences to themselves.[59]

Needless to say, Goldman's version of the simulation theory has been heavily criticised. Peter Carruthers, among others, has pointed out numerous problems with it. The natural objection, also raised by Carruthers, is that propositional attitudes simply do not come with a specific phenomenology. For example, the present author used to believe that the Swedish king Charles XII died as a result of a random but "honest" Norwegian bullet. Nowadays, I believe that he was murdered. These are clearly two distinct beliefs. When they are not occurrent, there is clearly no phenomenological difference between them, in fact, a decent case could be made that there are no phenomenological differences between them when they *are* occurrent either.[60] As Carruthers has pointed out, probably the only way to

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[56] Goldman, "Simulation Theory and Mental Concepts", p 7.

[57] Goldman, "The Mentalizing Folk", p 184.

[58] Goldman, "The Mentalizing Folk", p 179.

[59] Ibid., p 179ff.

[60] Others apparently have the same experience. Jerry Fodor is for example alleged to, when asked about the stream of consciousness that accompanied him when he theorized, have replied that it

make sense of such a proposal is to conceive of occurrent propositional attitudes as consisting of inner speech. [61] Invoking the productive powers of language could solve the riddle of how we can recognise an unlimited number of beliefs. The phenomenology of my previous belief that Charles XII was not murdered is thus that whenever that belief occurred to me, I was in some sense "consciously experiencing" a sentence, the content of which was that Charles XII was not murdered.

One problem with this line of thought is that in normal circumstances the same sentence can express distinct thoughts. As Carruthers points out, the sentence, "If the party should turn out to be a bore, then I shall fall asleep." can turn out to be an image both of my intention to fall asleep if the party is a bore and my prediction that I will fall asleep if the party is a bore. But since the thoughts are different, even though they have the same qualitative feel, Goldman's theory is simply false.[62]

Another problem with Goldman's approach is that it requires that the simulator learns to correlate her own action-intentions with the actual performance of the actions. This is so since the end-states of the simulations, normally intentions, are ascribed to the target of the mentalising process as behavioural predictions. Hence, it is imperative that the mentaliser learn to correlate the right kind of "feeling" with the right kind of action.[63] An odd consequence of this problem, not mentioned by Carruthers, is that it is difficult to see how Goldman's account could be compatible with the fact that the mentaliser is able in some cases to predict what the target of the mentalising process will do, even though the predicted behaviour has never been performed by him. If we have not performed a certain action, we would not have learned to correlate it with a specific feeling, and we would not be able to predict that someone will perform that action.

It should be emphasized that a simulation theorist need not accept either Gordon's or Goldman's version of the simulation theory. Simulation theory is compatible in principle with Everyone's Favourite Theory of the Mental Architecture, be they of a Functionalist, Cartesian or Connectionist model. Hence, if one does not accept the account given by Gordon or Goldman, one could still be a simulationist without worrying about the problems that are associated with Gordon's and Goldman's theories.

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normally consisted of an inner voice that said "Come on, Jerry. That's it, Jerry. You can do it". Gopnik and Meltzoff, *Words, Thoughts and Theories*, p 22.

[61] Carruthers, "Simulation and Self-Knowledge", p 31.

[62] Ibid., p 32f.

[63] Ibid.

3.3 A Look at Theory Theory

The trouble with describing the theory theory is that there are at least as many theory theories as there are theory theorists. In fact, a decent case could be made that there are even more theory theories than there are theory theorists, since the theory theorists are prone to change their views every now and then.

Even so, there are some points upon which the large majority of theory theorists agree. The first point is obviously that we employ some kind of theory of mind when we predict and explain the behaviour of other people. The nature of this theory is, however, under discussion amongst theory theorists.

The second point is that this theory, our Theory of Mind, or "ToM" for short, primarily functions in a subconscious way. We need not consciously entertain any theory in order to employ ToM. As a matter of fact, our ToM need not even be accessible for cognition.

The third point is that whatever else we can do with ToM, we can use it to explain and predict the behaviour of the other. Theory theorists are, however, less clear of what else ToM can do. For example, there is no clear consensus as to how emotions or conscious states should be understood, though most theory theorists are probably prone to claim that our explanations and inferences to such states are made by employing a theory as well.

In the following, I shall present the two main versions of the theory theory currently on the market. The first theory has been proposed by Stephen Stich and Shaun Nichols. The second theory is what I will coin the "scientific-theory theory" as proposed primarily by Alison Gopnik and Andrew Meltzoff. No doubt, there are other theories that would be worthy of mentioning, but these two are representative of the discussion, have to be considered to be among the more influential, and furthermore, are forcefully and convincingly argued for by their adherents.[64]

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[64] A third version of theory theory that may have warranted some analysis is the theory proposed by Alan Leslie and co-authors, that mentalising is performed using a theory of mind module. See for example, Scholl and Leslie, "Modularity, Development and 'Theory of Mind'", Leslie, "Core Mechanisms in 'Theory of Mind'", Leslie, "'Theory of Mind' as a Mechanism of Selective Attention", Leslie, German, and Polizzi, "Belief-Desire Reasoning as a Process of Selection". The "modular" theory has some support among developmental psychologists, but it has been soundly refuted by Stich and Nichols, so it is hardly worthwhile to repeat these arguments once again here. For their refutation, see Nichols and Stich, *Mindreading*, p 117ff.

3.3.1 NICHOLS' AND STICH'S VERSION

Nichols and Stich present a complicated theory of mindreading.[65] In fact, it is so complicated that it should perhaps not even be classified as a theory theory, but rather as a hybrid of classical theory theory and simulation theory.

The authors initially distinguish between two kinds of mindreading systems, one of which is said to be prior to the other both ontogenetically and phylogenetically. The early mindreading system consists of only three mechanisms. However, the first mechanism is really a cluster of mechanisms, viz. the "desire detection mechanisms." Not unexpectedly, it is the job of these mechanisms to infer the desires of other agents using a variety of different methods.[66]

The second component of the early mindreading system is coined "The Planner" by Nichols and Stich. The interesting characteristic of this component is that it also performs an essential role in the generation of actions. The only function of the Planner is to figure out which actions would lead to the satisfaction of particular desires. The Planner is, by default, equally good at coming up with plans that satisfy a desire, whether or not the mindreader himself has the desire in question or not. In the early mindreading system this process is still somewhat dysfunctional, since the plans are devised based on the assumption that they shall be executed by the mindreader. Relevant information of the other, such as that the other may have other physical capacities, is thus not taken into account at an early stage. This is adjusted with time as the mindreader learns to take such information into account. Another kind of relevant information that is missing at an early stage concerns the beliefs of the other. The Planner simply assumes that the other has the same kind of beliefs as the attributor.[67]

While the desires of the other are fed into The Planner, the output of The Planner is fed to the Mindreading Coordinator, the third component in the early mindreading system. According to Nichols and Stich, when the coordinator turns on the desire detection mechanisms that are not operating continuously, information about the mental states of someone else is required. When this has been done, all the attributor's beliefs of the desires of the other are sent to The Planner. When The Planner sends an output to the Coordinator, the Coordinator generates a belief that the other will perform whatever action the Planner has found suitable.[68]

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[65] I shall only discuss the account that Nichols and Stich give in *Mindreading*, since their earlier papers are to a certain extent contradicted by that account.

[66] Nichols and Stich, *Mindreading*, p 78ff.

[67] Ibid., p 80f.

[68] Ibid., p 81f.

The later mindreading system is far more complicated than the earlier one according to Nichols and Stich.[69] When describing this system, Nichols and Stich revert to their favourite metaphor of the mind, viz. the mind as consisting of "boxes", in which mental representations are "stored". The major advantage of the latter system is that it employs the Possible World Box (PWB), which stores mental representations outlining possible worlds. Other significant boxes include the Belief-Box, which stores beliefs, and the Desire-Box, which stores desires. However, whereas the Belief-Box and Desire-Box store things that the subject either believes to be the case or desires to be the case, the PWB stores hypothetical situations and scenarios of how the world would be, assuming that certain assumptions were true.[70]

The PWB, according to Nichols and Stich, is employed in hypothetical reasoning, various forms of pretension and, as we shall see, mindreading. As such, it interacts with two other mental components which are introduced by Nichols and Stich, viz. the UpDater and an inference mechanism. The function of the UpDater is to update the content of the PWB and the Belief-Box in order to ensure that no (or as few as possible) contradictions are found in the box.[71]

In the case of mindreading, the PWB functions as a kind of model of the person that is to be interpreted. The attributor ascribes his own beliefs to the attributee by default, and employs his own inferential system when generating new representations in the PWB-box. However, unlike in the earlier mindreading system, the Planner does not operate directly upon the Belief-Box of the attributor. This is crucial since some of the beliefs that are stored in the PWB-box are not identical to the beliefs of the attributor. This is because the inclusion of the PWB-box in the mindreading system makes it possible for the attributor to store some beliefs in the PWB that are not his own, but rather are beliefs that the other is presumed to have.[72]

Ascribing beliefs to the other that deviate from the beliefs of the attributor is made possible by a cluster of discrepant-belief attribution mechanisms according to Nichols and Stich. A large part of our beliefs about other people's beliefs presumably comes from what they tell us about themselves, or, as the case may be, what third parties tell us about their beliefs. Another large part of our beliefs about others is the result of inferences from their behaviour.[73]

Perhaps the most innovative element of Nichols and Stich's theory of discrepant belief attribution is their concept of a perceptual detection mechanism. This

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[69] Due to its complicated nature, the account of it that is given here will only capture the essentials.

[70] Nichols and Stich, *Mindreading*, p 28ff.

[71] Ibid., p 30ff.

[72] Ibid., p 84ff.

[73] Ibid., p 91ff.

mechanism uses information about the environment that the other finds herself in, to infer what she perceives in that environment. One consequence of this is that the attributor can infer not only what the other will see, but also which beliefs the other forms as a consequence of those perceptions.[74]

The upshot of all this is that the predictive capacity of the mindreading mechanism no longer relies solely on what the attributor would do given a particular situation, but factors in deviant beliefs and characteristics of the other. Consequently, in this later system the Planner can predict more accurately what the other will do.[75]

One interesting feature of Nichols and Stich's theory is that it is neither a theory theory nor a simulation theory, strictly speaking. though it does share three critical features with simulation theories. On the account given by Nichols and Stich, there is only one inference mechanism. This mechanism is employed in drawing inferences both in the belief box and in the PWB-box. Thus, there is no separate theory responsible for inferring beliefs in the PWB-box. In a similar vein, there is only one Planner. As a result, the Planner operates equally well upon the plans of the agent and (when fed certain other assumptions), upon the plans of the other. In the same way, the UpDater is equally good at updating the contents of the belief box and the contents of the PWB-box.[76]

In contrast, Nichols and Stich's theory differs from the account given by simulation theorists in at least three respects. The first difference concerns the nature of the perception detection mechanism. According to Nichols and Stich, this mechanism cannot work by simulation, since it must have access to beliefs about how perception works. The second and third differences both concern the nature of the desire detection mechanisms and the mechanisms subserving belief-attribution. Nichols and Stich stop short of describing their own theory as a theory theory, but maintain that it does not resemble simulation theories in general. The reason for this is that mentalising on their account is "information rich", that is, it employs information about beliefs and desires that is not normally used in generating desires in the Desire-Box or beliefs in the Belief-Box. They have two general arguments for this thesis.

The *first* argument is that in many cases there are systematic inaccuracies involved in our attribution of beliefs and desires. These inaccuracies are such that they would not arise were the simulation theory correct. The general structure of their examples is that an observer of an agent has access to all the relevant beliefs and desires of the agent, yet fails to predict what the agent will do. Such a prediction cannot be made by a simulation, according to Nichols and Stich; if it were, it would

[74] Ibid., p 88ff.
[75] Ibid., p 86f.
[76] Ibid., p 135.

clearly be correct, since a simulation of an agent that is run with correct input, cannot fail.

Nichols and Stich point to a range of examples in which the observer presumably has access to all relevant beliefs and desires of the agent, yet fails to predict what he will do. One such experiment, originally performed by Nuttin and Beckers in Belgium, had an attractive young woman ask various male students to speak on television in favour of a new exam system at the university. The new system was almost unanimously hated by the students. Yet all eleven students who were asked by the woman agreed to speak in favour of it in television. When 22 other students were asked to predict whether or not the subjects would agree, the majority thought that less than 5 per cent would comply, the most cynical student predicted 30 per cent.[77] Now, if the predictors simulated the students by using their own action-generating system in this case, they would presumably predict that the students would do what they themselves would by assumption do, viz. agree to speak in favour of the exam system. However, since they did not predict this, it cannot, according to the argument, be the case that this attribution of beliefs and desires was made by a simulation. Hence, by default it has to have been made by an information-rich mechanism.

Various objections by simulationists have been raised against Nichols and Stich's interpretation of this and similar experiments. For example, it has been claimed that such experiments have failed to guarantee that the observer really has access to relevant beliefs or desires of the agent. Nichols and Stich have revised the relevant experiments – convincingly in my opinion – so as to insure that the observer actually has access to all the relevant beliefs and desires. Indeed, I believe that they have shown that in these kinds of experiments, the observer does not make predictions through simulation.

This does not prove their case, however, because they have failed to account for the distinction between explicit and habitual reasoning. In certain particular cases, it is hard to discern whether people are reasoning explicitly, or whether they are relying on their habitual and automatic system. This is also a problem when evaluating scientific experiments. In such cases it is even more difficult to exclude the possibility that more than one observer has employed his explicit system from time to time, since observers in scientific experiments presumably want to give as correct answers as possible. As a result, they are probably inclined to think twice before answering, or in other words, to rely on their explicit system of reasoning. As a result, these studies, at best, have questionable relevance to how our habitual system works.

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[77] Ibid., p 136f. There are similar experiments which instead show flaws in the belief-attribution mechanisms.

Nichols and Stich have a *second* argument against the simulation theory. The simulation theory was originally introduced to explain prediction of behaviour. However, major simulation theorists like Robert Gordon and Alvin Goldman also claim that a simulation-like process is able to explain the attribution of beliefs and desires. However, according to Nichols and Stich, all such accounts are doomed to fail. The reason for this is that any such process will have to start with behaviour and run backwards through the ordinary simulation-process. In other words, the observer will initially watch a behavioural event and automatically try to find beliefs and desires which, when fed into the cognitive system, generate the "correct" behavioural outcome. According to Stich and Nichols, the trouble with this is that. "typically there are endlessly many possible sets of beliefs and desires that would lead the mindreader to decide to perform the behaviour in question".[78]

It is important to note in this context that, as Nichols and Stich point out, it is implausible at best to assume that all belief-ascriptions occur through simulation, since some information concerning the beliefs of other persons come from second- and third-person reports. As a result, simulation theorists could hardly hold that all belief-ascriptions are subserved by a simulation-mechanism.

Even though simulation theorists have had a hard time coming up with a convincing theory as to how we acquire beliefs about other people, Nichols and Stich's argument is hardly lethal to their attempts. It is difficult to understand why the fact that there is in an infinite set of beliefs and desires that could generate the observed behaviour is more damaging to simulation theory than to theory theory.

Robert Gordon, for example, believes that his theory can explain how we can infer that a specific set of propositional attitudes cause an action. He claims that the chosen set of propositional attitudes is the one that leads to the smallest number of revisions to the propositional attitudes that are already ascribed to the agent, or as the case may be, that the set chosen is the most "normal" given the set of propositional attitudes already ascribed to the agent. The general idea behind this reasoning is obviously that there is one set of propositional attitudes which is most likely to have caused the observed behaviour. Moreover, the likelihood of any such given set can be evaluated in comparison to the known or inferred propositional attitudes of the agent.[79]

Nichols and Stich have misrepresented Gordon's position. They claim that the theory is unable to explain how one might account for a cat chasing a mouse by ascribing the desire to eat the mouse to the cat, since there are far more likely sets of beliefs and desires that would lead to such an action by the standards of the human *observer*.[80] However, Gordon is careful to point out that the belief-ascription

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[78] Ibid., p 139f.

[79] Gordon, "Folk-Psychology as Simulation", p 65f.

[80] Nichols and Stich, *Mindreading*, p 139f.

is made by the presumed standards of the *agent*. While this position is not particularly illuminating as to how a simulation theory of belief-ascriptions is supposed to look, it is difficult to see how *any* plausible theory of belief-ascriptions could fail to operate by some such mechanism.

3.3.2 MELTZOFF, GOPNIK AND THE SCIENTIFIC-THEORY THEORY

According to Stich and Nichols, the element of theorising in mentalising is rather modest. They are content to claim that mentalising is a process which is information-rich, in the sense that it employs knowledge and general principles which are not employed in the generation of the observer's own behaviour. Andrew Meltzoff and Alison Gopnik on the other hand, claim that mentalising is not simply a matter of theorising; it is *scientific* theorising. Since they are developmental psychologists, Meltzoff and Gopnik focus primarily on the cognitive development of small children and attempt to describe this development in terms of scientific theory change.

According to Meltzoff and Gopnik, children resemble scientists in the sense that they employ the same cognitive resources that scientists do. Perhaps the point should be put the other way around: science is possible because scientists employ the same cognitive resources as children in their course of development:

> Here is an interesting evolutionary puzzle: Where did the particularly powerful and flexible cognitive devices of science come from? After all, we have only been doing science in an organized way for the last 500 years or so; presumably they didn't evolve so that we could do that. We suggest that many of these cognitive devices are involved in the staggering amount of learning that goes on in infancy and childhood. Indeed, we might tell the evolutionary story that these devices evolved to allow human children, in particular, to learn.[81]

Needless to say, given such an account, Gopnik and Meltzoff do not consider the social and phenomenological aspects of scientific work particularly relevant to understanding the nature of science. The phenomenological aspects of scientific

[81] Gopnik and Meltzoff, *Words, Thoughts and Theories*, p 18.

theorizing are dismissed by the claim that there is very little relation between consciousness and cognition.[82]

What then is a theory according to Gopnik and Meltzoff? They outline several features of theories, four of which are structural. The first structural feature is that theories are abstract. This means that they are framed in a vocabulary different from the one used in describing the evidence in support of it. This is roughly the distinction between theory-language and observation-language that Sellars employed in undermining behaviourism.[83]

The second feature is that theories are characterised by internal coherence. This means that the entities they postulate are closely interrelated with one another. The third critical feature is that theories postulate an underlying causal structure to explain certain regularities. Ideally, the theoretical entities invoked by the theory are "seen to be causally responsible for the [observational] evidence".[84] The fourth structural feature is that theories make ontological commitments, which means that they invoke theoretical entities in explanations and that they support counterfactuals.[85]

Gopnik and Meltzoff also assign three functional features to theories, viz. that they have predictive capacity, they interpret observational evidence, and they are able to explain observational evidence. Interpretation should be distinguished carefully from explanation in this context. Interpretation is considered to be the process whereby the cognitive system decides the importance of the observational evidence. The relevance of observational data, in other words, is structured by our theory. Explanation is quite simply an explanation of observational evidence, whatever that may be.[86]

Theories in the sense employed by Gopnik and Meltzoff also have certain dynamic features. In particular, theories can, and do replace other theories, particularly in childhood. According to Gopnik and Meltzoff, when children figure out that their "theory" of something is wrong, and replace it with another theory, the process resembles one of "real" scientific theory change. In an initial phase the child, or the scientist, encounters evidence which runs counter to a particular theory. The child / scientist initially rejects this evidence, only to eventually postulate auxiliary hypotheses to save the theory, when the evidence can no longer be denied. In the final stage though, the theory is replaced by another theory, which is in no need of auxiliary hypotheses in order to be non-falsified. In the later stages

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[82] Ibid., p 22. The social aspects of science are of equally little importance in their treatment. Ibid., p 24ff.

[83] Ibid., p 34f.

[84] Ibid., p 35.

[85] Ibidi p 35f.

[86] Ibid., p 34ff.

of the earlier theory, and in the early stages of the later theory, the child / scientist is particularly active in "a period of intense experimentation and / or observation".[87]

Gopnik and Meltzoff are less clear about how children's theories are implemented architecturally. However, they do insist that these should be described within the general framework of cognitive psychology. A consequence of this is that they define the theory that a subject has as "a system that assigns representations to inputs just as one's perceptual system assigns representations to visual input or one's syntactic system assigns representations to phonological input".[88]

But they do not commit themselves to what "input" is supposed to mean in this context. They tend to believe that the cognitive system used in theorising assigns representations directly to the sensorial input. There would be no clear cut distinction between theory-language and observational-language on such an account, because all observational language would be theory-laden. When a physicist watches a particular pattern of tracks in a cloud chamber (their example), he would directly perceive this to be a specific type of behaviour of electrons.[89]

However, Gopnik and Meltzoff do not want to rule out the possibility that the theorising system does not operate directly upon observation, but rather upon input from another cognitive system, which serves as a mediating mechanism. This other cognitive system is responsible for non-theoretical belief-fixation. In the case of the physicist, the first step would be to acquire the belief that there are certain tracks in the cloud chamber. This would form the input to the theoretical mechanism which subsequently infers that these tracks are the tracks of electrons.[90]

As mentioned, according to Gopnik and Meltzoff scientific theorizing is primarily to be described in terms of cognitive psychology. This means roughly that they, as functionalists, believe in the Representational Theory of the Mind and in belief-desire psychology. They are, however, somewhat reluctant to endorse the Computational Theory of the Mind (CTM). The major trouble they see with CTM is that it cannot account for the kind of reorganization of the representational system that they consider to be characteristic of theory-change as well as of psychological development.[91] On the account given by Gopnik and Meltzoff, not only will the representations that are applied to perceptual or other input change when a theory changes, but the rules which regulate the application of

[87] Ibid., p 40.
[88] Ibid., p 43.
[89] Ibid., p 43f.
[90] Ibid.
[91] Ibid., p 218.

representations to the input may also change.[92] Nevertheless, they believe that neither CTM, nor any other known computational system can account for this.[93]

However, Gopnik and Meltzoff need CTM in order to account for the structural features of the theory theory. Hence, they claim that, "theory theory implies a computational system that combines the capacity for learning and qualitative change of connectionism with the structure and systematicity of classical implementations." that is, of CTM. As a consequence, Gopnik and Meltzoff frequently revert to the computer metaphor when describing the workings of the mind: "The best current bet for how a material object like the brain could causally relate inputs and representations in this way is that it is a kind of computer. We subscribe to this faith, though we admit that at this point it is no more than a faith".[94] It is indeed difficult to see how they could avoid subscribing to CTM, given their other commitments.[95]

Needless to say, no short amount of criticism has been levelled against the scientific-theory theory. Objections have ranged from opposition to the notion of "scientific theory" being employed by Gopnik and Meltzoff [96] to criticism of the fact that they provide no explanation for mindreading deficits in autistic persons.[97] However, I will not discuss objections to their theories at any depth at this point, since most of it is framed within the general theoretical framework of theory theory, which will be criticised in later parts of the dissertation.

It suffices to give one example of the kind of criticism that has been directed at the scientific-theory theory. Stich and Nichols point out several flaws in its treatment of neonatal imitation. In particular, they find little reason to believe that the mechanisms responsible for imitation have many of the features outlined by Gopnik and Meltzoff as characteristic of scientific theories. According to Nichols and Stich, Gopnik and Meltzoff present little or no evidence that the representations underlying imitation are lawfully interrelated with each other, or support counterfactuals, or have any explanatory force. The only thing that they do grant Gopnik and Meltzoff is, typically enough, that the representational system upon which the visual information about the actions of the other and the

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[92] Ibid., p 44. I am a bit sceptical as to whether or not this really follows.

[93] I don't see why this should be a problem, but I shall not press the point..

[94] Ibid., p 45.

[95] They are more enthusiastic in *The Scientist in the Crib*, written after *Words, Thoughts and Theories*, together with Patricia K. Kuhl, where they proclaim that if, "a machine can run a sophisticated program, then a baby might be able to, as well". See Gopnik, Meltzoff and Kuhl, *The Scienitist in the Crib*, p 141.

[96] Solomon, "Commentary on Alison Gopnik's 'The Scientist as Child'".

[97] Nichols and Stich, *Mindreading*, p 116.

information about the agent's own bodily position and capacities are mapped, uses an abstract language.[98] [99]

[98] Stich and Nichols, "Theory Theory to the Max, p 432.

[99] It is common among psychologists and psychiatrists to refer to our "theory of mind" in all kinds of contexts. It is in particular popular to describe a child's gradually increasing capacity for mentalising, in terms of her gradually acquiring a more and more advanced theory of mind. However, most authors simply seem to equate someone's possessing a "theory of mind" with her having a specific capacity for mentalising. So even if the theory of mind goes, most theories within developmental psychology will still survive.

4. Intentionality and the Theory Theory

We are left with two main theories, Nichols and Stich's theory on one hand and the scientific-theory theory on the other; these have some common characteristics that constitute what could be coined the "generic theory theory". The core features of that theory will be presented in the first section of this chapter. I shall then proceed to introduce a critical distinction between cognitive and primordial intentionality. The third section will describe the largely unsuccessful attempts by theory theorists to handle primordial intentionality. The fourth section will describe an attempt by Jerry Fodor to implement primordial intentionality within the framework provided by the Computational Theory of the Mind.

4.1 The Generic Theory Theory

There are three main constitutive features of the generic theory theory. The first characteristic is that it accepts Belief-Desire, the thesis that psychological explanations need not refer to entities other than behaviour, perceptual input and propositional attitudes. Strictly speaking, the generic theory theorist need not even accept this, since it suffices that he accepts the thesis that Belief-Desire applies to mentalising. Our generic theory theorist is also committed to RTM, the thesis that propositional attitudes have mental representations as immediate objects and that mental processes are causal sequences of tokenings of such representations. A third characteristic of the generic theory theory is that it claims that mentalising essentially involves knowledge framed in general principles.

The fact that theory theorists normally accept Belief-Desire and consequently claim that mentalising is primarily a matter of propositional attitudes, should not come as much of a surprise. It should be emphasized, however, that the principles and knowledge the processes included in the theory of mind rely upon, need not be accessible for cognition according to the standard account.

The generic theory theorists' subscription to RTM implies that he has to claim that even in cases where mental states and modules process information which is

not tokened as objects of any belief, the information is nevertheless processed as a mental representation. This is not to say that the generic theory theorist necessarily accepts CTM, the computational theory of mind. Gopnik and Meltzoff explicitly, if reluctantly, endorse CTM. Nichols and Stich, however, leave the question of the architecture of mental processes open.[100]

The core feature of the generic theory theory is the principle

> (PsycPrinc) General psychological principles are explicitly represented in the mental processes underlying our ascription of intentional and psychological states to, and predictions of behaviour of, other subjects.

Many kinds of principles fall under PsycPrinc. There are very general ones, like the principle that states that "Other things equal, people act in a way that would satisfy their desires if their beliefs are true." This can presumably be considered to be the core principle of propositional attitude psychology.. More specific principles could state that "liberals are normally in favour of parliamentarism", or "people normally fail Milgram-style experiments", and so on.

4.2 Cognitive and Primordial Intentionality

Theory theorists tacitly presuppose a specific theory of intentionality that does not distinguish between two fundamentally different types of intentionality. To a certain extent, the trouble with most traditional accounts of the problem of other minds is that they do not make this particular distinction between *cognitive* and *primordial* intentionality either. The latter notion will be elucidated below. The former term is roughly the kind of intentionality that has representational content, or content that represents the world as being a specific way for a thinking subject (or, as the case may be, the way the world is desired to be). States of primordial intentionality are non-representational, but may in some instances have content that is available for cognition through cognitive intentionality. Cognitive intentionality is best exemplified by propositional attitudes. Perceptions are a special case; they are normally conceived of as being representational and no doubt, they often are. But some perceptions are non-representational and primordial. So perceptions could be

[100] Nichols and Stich, *Mindreading*, p 15.

either cognitive or primordial on this account. This will be elucidated further in part two.[101]

Human actions can be described, explained or understood in two separate ways. The first kind of explanation is framed in ordinary discourse in terms of propositional attitude psychology. It is normally invoked in cases where we try to understand how someone thought about a specific matter or how someone reasoned when he or she did something. Thus, one might explain the decision by the 18th Century Swedish king Charles XII to ride through Europe from Adrianopel to Stralsund in a fortnight during the Great Nordic War, by recourse to his beliefs – that he would not be caught or even recognized by Saxon or Russian agents and that the journey could be done in a short time – and his desires – that he wished to be close to home in order to prepare his country for the next phase of the war.

But there is also a second way of making sense of actions or behaviour. In some cases, it is apparent that the propositional attitudes of the agent cannot explain his specific actions. Consider the case of typewriting – my favourite example, and one to which I will return. People who can typewrite well are normally unable to report the whereabouts of the specific keys on a keyboard. (See PoP, p 143f)[102] So, while certain aspects of the action of writing on a keyboard can be explained by appealing to the propositional attitudes of the agent – no one would deny that writing has something to do with cognitive intentionality – other aspects cannot be explained thusly. In particular, it is impossible to explain the specific movements of the agent's fingers in terms of his propositional attitudes because he has no beliefs about the whereabouts of the keys. The movements of his fingers cannot be explained in terms of cognitive intentionality, however, they can be explained in terms of *primordial* (also known in different contexts as embodied, practical or motor) intentionality. It is important to point out that primordial intentionality can explain the physical action, because states of primordial intentionality cause it. But primordial intentionality is not itself a kind of action.

However, the knowledge that underlies primordial intentionality need not be cognitively inaccessible in every case. There are times when we act by means of primordial intentionality when it is also possible to describe actions in terms of propositional attitudes. One example of this is when someone is out walking and suddenly encounters an obstacle that requires a change of course. The change of course may be performed without any cognitive processes being involved.

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[101] It should be pointed out that a case could also be made that there may be other kinds of intentionality, which are separate from either of those classes. Being phenomenally conscious may for example involve a kind of intentionality that is distinct from both cognitive and primordial intentionality. Whether or not this is the case, is however irrelevant for the problems discussed here, so I will not spend time analyzing the issue.

[102] Merleau-Ponty's *Phenomenology of Perception* will be referred to as (PoP) in the running text.

However, if someone asks the agent why he changed course, he will probably explain his behaviour in terms of propositional attitudes.

We have seen that we can by means of primordial intentionality "execute" the plan framed by the cognitive intentionality of an agent – as in the case of the typewriter. Although, in some cases it appears that primordial intentionality operates independently of the cognitive system. This is especially the case in activities that rely heavily on embodied knowledge. A soccer player who is suddenly given the ball at the edge of the penalty area and immediately shoots the ball towards the left of the goalkeeper simply performs the action, but not by executing a plan framed by his beliefs and desires.[103]

My distinction between cognitive and primordial intentionality can be illuminated by a comparison with John Searle's distinction between prior intention and intention-in-action. According to Searle, a prior intention is something we arrive at by reasoning on a set of beliefs and desires. It is "formed prior to an action" and need not necessarily be carried out.[104] The conditions of satisfaction of the prior intention are that the intended action actually be carried out and that the prior intention caused the action. An intention-in-action is an intention an agent has when he or she is actually performing the action in question. The action is in this case caused by the intention-in-action. In some cases, intentions-in-actions are preceded by prior intentions. This is the case when I deliberate over which candidate I should vote for in an election, for example; my decision to vote for the most reactionary candidate (or whatever preferences I may have) forms my prior intention. The raising of my arm that actually constitutes my voting, however, is caused by my intention-in-action. In other cases, my intention-in-action need not be preceded by a prior intention, but can be spontaneous. Searle provides the example of his own habit of getting up and walking around the room when he is philosophising.[105]

A prior intention is preceded by an inferential process involving states of cognitive intentionality. In order to explain an intention-in-action however, we must refer to states of primordial intentionality. It is important to note that states of primordial intentionality need not be acted out. You can primordially intend something even though you do not perform a physical action in relation to the intended object.

Apprehending the primordial intentionality underlying a physical action is characterised by three core features. The first feature is the ascription of purpose to bodily movements. To see someone perform a physical action is different from

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[103] Even in such cases we tend to frame an explanation of this kind of actions in terms of the beliefs and desires of the agent. However, I shall argue in chapter 6 that we are mistaken in doing so.

[104] Searle, *Rationality in Action*, p 44.

[105] Ibid., p 44f.

seeing someone move his limbs around in a random way. In the former case, we can discern a purpose in the action. The latter type of movements leaves us entirely clueless to what the mover is doing.

The second feature is that we see the agent as a person to whom intentional states can be ascribed. This means that we see him as someone for whom the surroundings have a specific meaning. In order to perform an action, one normally needs to rely on knowledge about the surrounding environment. One cannot walk without seeing the ground as being walkable or otherwise knowing it to be so and so on. The third feature is that we can make rudimentary predictions of actions. We can often predict that someone engaged in playing tennis will attempt to strike the ball over the net. Moreover, if we see someone out walking in the woods who encounters a branch of a tree in his way, depending on the circumstances, we will expect him to attempt to walk under it, over it, around it or try to bend it aside.

It is important to emphasize that primordially intending something is not tantamount to doing something. We can primordially apprehend that an object can be acted upon in specific ways without actually doing so. Being primordially related to the environment consists of apprehending what actions the environment *affords*, not in actually *acting*. In a similar vein, we need not perceive that a person is performing a certain action in order to perceive that he is in a state of primordial intentionality. We may apprehend a certain readiness to act on his part, that he is intentionally related to an environment that affords certain actions. Primodial intentionality is a kind of *intentional state*; it is not a kind of *intention*, though it may explain the occurrence of an intention to do something.

4.3 Theory Theorists and Primordial Intentionality

Statements by theory theorists on primordial intentionality do not abound; it is not always easy to know exactly what they would say of it. Stephen Stich, however, explicitly endorses Jerry Fodor's theory of primordial intentionality, or "know how" in a slightly different context.[106] Fodor's theory will also be used here as the paradigm model of how cognitive psychologists treat primordial intentionality.

The only exhaustive discussion of something that resembles primordial intentionality is found in the works of Gopnik and Meltzoff. Consider their treatment of baby imitation. In collaboration with Keith Moore, Andrew Meltzoff

[106] Stich and Ravenscroft, "What *Is* Folk Psychology", p 121ff.

has done more groundbreaking experimental work than any other scholars concerning the abilities of infants and neonates to imitate and, in some sense of the word, understand other persons. In one famous experiment, Meltzoff and Moore demonstrated that children less than an hour old could imitate the head and tongue movements of an adult person.[107]

Gopnik and Meltzoff see this as evidence that even neonates have acquired a scientific theory. Here is Gopnik:

> In particular, young infants already seem to make rather abstract mappings between the bodily movements of other people and their own internal states and to draw at least a primitive kind of inference and prediction on this basis. These inferences are apparent in infants' early imitation of facial gestures and in their more complex interactions with other people. Infants seem to have innate knowledge of the mind, and this knowledge is theory-like, at least in the sense that it goes well beyond immediate perceptual experience, that it enables genuine and productive predications, and that it is revised in the light of further evidence.[108]

For the sake of argument, let us assume that primordial intentionality, or something similar to it, is a distinct kind of intentionality, even though the arguments for this will have to wait until chapter 6. How would a theory theorist explain how we apprehend states of primordial intentionality in others? We can try to get a rough view of how they would deal with the question by presenting them with some questions that need to be answered.[109]

The first question is whether or not our *own* states of primordial intentionality are operative in detecting the primordial states of *others*. If our theory theorist answers no to this question, she is a hard-line theory theorist who must claim that mentalising is only a matter of theorising. This would imply that the intentional states ascribed to the target of the mentalising process are in no way ascribed as a result of mental simulation, only by means of general psychological principles.

I don't know if any philosopher or cognitive psychologist actually is a hard-line theorist, but hard-line theory theory has some very odd consequences nevertheless,

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[107] Meltzoff and Moore, "Imitation in Newborn Infants".

[108] Gopnik, "The Scientist as Child", p 510.

[109] It is important to note that this way of framing the problem is very difficult since very few participants in the discussion makes a clear-cut distinction between two kinds of intentionality and when attempts are made, their concepts do not necessarily correspond to mine. The following presentation does not necessarily present the theories the way these authors would like them presented in the first place.

which make it a very implausible theory, in my opinion. The idea that we make no use of our own capacity for physical action, when we apprehend the primordial intentionality of others is implausible. Suppose that I see someone running quickly down a steep hill when an elk suddenly steps out in front of him, and that the runner relies on his primordial intentionality when reacting to the situation. In such cases I know immediately that the runner will attempt to change direction rather than stop running, even though he would stop running if he were running uphill. Why is this so? Well, on most accounts this is because I know what I would do under similar circumstances; I would change direction since I would not be able to stop running in time, and assume therefore that the runner will quite simply do the same.

Unfortunately, such an account does not suit the hard-line theory theorist; transferring my knowledge of what I would do in such a situation to the target would be tantamount to simulating my own primordial system. What the hardliner needs is a distinct theory that is in charge of predicting behaviour and ascribing intentional states to the target. For this reason, she would need to assume that there is a theory that specifies that it is possible to change direction in a situation similar to the runner's in order to avoid running into the elk, but that it is not possible to stop running and avoid running into the elk. Any such theory would need to specify at least five open variables: the speed and position of the runner, the speed and position of the elk and the outline of the surrounding environment. In other words, we would need a very complicated theory for this relatively simple task.

Now, the hardliner would presumably also be able to handle meeting an elk herself. Hence, she needs a complicated system that specifies what to do in her own case and *another* highly complicated system that specifies what others would do in such circumstances. But this makes no computational or evolutionary sense at all.[110]

Let us assume that the hardliner's answer to our first question is yes and that the theory theorist has weakened the claim that mentalising is a mental process that only involves propositional attitudes. She is now presumably also prepared to accept that some kind of simulation is an essential feature of mentalising. If she does this, we present her with two further issues. The first is whether *theorising* occurs on a cognitive or primordial level. Let us begin by looking at the position that states that the apprehension of primordial states involves theorising at the cognitive level. Any theorist who is committed to this position is now faced with another question: Does *simulation* occur at the primordial or the cognitive level? If you claim that simulation occurs at the cognitive level, but that this level is in some way interconnected with the primordial level, you are almost certainly either Shaun

[110] This is the kind of argument, frequent among simulationists, that has persuaded Nichols and Stich to modify their position.

Gallagher or Andrew Meltzoff. For they argue thus in a joint paper. [111] I present and criticise their position in chapter 9.1.

On the other hand, if you claim that theorising occurs at the cognitive level and simulation at the primordial level, you are probably not a very famous theorist in the field of apprehension of states of primordial intentionality. I have not been able to find any theorist who puts forth this combination of theses. Nevertheless, the theory is plausible, so I shall criticise it in chapter 9.2.

Gopnik and Meltzoff, on the other hand, theorise (at least in some publications) in a way that probably entails that the theorising occurs at the primordial level.[112] This means that the simulation process also occurs at the primordial level. My opinion is that their theory also implies that primordial intentionally would better by explainable in terms of some symbol-processing theory of the mind; it would be hard to manage to theorise otherwise. On this basis, theory theorists may claim that apprehending states of primordial intentionality is a process that involves a simulation of this special module and some general psychological principle operative within that same module.

Gopnik and Meltzoff argue for their theory by referring to the groundbreaking studies of imitation in infants performed by Meltzoff and Keith Moore. In a series of experiments, they studied the ability of neonates and infants to imitate certain bodily acts. In one crucial experiment, they showed that neonates not older than 72 hours were able to imitate tongue protrusion and head movements that were performed by an adult.[113]

Other experiments, performed either by Meltzoff and Moore or other developmental psychologists,[114] show that neonates in the first two months of life are capable of imitating a wide range of gestures other than moving the head or tongue, such as gesturing with hands, moving the fingers, blinking the eye and even certain emotional expressions. This suggests, according to Meltzoff and Moore, that even though there are limits to what neonates and infants can imitate, early imitation is not limited to a few specific parts of the body or to certain patterns of movement. [115]

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[111] Gallagher and Meltzoff, "The Earliest Sense of Self and Others". In fairness to Gallagher, he has in my opinion never endorsed the theory theory; in the paper under discussion, they refrain from endorsing the theory theory, though Meltzoff has done so repeatedly in other contexts.

[112] I read them as admitting that there is some such thing as primordial intentionality, but that it can be implemented within the framework provided by CTM, or at the very least the same kind of mental architecture as propositional attitudes are realized in. Since they do not operate with the distinction between cognitive and primordial intentionality it is however awfully hard to know exactly what their theory would entail, and impossible to know what they themselves would take their theory to entail.

[113] Meltzoff and Moore, "Imitation in Newborn Infants".

[114] For a review of these experiments, see Meltzoff and Moore, "Explaining Facial Imitation".

[115] Ibid., p 182f.

Another crucial finding is that infants who are less than two months old are able to imitate movements with a temporal delay. Three-week-old infants were able to imitate mouth-opening and tongue-protrusion gestures, for example, even though they had a pacifier in their mouth when they watched the adult perform the gesture. Similarly, six-week-old infants turned out to be able to imitate a gesture after a delay of 24 hours. In this case, the infants originally saw an adult person perform a certain gesture, and were shown the adult in a neutral pose 24 hours later. The infants were able to imitate his gesture from 24-hours earlier. According to Meltzoff and Moore, this means that imitation is not merely a bodily reflex, since in this case imitation is not a reaction to a certain stimulus. Evidently, the visual information underlying imitation can be stored and retrieved at a later point. Hence, according to Moore and Meltzoff there are reasons to believe that the visual perception of the movement of the adult is subserved by a representational system.[116]

Meltzoff et.al. believe that this means that the perceived movements are mapped onto an amodal representational system in the perceiver that is also capable of representing the movement and position of the perceiver's body. This would explain why the neonate is capable of imitating a certain movement even though it had not yet had the time or opportunity to observe its own body. It follows that the representational system is capable of comparing the visual input from another body with proprioceptual input from the perceiver's own body. However, and this is the critical point, this system is amodal because the perceiver need not compare the visual perception with a visually remembered or perceived presentation of his own body. The perceived information is directly mapped onto the same representational system: "There is thus something like an act space or primitive body scheme that allows the infant to unify the visual and motor /proprioceptive information into one common 'supramodal' framework."[117]

The theory presented by Gopnik and Meltzoff is no doubt a plausible story, furthermore, it is one that I believe comes close to the truth – I will employ the findings by Meltzoff and Moore when I discuss, and hopefully develop, Merleau-Ponty's theory of intersubjectivity. What is troubling by the interpretations that have been given by Meltzoff, either together with Moore or Gopnik, is the suggestion that the supramodal framework is a kind of theory, and / or is

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[116] Ibid., p 181.

[117] Meltzoff and Moore, "Infants' Understanding of People and Things", p 53. The notion of body schema is one that we will return to in a subsequent chapter on Merleau-Ponty's notion of embodied intentionality. For an intriguing comparison between the empirical findings of Meltzoff and Moore and the phenomenology of Merleau-Ponty, see Gallagher and Meltzoff, "The Earliest Sense of Self and Others".

constituted by some kind of language of thought. According to their account, cross-modal mapping is essentially theoretical in nature.[118]

At this point, it is important to note that if any general theoretical principles are involved in neonatal imitation, they have to be involved at the level of primordial intentionality. Neonates who can imitate facial movements even before they have seen themselves in a mirror are unable to compare the visual appearance of the other with their beliefs and images of how their own body looks from a third person perspective since they do not have any beliefs about their own appearance.[119] They have never seen themselves in a mirror and have not had the opportunity to acquire the relevant set of beliefs about how they look from a third person perspective. This is of critical importance because it entails that some mentalising is performed at another level than that of cognitive intentionality.[120]

Now, if theorising at the primordial level is to be possible, primordial intentionality has to work in roughly the same way as the cognitive mind. Otherwise, there could be no general principles involved in mentalising. The only remotely plausible way of explaining how a mind could be construed in this way is homuncular functionalism, which is presented in the next section. In chapter 7, I argue that homuncular functionalism is erroneous. Further, in chapter 9.2, I argue that even if there could be general principles in another kind of mental system than a homuncular one at the level of primordial intentionality (or if my arguments in chapter 7 were false), apprehending states of primordial intentionality does not require any such principles.

4.4 Fodor's Computational Theory of Primordial Intentionality

If any kind of theorising is to be possible at the primordial level, primordial intentionality has to function in a way similar to propositional attitudes or, at any

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[118] In some other works, they seem to claim that the states involved in the inferences are experiential! See for example. Meltzoff, "Elements of a Developmental Theory of Imitation", p 35. But this is a singularly implausible idea. Even though it is true that physical movement is normally accompanied by phenomenal awareness of some sort, our knowledge of the kind of action we are performing is hardly mediated by phenomenal awareness of the position and movement of our body. Phenomenal awareness appears to be irrelevant for knowledge of voluntary movements. We know what we are doing because we have initiated the movement, not because it is accompanied by a particular feeling.

[119] I am now assuming that neonates have no innate beliefs about their own bodies.

[120] Gallagher and Meltzoff however, do not share this view. I argue against their theory in chapter 9.

rate, has to have some kind of linguistic structure. It is hard to see how it could be theoretical otherwise. The only theory on the market that provides anything even resembling an explanation of how such a mind might be construed is Jerry Fodor in his version of homuncular functionalism. Fodor's theory has been widely acknowledged as a solution to the problem of how mental and behavioural capacities that prima facie do not appear to be explainable in terms of rule-following can be explained in terms of the Computational Theory of Mind, CTM.[121]

It should be noted, however, that whereas Fodorian outlines of homuncular functionalism are normally couched in terms of CTM, nothing hinges on this. In principle, it is possible to argue that homuncular functionalism can be realised within some other framework. My Merleau-Pontyian counterargument, presented in chapter 7, is directed against homuncular functionalism as such, and not against any particular version of it.

On Fodor's account, any explanation of an action should be framed in terms of the propositional attitudes of the agent, which are causally interrelated with intentions. Thus, on the folk psychological account, physical action is caused by an intention in the "intention-box". That intention is put there whenever a suitable combination of beliefs and desires is present in the boxes containing beliefs and desires.

For example, assume that Alan desires to marry Lisa and believes that one way of realising that desire is to propose to her. According to the folk psychological account he will, ceteris paribus, subsequently ask Lisa to marry him. In Fodor's account, he has a belief stored in his Belief-Box, that the best way to get Lisa to marry him is to ask her to marry him plus a desire to marry Lisa stored in his desire box. The belief and the desire imply jointly that he should ask her to marry him. This process is mirrored in the brain by causal interrelations between the two functional states which combine to give rise to an intention to ask Lisa to marry him.

On Fodor's account, the intention to do something is also symbolic:

> So, for example, suppose I intend to raise my left hand (I intend to make true the proposition that I raise my left hand). Then what I do is, that I put in my intention box a token of a mental symbol that means 'I raise my left hand.' And then, after suitable churning and gurgling and computing and causing, my left hand goes up. (Or it doesn't, in which case the ceteris paribus condition must somehow not have been satisfied.) Much the same story would go for my

[121] It is to be noted that it has also been endorsed by Stich. See Stich and Ravenscroft, "What *Is* Folk Psychology", p 121ff.

> intending to become the next king of France, only in that case the gurgling and churning would continue appreciably longer.[122]

According to this account, tokens of mental symbols representing beliefs and desires cause the tokening of another mental symbol, one that represents an intention. Indirectly – after an indeterminate period of yet more computations – the intention causes the physical action.

Fodor's theory that intentions are symbolic is worthy of a closer look. First, it should be emphasized that the intention to do something has sentential and semantic properties according to Fodor. Thus, if I intend to do something complex that requires more than one movement, such as to raise my hand while I hop on my right foot, "I must put into the intention box a formula which contains, inter alia, a subexpression that means *I raise my left hand* and a subexpression that means *I hop on my right foot*."[123] Hence, an intention to do something on this account typically is made up of semantically evaluable subexpressions. Even so, Fodor seemingly acknowledges that some complex behaviour, such as synergic behaviour in which what appears to be segmented movements in reality is one movement because its parts have fused together, can be caused by one intention that contains no subexpressions. Thus, if a well-practised pianist plays a fluent arpeggio, "the whole business functions as a unit".[124]

There are problems with Fodor's theory, however. One problem is that it is not at all clear which actions are primitive. For the sake of argument, let us assume that it is sufficient for primitivity if an intention is placed in the intention-box. If this is correct, it would appear that raising one's hand is primitive. That sounds reasonable, and I certainly have no quarrels with such an approach. What about walking around the house? I make a decision to walk around the house, and then what? Do I put an intention in the intention-box whenever I change direction? Or do I put an intention in the intention box whenever I move my leg? Or do I only put an intention in the intention box when I make the decision to go for a walk?

This problem may be looked at from another perspective. Which types of physical movements actually require an intention and which are done automatically? Suppose that I am walking around the house when something flies toward my head at a high speed and I automatically duck. Does my ducking require an intention to be put in the intention box? Or is this something that is done at a subpersonal level? And, assuming there are subpersonal actions, where do we draw the line between movements which require intervention of intellect and those which don't? In *The Language of Thought*, Fodor claims that even though this is "a horribly difficult

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[122] Fodor, *Psychosemantics*, p 136.

[123] Ibid., p 137.

[124] Ibid., p 143.

problem [….] there is no particular reason to suppose that it is relevant to the purposes of cognitive psychology".[125] I agree with Fodor that it is a difficult problem, and I don't intend to propose a theory that can solve it. Let me merely point out that primordial intentionality starts where cognitive intentionality ends.

According to Fodor, all mental states and processes are based upon representations that are linguistic in nature, though not all these representations can be described as corresponding to any propositional attitudes. The fact that some mental states and processes are subpersonal does not change this, since the nervous system of the person can still process these representations.[126]

In an essay on tacit knowledge,[127] Fodor presents a computational account of embodied knowledge and the phenomenon referred to here as primordial intentionality. The essay starts with a computational account of how we tie our shoes – a typical example of the kind of phenomenon that critics of representational theories of mind like to point at as something which *cannot* be explained with recourse to computations with mental representations.

Fodor's account postulates the existence of a little man living in the head who is in possession of a large library. Whenever we form an intention, such as the intention to tie one's shoes, the homunculus starts reading in a book entitled *Tying One's Shoes*, which gives instructions on how to tie one's shoes. Whenever a single instruction in the book is read, such as "Take the left free end of the shoelace in the left hand", the homunculus presses a button on a control panel, which says, "take the left free end of a shoelace in the left hand". When this button is pressed, a causal sequence takes place which results in the left hand taking the left free end of a shoelace. And, needless to say, a similar process occurs for all instructions included in the book. When all of them have been executed by the little man, the action of tying one's shoes has been performed.[128]

This is obviously a metaphorical account of what is going on during physical action; Fodor is well aware of that. There are no homunculi in the head, so every postulation of one is presumably tantamount to the postulation of a subpersonal psychological faculty which is responsible for a limited amount of computing (subpersonal) mental representations.

The activity of tying one's shoes is quite complex. There is obviously no single button involved which orders the hand to grasp a shoelace, because such an action involves primitive movements which also figure in other actions such as grasping a cup of tea, and so forth. Fodor's proposed solution to this problem is to postulate

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[125] Fodor, *The Language of Thought*, p 52.

[126] Fodor, *Psychosemantics*, p 23f.

[127] Fodor, "The Appeal to Tacit Knowledge in Psychological Explanations", The essay is rather old, but still endorsed in *Psychosemantics*. Fodor, *Psychosemantics*, p 23f.

[128] Fodor, "The Appeal to Tacit Knowledge in Psychological Explanations", p 63f.

the existence of a whole army of homunculi. Thus, when giving orders to tie the shoelaces, the "librarian" gives orders to a specific foreman in charge of grasping the shoelace. This foreman, in turn, has an army of slaves at his disposal, one of whom is ordered to look for traces of shoelaces in the perceptual input, another who is responsible for contracting a finger and so on. The actual number of homunculi and their specific functions is a question for empirical psychologists.[129]

The important point is that if Fodor's account is correct, then it is possible to explain tacit knowledge in terms of propositional knowledge. The idea is that even though the person may lack any personal propositional knowledge of how he ties his shoelaces, his army of homunculi can still do the job for him, relying entirely on mental representations and their computations. They can do so if each little man has such a restricted job to perform that it makes no sense to ask in what *way* he did it. His job must be elementary, in other words. The men at the end of the chain who have no further homunculi to order about must give orders which are so simple that each order corresponds to one *elementary* operation in the nervous system.[130] Moreover, the "knowledge" required to do this is not tacit, but explicit and propositional in nature.

[129] Ibid., p 64f.

[130] Ibid., p 66.

Part Two: Primordial Intentionality

5. The Body Schema

The purpose of this chapter is to present a Merleau-Pontyian theory of the notions of body schema and primordial intentionality. Both perform an essential role in the development of an alternative notion of intentionality and of an alternative intentionality of intersubjectivity. My theory, it bears repeating, is Merleau-Pontyian, but it is not Merleau-Ponty's theory. While it is inspired by his efforts to elucidate the nature of intentionality and embodiment, it differs from his in certain respects.

This chapter gives a preliminary presentation of the nature of the body schema and primordial intentionality. In the two following chapters, I will argue that the body schema is intentional without being cognitive and that it does not have a linguistic or rule-following nature in the sense envisaged by homuncular functionalism.

5.1 Historical Notes on the Notion of Body Schema

Specifying the distinguishing features of the body schema is tricky. In fact, the history of the concept is a very unhappy one since philosophers, psychologists and psychiatrists all have employed it to describe a wide variety of phenomena, some of which have little more in common with the subject than that they are bodily in some sense.[131]

One distinction that most recent theorists seem to agree about – though they do not always agree how to draw it – must be made from the outset. What I have in mind is the distinction between *body schema* on the one hand and *body image* on the other hand. The distinguishing feature of the body image as it is usually conceived is that it consists of a person's propositional attitudes to, perceptual representations and mental images of, his body. In short, they are the way we relate to our body by means of our cognitive intentionality.[132] Oddly enough, Merleau-Ponty is one of the few theorists who never makes this distinction explicitly. However, the notion of

[131] A history of the concept is given in Poeck and Orgass, "The Concept of the Body Schema".

[132] For an excellent essay on the notions of body schema and body image, and how they have been treated in the literature, see Gallagher, "Body Schema and Intentionality".

body image is implicitly essential to his theory, so I shall keep using the term in this essay.[133]

The invention of the concept of body schema is generally credited to the psychiatrists Henry Head and Gordon Holmes shortly before the start of the First World War, though Head is credited as the sole inventor of the concept sometimes. They are not, however, the inventors of the word "body schema", since they preferred the terms "postural schema" and "spatial schema", but these terms clearly designate something that at least resembles the notion of body schema as Merleau-Ponty delimits it.

Head and Holmes were apparently also the first to make the distinction between body image and body schema. Their account of body image corresponds roughly to the description given above. Body image is knowledge of the body, which in principle can be made accessible to consciousness, but plays little or no part in the performance of movements.[134]

The activities of the body schema on the other hand, "lie for ever outside consciousness; they are physiological processes with no direct psychical equivalent".[135] On this account, the body schema is primarily a plastic neural realization of information about bodily posture. Sometimes Head and Holmes tend to equate the body schema with a physiological disposition, at other times they are content to describe it as being dependent upon physiological dispositions.[136]

The central feature of Head and Holmes' theory is the type of information employed by the body schema. The general idea is that the body schema is a "plastic model" of the body in space and time.[137] Information about bodily posture is continuously fed to the schema from the "periphery", for example from muscles, thereby registering the current state of bodily posture. When new peripheral information is received by the schema, it is compared and related to the information that is already registered. This way, the body schema manages to keep track not only of the current position, but also of speed and direction. In addition, new information received is integrated into the schema. [138] The major function of

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[133] In the English translation of *Phénoménologie de la Perception*, the word "body image" occurs frequently while the term "body schema" is entirely absent. But, as Shaun Gallagher has pointed out, this is a gross mistranslation. See Gallagher, "Body Schema and Intentionality". The term used in French is "schema corporel", which, both as a literal interpretation and an interpretation faithful to the scholarly discussion of the term, obviously should have been rendered as "body schema". While I shall follow Colin Smith's English translation in all other instances, I make an exception here, and will translate "schema corporel" as body schema.

[134] Oldfield and Zangwill, "Head's Concept of the Schema", p 271f.

[135] Head as quoted in ibid, p 274.

[136] Ibid.

[137] Ibid., p 273.

[138] Ibid., p 274f.

the body schema on this account is to check and control movements that have been initiated in order to perform actions and / or to maintain spatial position.[139]

Merleau-Ponty criticise Head and Holmes, but his description of their position leaves it unclear as to whether he has really understood their position. Their theory is described as presenting the body schema as being based upon associations between tactile, kinaesthetic and visual content, and as resulting in no more than a physiological representation of images. (PoP, p 99) One is led to wonder whether Merleau-Ponty is really describing their concept of body schema, and not their concept of body image.

Be that as it may, Merleau-Ponty has two main objections to Head and Holmes' theory. The first objection is that they fail to explain the fact that the body is normally experienced as a *unity*. This is a somewhat difficult point to evaluate. Head and Holmes, despite describing the body schema in a holistic way, nevertheless proceed to claim that the body schema itself is not conscious in any way, though it modifies sensory impressions.[140] Accordingly, Merleau-Ponty appears to be correct in the sense that Head and Holmes do account for our experience of the unity of the body. On the other hand, Head and Holmes claimed that bodily sensations are always related to the body as a whole, which modifies their position somewhat in order to make it more acceptable to Merleau-Ponty.

Merleau-Ponty's second objection against Head and Holmes' theory is that the various parts of the body schema are all part of a more comprehensive purposeful unit that is more than the sum of its constituents: "the spatiality of the body must work downwards from the whole to the parts". (PoP, p 99) Therefore, according to Merleau-Ponty, the body schema is dynamic and action-oriented. This objection probably holds against Head and Holmes, who consider the body schema to consist of information about bodily posture and movement and nothing more. On such an account, there is no room for bodily purposes.

An account which is more preferable to Merleau-Ponty is found in Gestalt psychology; his own theory is even modelled loosely on that of the Gestalt psychologists. He explicitly states that a theory of body schema must include an account of the experience of the body as a "total awareness of my posture in the intersensory world, a 'form' in the sense used by Gestalt psychology". (PoP, p 100)

Merleau-Ponty turns to an essay by Klaus Conrad in this context.[141] Conrad's essay is primarily an effort to bring some conceptual clarity to the discussion regarding the nature of the body schema. He starts with a discussion of the empirical evidence for the existence of a body schema.

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[139] Ibid., p 277.

[140] Gallagher, "Body Schema and Intentionality", p 227.

[141] Conrad "Das Körperschema".

According to Conrad, three sets of empirical data have been invoked as support for the existence of the body schema. The first of these is the phenomenon of phantom limb. Amputees may experience this symptom; for a period after their amputation, patients may still experience the missing limb, either in the sense that they actually sense its presence, or in the sense that they, temporarily forgetful of the amputation, rely on the missing limb when performing some type of action. Thus, for example, patients who have amputated one of their legs, can often sense the presence of the leg even after the amputation, or try to walk as usual – with the likely and predictable effect that they will fall.

The second kind of data concerns patients with anosognosia. These patients are paralysed on one side of their body. The interesting symptom is that they deny that they are partly paralysed, thus insisting, and apparently believing, that they can walk unhindered, move the limbs on the paralysed side, and so on.[142]

The third kind of evidence for the body schema concerns patients with autotopagnosia. These patients have lost the ability to orient themselves with regard to their own body. They are usually unable to comply when requested to point at a specific location of their own body. We shall return to this type of case, since it is frequently referred to by Merleau-Ponty.

Conrad believes that all these phenomena can be explained by recourse to a deficit in the ability to form *Gestalten*; he proposes that the body schema be considered as a *whole* in the sense used by Gestalt psychology.[143] Further, he considers the body schema to be amodal. This means that the body schema is not restricted to one sense modality, such as vision, but also encompasses kinaesthetic, visual and tactual modalities. Thus, the body schema is not constituted by a set of sensory impressions that forms a whole by means of a process of associations. Rather, it is a *Gestalt* and is, for that reason, more than the sum of its parts. Against this background, Conrad can define the body schema as the consciousness of one's own body as a whole in the room of intuition and action.[144]

However, this definition is inadequate according to Merleau-Ponty. A problem with it, he argues, is that it does not account for the body schema being dynamic. The spatiality of the body as conceived through the body schema is not spatiality of position, but of situation. The body schema is not an awareness of the body as placed in a geometrical setting, but as placed in a behaviourally meaningful setting, wherein objects are perceived as meaningful in their relations to the various projects of the perceiving agent. (PoP, p 100)

This criticism of Conrad is slightly odd, since Merleau-Ponty points to Conrad as having indicated that body schema must be considered dynamic. Though, Conrad's

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[142] Ibid., p 356.

[143] Ibid., p 365. It is however not entirely clear why this can explain the three kinds of deficits.

[144] Ibid., p 366f.

theory of the body schema is to a large extent consistent with Merleau-Ponty's views, Conrad is guilty of conflating the spatial awareness of position, with the spatial awareness of situation, according to Merleau-Ponty's account. This can also be seen in their conflicting views on the third kind of case described above.[145] Conrad considers autotopagnosia to involve a disturbance of the body schema – the body schema of these patients has outline but lacks structure, according to Conrad. As we shall see, Merleau-Ponty considers the body schema of these patients to be largely unimpaired. According to Merleau-Ponty, Conrad failed to realise that the body schema was connected with a separate type of intentionality. In this case, I agree with Merleau-Ponty.

5.2 An Outline of a Notion of Body Schema

Having disposed of the two most promising theories to date of what is constitutive of the body schema, Merleau-Ponty presents a characterisation of his own:

> In the last analysis, if my body can be a 'form' and if there can be, in front of it, important figures against indifferent backgrounds, this occurs in virtue of its being polarized by its tasks, of its *existence towards* them, of its collecting together of itself in its pursuit of its aims: the body schema is finally a way of stating that my body is in-the-world. As far as spatiality is concerned, and this alone interests us at the moment, one's own body is the third term, always tacitly understood, in the figure-background structure, and every figure stands out against the double horizon of external and bodily space. (PoP, p 101)

This characterisation is not easy to follow throughout, however; it is vague on some points, silent on some points and next to incomprehensible on yet others. I will use the quote above as the starting point for an outline of the concept of the body schema as it is used in this dissertation. This outline will not be an exegetical analysis of what can be read between the lines in Merleau-Ponty's works.

What then, is the body schema? First, it makes our habitual physical actions possible. Whenever we perform a habitual physical action that does not require our

[145] Ibid., p 364.

explicit attention, we perform the action by means of our body schema. What I have in mind are actions such as walking, running, hammering, sewing and so on. In these cases, we do not normally reflect explicitly on what we are doing. We simply let the body do things for us while we focus our attention on something else. What I do *not* have in mind is the kind of physical action that requires our attention, such as walking in a new style, learning to sew and so on. In these cases, the physical action in question is not performed by means of the body schema.[146]

The most interesting feature of the body schema, however, is that it is intentional. It is related intentionally to objects in its surroundings, in particular through the *affordances* that a person apprehends. The term "affordance", originally coined by the perceptual psychologist James J. Gibson, refers to the action-possibilities that the environment is perceived as offering.[147] Thus, for example, to apprehend that a fence can be jumped over is a paradigmatic case of body-schematic intentionality. Sometimes the action is acted out. Sometimes it is not.

I will also argue that the body schema has a kind of intentionality sui *generis*, viz. that of *primordial* intentionality. *Being in a state of primordial intentionality is quite simply to apprehend the affordances of the environment through your body schema.* Apprehending an affordance is something that is done in virtue of having a body schema. But states of primordial intentionality can also cause the body schema to act in specific ways. They are the kinds of intentional states by means of which the body schema works and habitual actions are performed.

Primordial intentionality cannot be modelled on cognitive intentionality – though it is in principle possible to relate to your affordances by means of cognitive intentionality too. Cognitive intentionality represents the world as being in a particular way for a cognizer. But the way we intend the world by means of our body, is not a cognitive relation. To primordially intend an object as affording something does not mean that the object is cognized as affording something, since primordial intentionality does not require cognition. Primordial intentionality has all the classic features of intentionality: A specific object is intended, it is presented under a specific aspect, the object need not have the properties ascribed to it in the

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[146] Although the body schema may be involved to some extent in these cases too.

[147] Gibson, *The Ecological Approach to Visual Perception*, p 127ff. Merleau-Ponty's own theory of perception is similar to Gibson's in many respects, but since he lacks a term for affordances I will use Gibson's famous term. Gibson himself adapted the term from the Gestalt Psychologist Kurt Lewin who used the word "*Aufforderungscharakter*". Since Merleau-Ponty was influenced by the Gestalt psychologists it is likely that he knew this particular strand of Lewin's thought as well. He may also have been influenced by Martin Heidegger's theory of perception in *Sein und Zeit*. It should be remembered that Heidegger emphasised that perceiving something is always to perceive it as being something in a meaningful context. Perception is permeated by what Heidegger coined the "as-structure" and specifically, by what Heidegger coined *Zuhandensein* or the apprehension of an object as being available for a particular purpose. See Heidegger, *Sein und Zeit*, p 69ff and p 148ff.

intentional relation and, indeed, the object need not exist at all. Arguments to this effect will be presented in the next chapter. For the remainder of this chapter, I will simply assume that primordial and cognitive intentionality are distinct.

The relationship between primordial intentionality and cognitive intentionality may lead some to think that the body schema is simply another kind of information-processing system. I will argue that this is not the case. Primordial intentionality may provide the cognitive system with information, but it cannot be described in terms of information processing. This will be the topic of chapter 7.

For the remainder of the present chapter, we shall take a look at four features of the body schema which need to be explicated. The first feature is the relationship between the body schema and cognitive intentionality, the second is proprioception, the third external perception and the fourth feature concerns Merleau-Ponty's notion of embodied space, which is closely connected to that of body schema. I will address these issues in turn.

5.2.1 THE BODY SCHEMA AND COGNITIVE INTENTIONALITY

The body schema is related to our cognitive abilities in several ways. To begin with, it is important to note that our physical activity is normally available for cognition to some extent. For example, it is trivially true that when I am out walking I normally believe that I am out walking. Moreover, if I see a situation that affords a specific type of action, this affordance is often part of the representational content of the perception.[148] If I see that a surface affords walking, this affordance is normally constitutive of the representational content of the perceptual act. Therefore, the central cognitive system must be fed information about affordances in some way.

Unfortunately, it is difficult to be precise in this context. It is not easy to know how closely related primordial intentionality is to cognitive intentionality. In some contexts, embodied information is cognitively inaccessible. For example, I know very well that my hands are busy pressing keys on the keyboard at the moment, and I know perfectly well what I am writing, yet I do not know how the keys are spatially related to each other.[149] I do not know if it is possible to specify the degree

[148] It is important to point out that representational content is quite a different notion than that of mental representation. Representational content is quite simply perceptual content that is available for cognition. A mental representation is usually conceived of in the discussion as a mental state with quasi-linguistic properties.

[149]If someone gave me a keyboard with the signs of the letters removed and asked me to point out where the letter "A" normally is, I would be unable to answer, unless I was allowed to write on the

to which affordances are accessible for cognition, but it doesn't matter in this context. It suffices if we note that affordances are sometimes accessible to some degree and are thus constitutive of the representational content in acts of perception.

A second important feature of the relationship between cognitive and primordial intentionality concerns the fact that the body schema can change by means of cognitive intentionality.[150] For example, it is not uncommon that people decide to adjust their style of walking for one reason or another (or running, or swimming, or whatever). Further, it may be that the individual in question learns to interpret environmental information in a new way. It is presumably a part of the body schema of walkers to stop when a traffic-light indicates red. However, if an agent happened to change places with her twin in that famous philosophical place, twin-earth, which is known to be identical to the earth in all respects except the fact that green indicates "stop" on the traffic lights and that its inhabitants have adjusted their life to this fact, she would soon adjust her body schema accordingly. In these cases, agents will usually have to attend directly to how they move about in the world. After a certain period of time though, the adjustments have become habitual and are part of the body schema. But it is not only the case that we can learn to change how we perform a particular activity. We can also learn new activities; in these cases, cognitive intentionality is also important in the early stages.

In a related way, some actions cannot be performed by means of the body schema, since the required movement is not to be found within its repertoire. Thus, it is common that some very complicated moves, like pushing a thread through the eye of a needle, cannot be performed using a habitual routine, but requires detailed and conscious attention.[151]

In a more general way, the body schema can execute decisions made on a cognitive level. For example, my decision to go for a walk is normally made on a cognitive level, but the execution of the decision is assigned to the body schema. In this case, the relation is fairly simple. The central cognitive system tells the body schema what it should achieve, but leaves execution of the decision entirely to the body schema.

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keyboard and observe the movements of my hands, or, possibly, if I imagined that I was writing on a keyboard and "observed" the movements of my fingers.

[150] This has been pointed out by several scholars, not least Gallagher in various publications. However, his notion of body schema is different from mine in the sense that his notion is not necessarily intentional. See for example, Gallagher, "Body Schema and Intentionality".

[151] Rumour has it that this may possible for some people. Not this author though.

5.2.2 THE BODY SCHEMA AND PROPRIOCEPTION

The notion of proprioception is almost as mistreated in the literature as that of body schema. There is little consensus as to what proprioception really is. Most philosophers and scientists would agree that it is some kind of non-observational information about the position and movement of the body. Moreover, it is quite clear that the body schema needs such information in order to work properly; it would be impossible to perform a physical action habitually if you lacked information about the position and movement of the body.[152] It is also quite clear that proprioceptive information is cognitively accessible to some extent, but I shall neither dwell on that point nor attempt to investigate to what extent it is the case. Proprioception is a kind of preattentional and prereflective form of knowledge of, or information about, bodily positions, body postures and bodily movement. No cognitive processes are required in order for the body schema to have proprioceptive information.

It is important to note that the proprioceptive information of the body functions holistically. As Shaun Gallagher has pointed out, the body schema is different from the body image in this sense. We rarely reflect on our body construed as a whole. On the contrary, our attention is normally focused on one aspect at a time. Body-schematic awareness of the body functions in a different way. If the bodily posture is changed slightly, for example, it will normally involve a global adjustment of muscle systems. The proprioceptive input from the limbs do not constitute isolated or separate pieces of information to be used by the body schema, but work together to form holistic information about the body.[153]

Traditionally, proprioception, or "kinaesthesis" as it is called in some contexts (including Merleau-Ponty's phenomenology), has been conceived as consisting of the information about bodily position and bodily movement, *coming from* receptors in muscles and tendons.[154] It has been shown, however, that this is not all there is to such information. In addition to information coming directly from muscles, we are also fed information directly from the action control systems of the brain. Thus, when we perform a particular movement, an *efferent* signal is sent to the muscles, a *copy* of the efferent signal is sent to the centre concerned with bodily information and, when the muscles have moved in accordance with the efferent signal, a

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[152] Non-habitual movements would be possible. For a description of a person who lacks proprioceptive ability, and must rely on visual information in order to control his movements, see Cole, Gallagher and McNeill, "Gesture following Deafferentation".

[153] Gallagher, "Body Schema and Intentionality", p 229.

[154] See Eckart Scheerer, "Muscle Sense and Innervation Feelings", p 171f.

reafferent signal is sent to the centre.[155] Slightly departing from the main terminological tradition, I will include the information based on the efference-copies in the term "proprioception". The fact that the term has traditionally been reserved for reafferent information, even in the work of Merleau-Ponty, is of less importance than the fact that the efference copy always conveys information about bodily movement, posture and position.

It is misleading to describe proprioception as though the body schema were presented with information from the limbs. Proprioception is more than the sum of the pieces of information from the limbs. Merleau-Ponty refers to the case of a patient who had lost one of his legs, yet experienced it as a phantom limb. From time to time, the man still attempted to walk, although, of course, he knew very well that he lacked one leg. In other words, his body schema functioned independently from his body image; his primordial intentionality worked independently of his cognitive intentionality. In Merleau-Ponty's analysis, the man's deficit was that his body schema had not been retrained after the accident in which he lost his limb. He experienced his "practical field" as being the same as before the mutilation. (PoP, p 81f)

The point is that the body schema is what largely gives meaning to specific postural and motor contents, so any adjustment of specific "motor orders", will have to be preceded by an adjustment of the body schema. The body schema "is not confined to contents actually and fortuitously associated in the course of our experience, […] it is in some way anterior to them and makes their association possible". (PoP, p 99)

The point is that the parts constituting the proprioceptual *Gestalt* do not figure as constituent elements in the genetic origins of the *Gestalt*. For the nature of any given element, the *Gestalt* is dependent upon the nature of the whole of which it is a part. When you run, the part of your proprioceptive *Gestalt* which represents your legs consists not only of the current position and movement of your body but also of information about the wider purpose of this movement and of its future course of direction. However, this information arises only at the level of proprioception considered as a whole, of the part considered in relationship to the other parts of the Gestalt and to the nature of the body schema as a whole, which enables the activity that the movements constitute.

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[155] Jeannerod, *The Brain Machine*, p 95ff. As Helge Malmgren has pointed out, the development of this theory is due not only to experimental evidence, but also to everyday observations. The first observation is that we usually know by introspection what we are about to do before we have done it, which is not easily explained solely by reference to reafferent information. The second observation is that we usually know whether or not our intended action has been performed successfully, which can easily be explained by this theory in terms of a comparison between the efference copy and the reafferent signal. Malmgren, "Rorschach's Idea of a Movement Response in the light of Recent Philosophy and Psychology of Perception".

In other words, proprioception consists not of atomic units of information but of a holistic *Gestalt* of the body. This *Gestalt* is different from the sum of its parts. That is why it is misleading to describe the process as one in which the body schema is presented with proprioceptive information. While it is true that the body schema could not function without proprioception, it is also constitutive of such information.

5.2.3 THE BODY SCHEMA AND AFFORDANCES

Just as the body schema has to include proprioceptive information in order to function, it has to include information about the surrounding environment. The body schema must include information of the position of the body in relation to the surrounding environment as well as of the nature of the objects that it is about to interact with. Thus, if I am going to grasp a cup of tea, I need to know where the cup is in relation to my body, if the cup fits into the hand and so on.

The type of perception I have in mind corresponds roughly to what the psychologist James J. Gibson called "affordances". According to Gibson,

> *[the] affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill. [….] I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment.[156]

Gibson goes on to give examples of affordances. A terrestrial surface can afford support. If that is the case, the surface is normally stand-on-able and affords standing, walk-on-able and affords walking, and so on.[157]

On my account, being in a state of *primordial intentionality* is tantamount to *apprehending the affordances* of the surrounding environment by means of the body schema. So, you don't need to actually perceive something in order to primordially intend it since while an affordance may be picked up by means of visual perception, you do not need to continue perceiving it in order to intend it.

There is an ambiguity in the term "affordance" that needs to be clarified. An affordance can be described as a state of affairs that exists between an agent and the environment regardless of whether the agent has noticed it or not. An object

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[156] Gibson, *The Ecological Approach to Visual Perception*, p 127.

[157] Ibid.

may afford something to me, even though I never look at that object and may not even notice the object.

An affordance can also be described as being the intentional state of apprehending the affordances of a particular environment. On this account, an affordance simply is an intentional state, the intentional state of (possibly erroneously) apprehending how to act in relation to the surrounding environment. I will use the term in both senses and it should be clear from context which sense of the term is intended. In case it is not clear, I will refer to an affordance *qua* "intentional state" as the apprehension or intending of the affordance. An affordance that is not necessarily apprehended, will be referred to as an affordance that "obtains objectively".

What then, is an affordance? Well, it is *not* a physical property of an object, wholly conceived of independently from the perceiver. An affordance is what the object affords an animal. It is the kind of physical actions that are possible for the animal in the environment, so the nature of the affordance will depend upon the nature of the animal. A floor may be walk-upon-able for me, but not for an elephant. A human being may afford danger to a wolf, but not to me, and so on. The affordance of an object may obviously also change within a species. A fence may be jump-over-able by me, but not by a three year old, and so on.

Now, it is in virtue of animals' capacity for physical actions that an affordance between an animal and its environment obtains. Hence, to the same extent that the affordance depends upon the nature of the surrounding environment, it depends upon the nature of the body schema of the animal.[158] In reality, it is a relational property between an environment and the body schema of the agent.

This notion is not particularly surprising. The actions which are possible in a given situation depend upon the skills of the animal. A fence is jump-over-able for an animal in virtue of the fact that the animal has the requisite skill to jump over the fence. Thus, it may afford that action for me, but not for a child whose body schema is not equal to that of an adult. Even a simple affordance such as being within reach is dependent upon the body schema of the agent.

Needless to say, affordances can be apprehended by the animal, but they do not need to be apprehended. Precisely to the same extent that it is possible to misperceive or fail to perceive objective features of the environment, is it possible to misperceive or fail to perceive the affordances that it presents. I may perceive the fence as jump-over-able, but realise only too late that it is not. And I may fail to perceive that there is a bear that affords danger in my neighbourhood.

The affordances of an object are apprehended in a different way than the purely physical properties of that object. They are not constituted as being objective

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[158] Needless to say, this observation has been made before, not least by Heft, "Affordances and the Body".

properties in the sense of weight and length, but as relational properties that relate to possible actions or behaviour of the perceiving subject.[159] Thus, a stone is not primordially perceived as weighing roughly 10 kg, but as being heavy to lift. An object is not primordially perceived as being 1 m away, but as being within reach, and so on. An affordance is apprehended precisely qua the relational property between the environment and the body schema of the perceiver. Consider for example the type of speed that the tennis player will primordially perceive the approaching ball as having. He will obviously not perceive it as having a speed measurable in km / h (or in mph), but as a speed which is relevant for the kind of action he can perform. Thus, he will experience it as having a speed such that he has time to do so and so, but not such and such.[160] [161]

The body schema could not function if we did not apprehend the affordances of the environment. It is by its very nature intentionally related to surrounding objects. But it would be erroneous to say that an affordance is presented to the body schema. This is because an affordance cannot be specified independently of the body schema. Consider an affordance such as jump-over-able. In order to apprehend that a specific feature of the environment is jump-over-able, we need to apprehend this affordance. But it is clear from the foregoing example that this affordance is something that obtains both in virtue of the environment and of the body schema. So it would not be possible for a perceptual system to *present* this information to the body schema since it does not obtain *independently* of the body schema. We shall return to this in more detail in chapter 7; suffice it for the time being to note that the body schema *contains* the information that constitutes the content of primordial perception, but the information is not *presented* to it.

"Affordance" is an adaptation by Gibson of Gestalt psychologist Kurt Lewin's term "*Aufforderungscharakter*", denoting the exhortations or invitations that the environment provides for an animal. According to Gestalt psychologists, the *Aufforderungscharakter* of an object may change with the needs of the animal. Koffka, for example, claimed that a mailbox has a demand-character for an observer if the observer has a need to post a letter, but not otherwise. Gibson however, argues that the affordances of an object do not change with the needs of the observer in the same way. I will mainly follow the Gestalt Psychologists and claim that the

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[159] "Possible actions" should not be taken here to mean *logically* possible actions, but rather possible in the sense of something that is *existentially* possible, that is, actions that are habitually performed in the same way and relevant for the subject. The notion of "existential possibility" is borrowed from Dreyfus account of Heideggers account of our manoeuvrability in the world. See Dreyfus, *Being-in-the-World*, p 189ff.

[160] For an analysis of the relation between time and body schema and an objection to traditional notions of time-consciousness based on that analysis, see Malmgren, "Time and the Body Schema".

[161] Cf Cussins, "Content, Conceptual Content, and Nonconceptual Content", p 150.

affordances of an environment are dependent upon the activity that the animal is involved in.

Now, an affordance can have either of two distinct characteristics. They can – somewhat metaphorically speaking – *demand* that an action be performed or they can *invite* to an action. Apprehended affordances with "demand character" are by their very nature such that the animal always attempts to realise them.[162] For example, we would always try to avoid encountering a dangerous animal. Apprehending their affordances is tantamount to apprehending a commandment to stay away or flee.

The second possible characteristic of an affordance is that it can invite to certain actions. This invitation may be accepted, but it may also be declined. For example, a floor may be apprehended as being walkable, but we do not always walk over a walkable floor. A cup of tea may be apprehended as being within reach, but we do not always reach for objects within reach, and so on. I will argue in the next chapter that whether or not an affordance invites to or demands an action depends not only upon the environment and the body schema of the animal, but also upon the present activity of the animal.

We mainly apprehend the affordances of the environment through perception. But a perceived affordance is not always constitutive of the cognitively accessible content of a perceptual state. This is because in order to perform an action the body schema must often contain information which is more specified than the information which appears in the representational content of the act of perception. If I play tennis, I may perceptually represent that a ball is smashable. But this information is not sufficient for the body schema. In order to smash the ball, I must have knowledge of how to smash *this particular* ball. In other words, the body schema contains information that *the ball is smashable if thus and so is done*, where *thus and so* is a specific *way* of smashing the ball. But this information is not constitutive of the representational content of the perception.

In order to distinguish the kind of perception relevant for the body schema, I will refer to it as "primordial perception".[163] The term "perception" will primarily be used from now on to refer to non-primordial perception, or acts of perceptually representing the world for cognition, but can also refer to primordial perception, depending on context. It is important to note that the question is still open as to what extent primordial perception is constitutive of perceptual representational

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[162] This is assuming that they are not overruled by contrary affordances with a stronger demand-character, or that the agent does not explicitly decide not to realise them. But these cases need not concern us here.

[163] Another term that has been used for roughly the same type of perception is "practical perception". See Malmgren, "Rorschach's Idea of a Movement Response in the light of Recent Philosophy and Psychology of Perception".

content. It is clear that it is constitutive to a certain extent, but it is also clear that there is some information in primordial perception that is not constitutive.

It is important to note that in some cases the representational content of a perception may contradict the information contained in the body schema. This may be the case if we know that what we perceive is an illusion, for example. I may apprehend through my body schema that a path between two objects is not walkable, but since I know that this is because there is a transparent bridge of glass between them, I may perceptually represent the path as being walkable.

5.2.4 EMBODIED SPACE

A somewhat enigmatic notion in Merleau-Ponty's account of the body schema is the notion of *embodied space*[164]– sometimes also referred to by Merleau-Ponty as practical space. This notion should be carefully distinguished from the notion of *objective space*. This is roughly the same type of distinction as between cognitive perception of the "objective" features of an object and primordial perception of the action-related features of an object. Objective space is space and spatial objects as described from a third person view. Thus, an object's location in objective space is independent of the perceiver.

Bodily space is something different. Merleau-Ponty repeatedly describes bodily space as being a "spatiality of situation" (PoP, p 100) or as "the matrix of his [the agent's] habitual action" (PoP, p 104). Thus conceived, bodily space is not space in a geometrical setting, but space in an environmental and behavioural setting.

> The word 'here' applied to my body does not refer to a determinate position in relation to other positions or to external co-ordinates, but the laying down of the first co-ordinates, the anchoring of the active body in an object, the situation of the body in face of its tasks. (PoP, p 100)

In this account, objects are not primordially perceived as regards their "objective" features and locations, but regarding their behavioural meaning. A cup of tea is primordially perceived as being within or without reach, graspable or not graspable, to the right or to the left of me, and so on.

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[164] For an exegetical analysis of this notion, see Dillon, *Merleau-Ponty's Ontology*, p 135ff. I agree with Dillon about the basic nature of embodied space, but disagree with him on the relationship between embodied space and primordial intentionality. Dillon sees the latter as the ground of the former;.

It is important to emphasize that the distinction between embodied space and objective space is not reducible to the distinction between egocentric and allocentric space. Embodied space is something more than just space conceived from an egocentric point of view. Embodied space is primarily behavioural space; it includes information about the affordances of objects in the surroundings of the agent. Embodied space is space conceived of from the position of the body schema. The point is that embodied space is spatial information related to the subject as an embodied *agent*. Yet embodied space is not derived from objective space in the sense that there is a system which processes the contents of objective space and then outlines the embodied space. It is clearly a separate system.

It is clear that embodied space is connected to the notion of affordance. We can conceive of embodied space as an essentially dynamic notion, including all possible information requisite for performing habitual movements, especially information about the affordances of the environment and proprioceptive information of bodily posture and movement.

The dynamic notion of embodied space is expressed in the *Phenomenology of Perception* in terms of embodied space being the "background against which the object as the goal of our action may stand out or the void in front of which it may *come to light*, it is clearly in action that the spatiality of our body is brought into being". (PoP, p 102) Every given movement has a particular background. The movement and its background form a unique totality together. (PoP, p 110) This idea is borrowed primarily from Kurt Goldstein; Merleau-Ponty presumably had the Gestalt psychological idea of figure and background in mind. Merleau-Ponty approvingly refers to Goldstein as claiming that movement and background are interdependent. (PoP, p 110) This should be compared with the idea in Gestalt psychology that the perceptual figure is always dependent on its background, and vice versa.[165]

It is important to note that embodied space is amodal in a fundamental sense. It is not a visual picture of certain features of the environment. However, it cannot be conceived of as a tactile or proprioceptive outline either because it is clearly not a layout of the body. On the contrary, it should be conceived of as an amodal outline of possible movements in a given environment. As such, it depends upon the visual, auditory and proprioceptive senses and of the specific nature of the body schema. Nevertheless, it is not reducible to any single modality. Thus, according to Merleau-Ponty, behaviour "is a form, in which 'visual' and 'tactile contents', sensibility and motility appear only as inseparable moments". (PoP, p 120) [166]

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[165] Cf Sundquist, *Perceptual Dynamics*, p 136.

[166] For a different interpretation, see Cf, Gallagher, *How the Body Shapes the Mind*, p 156ff.

6. On the Notion of Primordial Intentionality

The main purpose behind this chapter is to argue that primordial intentionality is a distinct kind of intentionality. Upon closer examination, the contention consists of two separate but related claims. The first claim is that primordial intentionality in fact must be conceived of as intentional. The second claim is that primordial intentionality is different from cognitive intentionality. The intentional content is non-representational – it does not represent a state of affairs as obtaining to a person qua thinking subject.[167]

In this chapter I will, following Merleau-Ponty, initially present some interesting pathological and normal phenomena which the notion of body schema can explain. I will then go on to show in a second part that primordial intentionality is not reducible to cognitive intentionality. In the third part, I show that the body schema is in fact intentional.

6.1 Concrete and Abstract Movements

Merleau-Ponty's phenomenological method consists of a mix of psychiatric studies and more traditional phenomenological methods. However, his primary purpose is never to perform empirical science, but to elucidate philosophical problems and concepts by reflecting on real cases. One tacit assumption of his methodology is that pathological phenomena help us illuminate normal experiences and actions and the mental and bodily functions to which these are related.[168]

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[167] That there is a distinct kind of intentionality involved in agency and that it is not reducible to propositional attitudes has been argued by philosophers and cognitive scientists before. Most notably perhaps, by Pierre Jacob and Marc Jeannerod. See Jacob and Jeannerod, *Ways of Seeing*.

[168] Perhaps Merleau-Ponty's method could be explicated as a novel way of performing a phenomenological reduction. Just like the ideal phenomenologist, Merleau-Ponty is trying to give a pure description of something, unaffected by various irrelevant theories. But whereas a Husserlian phenomenologist attempts such a description using a first person method, Merleau-Ponty describes a person in whom the normal interrelations between various mental capacities has been broken. The

A second tacit assumption is that any adequate philosophy of the mind must be consistent with certain neurological and psychiatric facts. Psychiatry is able to function as some kind of benchmark for philosophy of mind. While a philosophical theory cannot always be called upon to explain psychopathological phenomena, something is wrong with a philosophical theory that entails that a particular pathological experience would be nomologically impossible.[169]

Merleau-Ponty is particularly interested in the case of Schneider, a person who suffered brain damage in the First World War and was studied comprehensively by Adhemar Gelb and Kurt Goldstein.[170] [171] Schneider's main problem is that he cannot perform what Merleau-Ponty coins "abstract movements", that is, movements

> which are not relevant to any actual situation, such as moving arms and legs to order, or bending and straightening a finger. Nor can he describe the position of his body or even his head, or the passive movements of his limbs. Finally, when his head, arm or leg is touched, he cannot identify the point on his body; he cannot distinguish two points of contact on his skin even as much as three inches apart; and he cannot recognize the size or shape of objects placed against his body. He manages the abstract movements only if he is allowed to watch the limb required to perform them, or to go

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psychiatric patient is thus in a phenomenologically reduced state involuntarily. Analysing the experiences and actions of such patients may offer the phenomenologist a more direct path to the things themselves than a reduction followed by an eidetic variation.

[169] Adapting arguments from Merleau-Ponty in order to argue for a specific point of view thus means that one must trust that he describes the empirical examples correctly. That is also the situation that I find myself in. But I don't see this as a great problem. As far as I know, Merleau-Ponty's descriptions of the examples are fairly uncontroversial; in some cases the phenomenological and conceptual distinctions which he draws on the basis of them can be drawn from normal experiences as well. In the few cases where I report other empirical examples than those found in Merleau-Ponty, roughly the same situation occurs. Still, the interpretations of them are in some cases controversial. However, if the argument employs a controversial interpretation , I do not merely assume it to be true, but try to argue for it.

[170] See Gelb and Goldstein, "Ûber den Einfluss des Vollständigen Verlustes des optischen Vorstellungsvermögens auf das taktile Erkennen.", *Psychologische Analysen hirnpathologischer Fälle*, Goldstein "Über die Abhängigkeit der Bewegungen von optischen Vorgängen", Goldstein, "Zeigen und Greifen." Schneider is the only patient referred to by name in Merleau-Ponty's analysis of the kind of deficit that will occupy us in this chapter. But it is possible that some of his arguments refer to other patients with the same type of deficit. Thus, when referring to Schneider, I may in some instance actually refer to some other patients with the same type of deficit. That should, however, have no philosophical or scientific significance.

[171] For an exegetically faithful and convincing study of Merleau-Ponty's analysis of Schneider's motordeficits, see Dillon, *Merleau-Ponty's Ontology*, p 132ff.

> through preparatory movements involving the whole body. (PoP 103)

Schneider can however perform *concrete* movements, or habitually performed actions which are relevant to the specific situation in which he finds himself.[172] For example, he has a production rate that is three quarters of that of a normal workman in the factory in which he is employed.[173]

Merleau-Ponty gives several examples of Schneider's ability to perform concrete movements (with normal speed and precision) and his corresponding inability to perform abstract movements. He can perform the concrete movement of taking his handkerchief from his pocket and blowing his nose with his eyes shut. Yet he is unable to perform the abstract movement of pointing to his nose, unless he is allowed to take hold of his nose with his other hand. Similarly, Schneider is unable to interrupt the concrete movement before its completion or touch his nose with a wooden ruler. (PoP, p 103f)

If Schneider is stung by a mosquito on a specific location on his body, he is able to scratch at the location or try to smash the mosquito. However, if the doctor touches the same spot and then asks Schneider to perform the (abstract) movement of pointing at it, he is unable to comply. (PoP, p 103) Moreover, Schneider is able to knock on and open a door without difficulty, but is unable to pretend that he is knocking on or opening a door, even if he has his eyes focused on the door. (PoP, p 117)

It should be emphasized that Schneider's incapacity to perform abstract movements is not due to any cognitive impairments. There are clear indications that he understands the success conditions of abstract movements. He recognizes when his attempts at performing abstract movements have failed. Furthermore, when he tries to perform an abstract movement he frequently starts by moving his body in a quasi-random way. If the movement comes to resemble the abstract movement by accident, he is able to complete it in the required way and to recognize it as being successful. Finally and most importantly, if Schneider observes someone else performing the abstract movement, or if he is shown a drawing of the abstract movement that he is asked to perform, he is still unable to perform it. In other words, even if he can consciously represent the abstract movement to himself, he is unable to convert that representation into an actual movement. (PoP, p 110)

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[172] A note on terminology: A movement is not necessarily an action, but in the sense used by Merleau-Ponty, a concrete movement is tantamount to a habitually performed action.

[173] For an analysis of Merleau-Ponty's description of this case that has many similarities with my own, see Kelly, "Merleau-Ponty on the body".

The moral of Schneider's case is that the body schema is fully functional, though it appears that Schneider has a deficit body image. He is able to habitually perform movements which have been incorporated into his body schema but is unable to perform the same movements if the environment doesn't afford them. He cannot make a decision based on reasons to perform these particular movements. By implication, it is impossible to explain his capacity to perform *concrete* movements in terms of propositional attitudes.

While it is true that an environment which includes an examining neurologist may "afford" abstract movements in some sense, these are not apprehended as affordances in the sense in which the word is used here. The movements in questions normally have no particular function or significance for the agent, and are thus not affordances for the agent *qua* embodied agent with a body schema. An affordance in the sense that it is employed here can only indicate concrete movements, viz. actions that are habitually performed in virtue of a relationship between the environment and the body schema of the agent. Normal agents can perform abstract movements because they have the power to use the body *independently* of the body schema and can create a kind of virtual embodied space with room for consciously controlled, abstract movements.

Several other psychiatric findings and some phenomenological reflections strengthen the case for a clear division between a mentally represented body image on the one hand and a non-represented body schema on the other hand. Jonathan Cole, Shaun Gallagher and David McNeill, for example, describe a patient, IW, who displays the opposite symptoms of Schneider. IW lacks proprioceptive feedback from the neck down. As a consequence, he can only perform movements if he thinks them through before performing them and then visually monitors the movements of his limbs:

> He has to think through every move. When he reaches to lift a glass, he has to consider the shape made by his fingers, the strength of his grip, and the movement of his arm, and he has to keep the target in sight until he grasps it. No matter how many times he practices a movement, it never becomes completely automatic for him, although, with practice his movements can become smoother and easier to make – but always in need of conscious effort, and almost always in need of visual guidance.[174]

[174] See Cole, Gallagher and McNeill, "Gesture Following Deafferentation: A Phenomenologically Informed Experimental Study", p 52.

Cole and Gallagher rightly point out that this means that IW has a severely damaged body schema and that he performs movements by means of his body image. In fact, they even claim that he lacks a body schema altogether:

> IW is without a body schema system and he has to think about putting one foot in front of another. In contrast to Merleau-Ponty's characterization, IW does in fact need to visualize external space and his own body in order to move one within the other. He has to calculate the geometry of reaching for a glass. He often has to concentrate on his posture. Standing in the wind, he has to predict the force of it in order to maintain his balance.[175]

Whereas Schneider was unable to perform abstract movements but could rely on his body schema, IW is unable to perform concrete movements but can rely on his body image.

Another, more dramatic, example that is more similar to Schneider's case has been presented by David Milner and Melvyn Goodale. They studied a patient, D.F., who has a damaged perceptual system.[176] She is blind, in a sense; she can detect light, but cannot perceptually represent shapes and edges. Her capacity for visual perception is severely damaged, but she is able to perform actions for which she relies on perceptual information. For example, she is able to walk in the mountains! In one famous experiment, D.F. was asked to post a card through an open slot with an orientation varying from trial to trial. She performed this task perfectly, but when she was asked in which way a given slot was oriented, up-down, left-right or tilted in a specific way, she were unable to answer unless given a card so that she could observe how her body tried to fit it into the slot. Milner and Goodale famously concluded that there are two visual pathways from the eyes, one leading to the regions of the brain normally responsible for cognition and a second one leading to the regions responsible for action control. However, leaving the neurological level of explanation aside, we can also describe D.F.'s deficit as being one in which she is unable to mentally represent the content of her perceptions, while her capacity for primordial perception functions normally. As in the case of Schneider, it is impossible to explain her capacity to perform physical actions in terms of her propositional attitudes. If we want to give an intentional explanation to her movements we have to assume that a second kind of intentionality is operative.

These considerations are also supported by experiments and observations on normal subjects. In one experimental setting, normal subjects were asked to use

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[175] Ibid., p 53.

[176] Milner and Goodale, *The Visual Brain in Action*, Goodale and Milner, *Sight Unseen*.

their hands to reach for a specific target that appeared to be stationary. However, after the subjects had initiated their movement with their hand towards the target, the target occasionally switched position. The switch was large enough to require adjustment of the subjects' movement, which they managed without any loss of time even though the subjects were unaware of the switch! [177] In other words the switch was noticed by their primordial perceptual system, which subsequently fed the embodied spatial system with the information. But it was not noted by the cognitive perceptual system.

Another example is found in typewriting. As I noted above, (see sec. 4.2) a skilled typist can type without looking at the keyboard. But even more astonishing, a skilled typist normally does not even have (propositional) knowledge of where the keys are! For example, I consider myself a reasonably skilled typist and can type "fluently" without observing either my hands or my keyboard. If someone removed the letters from my keyboard, I would consequently have no problem continuing typing. However, if I remove my hands from the keyboard and someone points at a key and asks me what letter it corresponds to, I am unable to respond.[178] My knowledge of the locations of the letters on the keyboard is not representational.

This should not strike us as particularly surprising; when we habitually perform a physical action of a certain kind, such as running in terrain, we do not represent every movement mentally. That is, we do not perform physical actions the way IW does. We just perform them without thinking about it and, indeed, without being able to report the specific way in which the movements are performed. For the body schema is not accessible to cognition by necessity. And, primordial intentionality is not reducible to cognitive intentionality.

6.2 Why Primordial Intentionality is not Reducible to Cognitive Intentionality

My general contention in this chapter is that there is a body schematic intentionality, primordial intentionality that is sui generis. This thesis can be

[177] Goodale, Pélisson and Prablanc, "Large Adjustments in Visually Guided Reaching do not Depend on Vision of the Hand or Perception of Target Displacement", quoted in Jeannerod, *The Cognitive Neuroscience of Action,* p 83.

[178] To be sure I could answer, by pretending to typewrite and observe which keys my fingers are pressing, but that would only be tantamount to observe the workings of my body schema.

contested in two possible ways. The first is to deny that we are dealing with a *unique* kind of intentionality. The second is to deny that primordial intentionality is *intentional* in the proper sense of that word. In this section I shall concentrate on the first objection.

According to the standard version of folk psychology, human behaviour can be explained in terms of the propositional attitudes of the agent. The upshot of the cases described above is that it is not possible to explain actions performed by the body schema within the framework provided by folk psychology. Consider for example the case of Schneider. We cannot explain his damage by claiming that he has damaged motor capacities or erroneous beliefs. If he has the physical capacity to blow his nose, then he has the physical capacity to point at his nose. Moreover, since he is aware of the success-conditions for pointing at his nose, he has the right kind of beliefs concerning the location of his nose.

According to the theory of primordial intentionality, blowing his nose has a natural place in Schneider's bodily space. It affords a common action that people regularly perform by means of the body schema. Pointing at your nose, however, is not a habitual action at all; it is not normally a part of someone's body schema. Pointing at a nose has at best a virtual meaning for a normal subject. But Schneider is precisely unable to create such virtual meanings, and so he fails to respond. He can perform concrete movements with the aid of his body schema, but not abstract movements without it.

The problem is that if we try to explain the body schema in terms of folk psychology, the distinction between abstract and concrete movements evaporates. A folk psychological explanation of Schneider's blowing his nose would roughly have it that Schneider believes that his nose is running and desires to blow it. The trouble is that as far as we can tell, Schneider believes – correctly – that he has been ordered to point at his nose, and desires to obey the order. But if this is really how we should explain both cases, then it appears that there is no significant difference between the first and the second case. For in both cases, Schneider has the correct propositional attitudes, yet only one set of them leads to a successful action. Attempting to explain the body schema in terms of folk psychology would thus render Schneider's problems incomprehensible.

The case of D.F. is equally threatening to the folk psychologist. D.F. can post a card through a slot in a mailbox without difficulty, no matter how the slot is oriented. Now, on the standard folk psychological explanation, this would be rendered as a case in which she believes that the slot is oriented in direction x, desires that the letter be posted in the mailbox, and proceeds to execute the proper action. But this explanation is simply incorrect. Remove the letter from D.F.'s hand

and she is unable to tell in what way the mailbox is oriented. Indeed, she believes nothing in particular about the orientation of the slot.[179]

Some may protest that the cases described above are not representative because they involve people with brain damage and abnormal experiences. But the same problem arises for normal people. Consider the case of the skilled typist. A very simple folk psychological explanation of why he presses a key, x, would have it that he desires to typewrite letter "a", and believes that x is the key for "a". However, as we have seen, a normal touch typist is unable to report which key corresponds to which letter. So he has no beliefs about which keys are related to which letters.[180]

What this suggests is that primordial intentionality is not reducible to cognitive intentionality. The case of Schneider demonstrates that possessing the requisite propositional attitudes and having a fully functional motor system is not sufficient to be able to perform a given action. Moreover, the cases of D.F. and our skilled typist demonstrate that possessing the required propositional attitudes is not necessary in order to perform concrete movements. Together, these examples demonstrate that the body schema to a significant extent functions independently of cognition.

When we do something that requires a certain capacity for bodily action, we are normally unable to report on why we are doing it the way we do or, depending upon how we individuate actions, why we perform a particular action at all. We are also normally unable to report on more than a fragment of the environmental information required in order to perform the action. Consider, for example, the rapid, complex response to perceptual information required while playing table tennis. When you play table tennis, you have to react very quickly to information regarding not only your own position, but also the position of your opponent as well as the position, speed, height and spin of the ball. Needless to say, you rarely make a conscious decision as to how to respond. Neither are you able to report on the exact speed, height and spin of the ball, but your body certainly responds to these factors through your body schema.

The folk psychologist does have a response to this particular argument. He can claim that the reason we cannot report why we are performing a physical action in a specific way and what environmental information we employ when performing it is that the information enters short-term memory but not long-term memory. This is

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[179] The case of D.F. has been discussed extensively in the literature. Jacob and Jeannerod, for example, also use it to argue for the existence of a non-cognitive intentional system. See Jacob and Jeannerod, *Ways of Seeing*. For a different analysis of the case that is couched in Merleau-Pontyian terms and which has many similarities with my own, see Kelly, "Merleau-Ponty on the Body".

[180] We have good reason to assume that he has no unconscious beliefs to this effect. For why should they be unconscious? And what independent evidence do we have for the existence of unconscious beliefs in this case?

an unconvincing explanation. Why should we assume that this information only enters short-term memory, considering that it is important information? There is hardly any independent evidence that it enters short-term memory. Moreover, the folk psychology still fails to explain the case of the skilled typist, who is able to type coherently without even looking at the keyboard.

We have already demonstrated that the specific way we perform a physical action and the environmental information we use are not accessible for cognition to any high degree. The psychiatric reports and the case of the typist demonstrate this. From this we can infer that the best explanation for actions that are normally explained by the existence of a body schema, such as playing table tennis or running in terrain, should not be explained in terms of folk psychology, though it might be possible for the folk psychologist to come up with ad hoc explanations for these actions.

Once the existence of a primordial intentionality that is irreducible to cognition has been demonstrated, we can safely infer that the theory of body schema gives a better explanation of certain important aspects of physical actions than folk psychology does. But this is not to say that folk psychology is irrelevant. It can also explain some aspects of actions. I will have more to say about that in section 6.3.1.

There are some plausible objections to my line of reasoning, however. The argument for the existence of an irreducible primordial intentionality has centred on cases in which it turns out that there must be intentional states that are not accessible to the subject. But is it not possible for the folk psychologist to claim that these states are nonconscious? Yes. In one obvious sense (inaccessibility) they *are* non-conscious. But that does not make them into *beliefs*. There is no reason to believe that they are nonconscious beliefs, and if my arguments in the next chapter are correct, they cannot be beliefs.

Another possibility would be to conceive of states of primordial intentionality as mental representations which regulate other mental representations. On this account, they would have the same status that rules are considered to have in theories which claim that there are certain "folk-theories" of psychology and physics, for example. These folk-theories are rarely held to be accessible for cognition but are nevertheless considered to be mentally represented and able to interact with other mental representations, especially with "normal" propositional attitudes. The problem with this theory is that there is no reason to believe that states of primordial intentionality function as rules for mental representations or interact with mental representations the way it is alleged that "folk-theories" do.[181]

[181] The game is not up for the cognitive scientists. They could accept the conclusions thus far and argue that the body schema could be implemented in a homuncular mind. The next chapter will be devoted to that line of argument.

Yet another objection to my argument is that if some states of primordial intentionality really are cognitively inaccessible, then they cannot be constitutive of the representational content of a given perception; by definition, that content is accessible for cognition. This would indeed be problematic, since my argument presupposes that primordial intentionality to some extent constitutes the representational content of an act of perception.

However, this counterargument confuses two important distinctions. While it is true that the examples above show that *some* states of primordial intentionality cannot be constitutive of states of cognitive intentionality, they do not show that *no* states of primordial intentionality, or features of such states, can be constitutive of any states of cognitive intentionality. In fact, there is strong phenomenological evidence that indicates that affordances are constitutive of representational content. We really do *perceive that* the ball can be kicked, that the cup is graspable and so on. But what is perceptually represented is rarely perceived to the same level of detail as what we perceive primordially. I may, it is true, perceptually represent that the ball should be kicked in *that* way, but the "that"-clause is then far too vague to give more than a general idea of how the action should be performed. Embodied space is informationally richer than the representational content of my perception.

It is also important to distinguish between the affordance as featured in representational content, and the causal power of the affordance. While it is true that representational content is related both to other mental states and to behaviour, the way we perform an action cannot be explained by the way we perceptually represent the affordances of the surrounding environment. On the account advocated here, it is the affordance as featured in embodied space that causes an action to be performed in a specific way. The same affordance featured in the representational content of a perception does not have this causal power, though it has other causal powers, such as causing other mental states.

The argument for the irreducibility of primordial intentionality has so far centred on the fact that the content of an affordance in embodied space is far richer than the representational content of the corresponding perception. I have even argued that in some cases there are affordances which lack a corresponding representational content altogether. Representational content is rather insensitive to the richness of affordances; the converse is also true, embodied space is insensitive to cognitive intentionality. Not only is cognitive intentionality not necessary for physical action, it is apparently not sufficient either.

The body schema does not obey your beliefs and desires in any straightforward way. In some cases, you may have sufficient beliefs and desires for doing something and an apparent physical capacity to do it, yet you do something else. Consider the case of Tom. His back hurts, so he has visited a physician. The doctor told him that he walks incorrectly and instructed him to walk in a new way that was better suited

for his back. Tom will no doubt begin to walk the correct way. However, after a certain period of time he will most probably begin to walk in his old style again. Old habits die hard and embodied habits are no different. Despite the fact that Tom wants to walk in the new way, and has the physical capacity to do so, he soon returns to his old way of walking.

There is a related argument that makes the same point. In some cases, you can imagine performing an action in a specific way and you may have the basic physical capacities required to perform it in that specific way, yet you are unable to actually do it. Of what did the geniality of Socrates consist? (Remember that Socrates, christened after the famous philosopher, was a world-class footballer during the eighties.) Well, his capacity for dribbling a defender had little to do with his basic physical capacities, narrowly construed (e.g., turning around at a certain speed, changing direction quickly when running, and so on). Someone like me would probably be able to perform those movements taken in isolation, too. But I would not stand a chance of dribbling like Socrates. Why? Well, an instance of dribbling can only be understood as a *gestalt*, not as the simple sum of isolated movements. Moreover, even if I imagined performing the movement as a *gestalt*, and if I had the requisite beliefs and desires, I would be unable to do it. There is nothing wrong with my beliefs and desires, and there is no physical incapacity stopping me from performing the movement. It is simply not part of my body schema. So, not only is the information employed by the body schema cognitively inaccessible, it is apparently cognitively impenetrable too. Hence, primordial intentionality is not reducible to cognitive intentionality.[182]

[182] For two other accounts of something akin to primordial intentionality that shares many similarities with the ideas developed in this section, see Sean D. Kelly, "Grasping at Straws", and "Merleau-Ponty on the Body" by the same author, and Corbin Collins' "Body-Intentionality". Both accounts are similar to mine in that their theories are developed against the background of Merleau-Ponty's theory with an eye to Gibson's theory of affordances. Kelly, in particular, makes roughly the same interpretation of Merleau-Ponty that I do. His account is similar to mine in the sense that he argues that primordial intentionality is essentially non-cognitive and involves a different kind of spatial apprehension than cognitive intentionality. However, his account differs from mine in the sense that he claims that primordial intentionality, or "motor-intentionality" as is Kelly's term, is experiential and essentially related to a specific occurrent bodily activity. My account, however, states that primordial intentionality is not experiential and – critically – involves an apprehension of how to act in relation to an object, but not necessarily an execution of that action. You do not need to grasp an object in order to primordially intend the object as graspable. This is very important, since it enables an intersubjective transfer of primordial intentionality, viz. a body-schematic transfer. Collins account is similar in roughly the same extent, but his main purpose is slightly different, viz. to show how non-cognitive intentionality can be non-computational.

6.3 The Intentionality of Primordial Intentionality

The previous section argued that what I have called "primordial intentionality" is not reducible to folk psychology and that the phenomena that a theory of primordial intentionality can explain cannot be explained by folk psychology. It could be argued, however, that this does not strictly mean that there is a primordial *intentionality*. Is there really anything intentional about primordial intentionality? Well, the answer to this question depends upon what we mean by intentionality. Brentano for example, argued that all intentional states are conscious and vice versa. If this is a prerequisite for intentionality, then primordial intentionality is obviously not intentional. Yet, according to that criterion, most intentional states posited by folk psychologists are nonintentional as well.

I want to show that primordial intentionality is intentional by analysing the notion within a framework provided by Fred Dretske.[183] Dretske has a more naturalistic approach to the nature of intentionality than the classical theorists, but his analysis is consistent with the guiding intuitions behind cognitive psychology, though not necessarily with cognitive psychology itself. For example, it is questionable whether Dretske is a functionalist.

Before we proceed to analyse primordial intentionality within the framework provided by Dretske's philosophy of mind, we must elucidate the nature of primordial intentionality. In particular, it is important to clarify how it works in the explanation of behaviour, and how it is related to actions and propositional attitudes.

6.3.1 THE NATURE OF PRIMORDIAL INTENTIONALITY

It is common practice in philosophical psychology to assume that actions, as opposed to mere reflexes, are either caused by or performed on the basis of one or more intentional states that *represent* the world in a particular way for the agent, in combination with one or more intentional states that *motivate* the agent in a particular way. Beliefs are, of course, the paradigmatic examples of representational states, while desires are the paradigmatic examples of motivational states.

Expressed in the framework provided by John Searle, intentional states can have either a mind-to-world or a world-to-mind direction of fit. Beliefs normally have a

[183] As provided in Dretske, *Explaining Behaviour*.

mind-to-world direction of fit, deriving their condition of satisfaction from how well the mind "fits" the world. Therefore, when beliefs turn out to be false my beliefs are at fault, not the world. Desires, on the other hand, have a world-to-mind direction of fit. Desires derive their condition of satisfaction from how well the world "fits" the mind. Consequently when my desires turn out to be frustrated, the world is "at fault",[184] and not the desires.[185]

The peculiar thing about states of primordial intentionality is that they have both a mind-to-world *and* a world-to-mind direction of fit.[186] It should be rather uncontroversial that they have a mind-to-world direction of fit, since they contain information about which actions are possible in a given situation. Apprehended affordances are also motivational. They contain environmental invitations or demands for certain actions, they have a world-to-mind direction of fit. Since the term "representation" has been used to refer to cognitive states in this dissertation, I will avoid conceptual confusion by referring to the mind-to-world direction of fit of an affordance as its *indicative* content and the world-to-mind direction of fit as its *imperative* content.

Perhaps this point becomes clearer if we remind ourselves that the original German term for affordance is *Aufforderung*. A literal translation of *Aufforderung* means not only that an action is possible but that the agent is *invited* or *demanded* to perform it. Now, apprehending that an object affords something does not necessarily imply that an agent will attempt to realise that affordance. Right now, for example, I have a block of papers in front of me that I perceive to be "writeable". However, this does not mean that I am inclined to write anything on them; I am perfectly content to use the keyboard on a computer. Affordances are similar to desires in this respect as well since we are not necessarily attempting to satisfy all our desires either.

Merleau-Ponty saw this clearly; he used the notion of *motivation* to describe primordial intentionality. Motivation is a relationship between the agent and what is afforded by the environment[187] If the agent apprehends an affordance, the affordance exerts a pull on the agent; it invites certain physical actions, but not others. It motivates a specific action.

There are two kinds of affordances which we more or less always attempt to realise when we apprehend them. First, there are those affordances that have an

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[184] The world is "at fault" in the sense that it does not realise my desires. If my desires are unrealistic, those are at fault in a psychological sense.

[185] Searle, *Intentionality*, p 7f.

[186] The existence of intentional states with a dual direction of fit was originally discovered by Ruth Millikan, who coins these states "pushmi-pullyu representations". See Millikan, "Pushmi-Pullyu Representations", p 191.

[187] See Wrathall "Motives, Reasons and Causes", p 122. Merleau-Ponty's notion of motivation is originally borrowed from Edith Stein.

immediate bearing on our wellbeing. What I have in mind are objects or features of the environment which for example afford danger. Any normal human being would not only perceive certain objects as being dangerous, but also as something that one must avoid. Were I to encounter a bear, I would almost always attempt to steer clear of it. If I were to encounter an almost vertical downward slope, I would try to avoid it, and so on. It is important to point out that in some cases we form an explicit volition to act against our affordances, choosing not to obey their demand. Further, we may be engaged in a special kind of activity that demands a contrary affordance to be realised. This would be the case if we were to attempt to save someone from the bear. In such a case, the situation may demand that we encounter the bear face to face. However, unless we form an explicit desire to the contrary, or are engaged in a very special activity, these affordances are such that we always attempt to realise them.

There is a second subclass of affordances which we almost always attempt to realise. Given that we are engaged in a certain activity, or acting within the context of a particular practice, we tend to attempt to realise certain affordances, which, when acting within the context of a different practice, we would not attempt to realise. For example, if I am running away from someone and perceive a fence in my current path of running as jump-over-able, I will attempt to realise that affordance and jump over the fence. However, if I am out walking the dog and perceive that the same fence is jump-over-able, I will not try to jump over the fence

Given the particular practice an agent has chosen to engage in, it is normal to perform certain actions that the environment affords, but not others. If the agent is engaged in a specific practice in which those affordances make sense, and if there are no other affordances that make more sense, the agent will attempt to perform the action which is demanded by the affordance. This is not to say that the agent always obeys these affordances, but in the cases where they are not obeyed, it is not because the affordance lacks imperative content, but rather because it is overruled by a mental state with a higher-order world-to-mind direction of fit. When we act against the wishes of the body schema, we are, so to speak, no longer acting with the body schema, we are no longer on autopilot; we have to force ourselves into performing the action.

We could perhaps elucidate this a bit further by distinguishing between affordances that *demand* actions and affordances that *invite* actions. Whether an affordance will have a demand-character or an invite-character depends on the nature of your body schema and on the kind of activity that you engage in. Given the particular activity that you are engaged in and the specific makeup of your body schema, some affordances in a specific situation will demand that they be realised. If you are running after a quickly moving target, the quickest path toward the target will normally "demand-afford" running. Other affordances merely issue invitations

for realisations. On the other hand, if you are not running after the target, the path that "follows" the target will obviously not "demand-afford" running, but merely "invite-afford" running.

Again, this is not to say that invitations are never acted upon. While I sit at my desk writing this thesis, the teacup on my left side invites drinking. Sometimes I fall for the temptation, grab it and drink. However, there is nothing within the context of writing a thesis that assigns a demand-character to drinking the tea. In short, agents *may* attempt to realise invite-affordances but, in normal circumstances, they *will* attempt to realise demand-affordances.

Against this background, it is possible to elucidate the relation between cognitive and primordial intentionality further. I have argued that when we are acting by means of the body schema, beliefs and desires do not direct our actions. This account appears to be counterintuitive in two ways. First, it allows for the possibility that we may perform actions which we do not desire to perform and which are involuntary in some sense. Second, in some cases, it seems counterintuitive to suppose that our action does not correspond to a certain desire.

At one level, this problem is illusory. A decision to use the body schema in a particular context is normally volitional. Thus, I decide to take a walk, but I do not decide in a cognitive sense to keep moving my legs. That this does not require a separate desire is demonstrated by the case with people with phantom-limbs. They can attempt to rely on a phantom-limb when walking, even though they have an explicit desire not to rely on it. This is simply the kind of action that is normal to perform in the context of the activity the agent has chosen. She decides *to use* the body schema in the context of a particular activity, but not *how* the body schema should be used. In some cases, the activities performed by means of the body schema may even conflict with some of her desires, since the body schema functions, at least partially, independently of her propositional attitudes. A person with a phantom limb may have a desire not to rely on the phantom limb. However, in the course of an activity in which he has to rely on his body schema, which has not been retrained after the accident, he may well come to rely on the phantom limb for support and, as a result, fail in his activity.

Now, this is not to say that there are no propositional attitudes involved in explaining why an agent does something. A desire, in the proper sense of the word, is required to get involved in the activity in the first place. This does not mean, however, that there is a desire corresponding to everything that the agent does within the context of the practice. The fact that there is a desire involved in actually wanting to play a match of football does not mean that there is a desire involved whenever the player does one thing rather than another in the context of the match.

Against this background, it is possible to explain the intuition we have when we attribute beliefs and desires to the agent in the context of a specific habitual behaviour as well as to explain the fact that we are often able to predict what action the agent will perform in the context of his current activity. An explanation of a given action that has been performed should not always be couched in terms of the particular propositional attitudes held by the agent. On the contrary, we should often explain the action in terms of the fact that in the context of her current activity, the affordances of the perceived environment demanded that she performed the particular action in question.

The proper place in psychological explanation for propositional attitudes lies primarily in explaining why an agent is engaged in a practice in the first place. However, propositional attitudes can also function as correction-mechanisms in certain circumstances and can explain individual actions in the context of a practice. For example, this may be the case whenever we encounter something that surprises us and requires us to reflect on our activity. Or it might be the case when we are about to do something important if there is no given course of action available and when the stakes are so high that we are fearful of letting go. In these cases, though, the action is not a result of our body schematic activity.

My argument in this section has been that an agent's propositional attitudes can explain why an agent is engaged in a particular activity, while the nature of his body schema can explain why the agent does what he does within the context of his activity. Perhaps we could expand on this a bit by pointing out that actions are motivationally nested within each other. Performing an action normally means that you pursue an end, the pursuit of which requires that you perform other actions, the ends of which are merely a means for your pursuit of the end of the action in which the action is nested. Of course, actions nested within other actions may have other actions nested within them, and so on. Pursuing goals such as running for president or writing a dissertation require the agent to perform actions at many different levels. Indeed, they may even require one to play football for the sake of convincing voters how folksy you are. Whenever we perform an action, unless it is an action of the lowest order, there will be a number of *ways* of performing the action. These ways of performing an action are lower-order actions.

Explaining an individual's intelligent behaviour normally requires reference to two distinct kinds of intentional states, states that represent (or indicate) that the world is in a specific way and states that motivate the agent to pursue an end. When we give reasons for why an agent performs a particular action not nested within a "higher-order" action, we normally refer to representational and motivational states; we refer to a particular set of beliefs and desires of the agent. For example, if we want to explain why someone is writing a dissertation, we normally refer to the beliefs and desires of the author.

Actions nested at the lowest possible level, however, are not normally performed on the basis of reasons, but according to the body schema. Taking a stand on a hot political issue, for example, may require that you write down your thoughts on the matter on a computer. As we have seen, typing is something done by means of the body schema. The body schema can perform intelligent actions, precisely because its actions can be explained by reference to intentional states with indicative content and intentional states with imperative content. Only in this case, the intentional state in question, viz. primordial intentionality or intending the affordances of the environment, has a dual nature of fit. It has an indicative as well as an imperative content. Moreover, the nature of the affordances will depend upon the action at the next higher level, given that the affordances get their specific demand- or invite-character depending upon which activity the agent is involved in.

It is important to note that whether an action is performed for reasons or by means of the body schema varies from case to case and from individual to individual. An action performed for reasons in one context may be performed by the body schema in another context. When you are out walking and encounter a puddle of water, you may automatically jump over the water. In this case, you walk along a specific path for a specific reason and the *way* you do this is to jump over the water by means of your body schema. However, you may encounter the same puddle of water and pause to reflect on whether you should jump over it or not. In this case, jumping over the puddle of water is done for a reason. In some rare cases, it could also be that your body schema receives feedback from your capacity for practical reasoning. The body schema may be sensitive to feedback from cognition and practical reasoning to some extent, even though it is not reducible to it and functions independently of it in other contexts. For example, we know that you can change the nature of your body schema by monitoring its operations. The distinction between deciding to do something and the way it is done may in some cases be hard to draw.[188]

Given the above reasoning, what kind of intentionality is primordial intentionality? It is an intentionality which is, "in the first place not a matter of 'I think' but of 'I can'". (PoP, p 137) I have argued that primordially intending something means that one's body schema is prepared to act in relation to features of the environment. It is a latent readiness for action. To primordially perceive that

[188] Jacob and Jeannerod for example, argue that physical actions which involve an interaction with objects with complex sizes and shapes, can only occur if the dorsal stream of the brain's visual system (which is undamaged in the case of D.F. and normally conceived of as furnishing information for action) works together with the ventral stream of that system (which is damaged in the case of D. F.) and which is normally conceived of as furnishing information for the areas of the brain which realise conscious and cognitive processes. See Jacob and Jeannerod, *Ways of Seeing*, p 88. This could be explicated as though primordial perception were fed information from normal visual processes. But it might also be that primordial perception supervenes on both the dorsal and the ventral stream.

a fence affords jumping over entails being physically prepared to jump over the fence. It is a latent simulation of the required action.

To primordially intend something requires embodied knowledge. A movement can only be learned, "when the body has understood it, that is, when it has incorporated it into its 'world', and to move one's body is to aim at things through it; it is to allow oneself to respond to their call". (PoP, p 139) To have a specific bodily space is to be able to perform certain movements in a specific situation. It is to possess a skill which relies on embodied information. Further, to primordially intend something is essentially to do, or to be ready to do, something meaningful with your body by relying on embodied knowledge. It is not possession of propositional knowledge of how to perform the required movements.

6.3.2 TRIGGERING AND STRUCTURING CAUSES

According to Dretske's theory of behavioural explanations, there are two specific ways to explain an event. We can explain it either by recourse to its triggering event or to what structured the causal process. The *triggering cause* explains why the event occurs here and now, whereas the *structuring cause* explains why the causal process has the particular structure that it has.[189]

Dretske exemplifies this point by describing the case of Clyde, who perceives that the queen enters the room and subsequently rises in order to greet her. Now, what triggers Clyde's action of standing up and greeting the queen is that he perceives that the queen enters the room. However, the structuring cause of Clyde's action is quite obviously different. He rises because he has some particular reasons for rising whenever he perceives a queen – presumably, he has a desire to show respect for a queen, or some similar reason. Dretske's conclusion is that when we attempt to explain behaviour in terms of an agent's reasons, we are looking for a structuring cause.[190] What matters in this context is that intentional states cause behaviour qua structuring causes, not qua triggering causes. So what we have to demonstrate is that states of primordial intentionality function as structuring causes.

The body schema can hardly be analysed as only enabling the triggering cause of behaviour. The body schema does not function according to any simple stimulus-reflex schema.[191] Indeed, in some cases the body schema functions without any stimulus at all. This is the case with the skilled typist. She does not need any

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[189] Dretske, *Explaining Behaviour*,p 42.

[190] Ibid., p 42ff and p 50.

[191] A reflex is here conceived of as a response that invariably follows upon a specific stimulus. For Merleau-Ponty's view of reflexes, see Merleau-Ponty, *The Structure of Behavior*, ch 1.

particular visual information in order to type on a keyboard. This kind of example may indicate that some actions lack a triggering cause, or that propositional attitudes can function as such. In the latter case, her desire to express a certain thought in words is the triggering cause, the reason she presses the keys here and now.

Why does the typist press certain keys in the particular order that she does? Why does the triggering cause have the particular effect that it does on her fingers? Clearly, propositional attitudes are not the (only) structuring cause, since her embodied knowledge of the location of the keys is cognitively inaccessible. Therefore, in this case, primordial intentionality is the structuring cause of her finger's movements. It is her apprehension of the affordances of the keyboard that structure the causal process leading from a desire to express a thought to the pressing of a particular key.

In a way, the structuring causes of habitual actions are both propositional attitudes and states of primordial intentionality. Propositional attitudes explain why we engage in a particular activity and, hence they have an indirect effect on the nature of the affordances. But they cannot explain why we apprehend these affordances in the first place, or why they have the particular nature that they do.

If two individuals with different body schemas are in the same situation, and have the same propositional attitudes, they may perform different actions. This is because the environment may afford different actions for each of them due to their different body schemas. Accordingly, since they have different states of primordial intentionality, they may perform different actions.

Let us take a concrete example in order to show how the analysis works. You are out running when you suddenly discover that a tree is lying across the road. You chose to jump over it at its lowest position – where it is lying one metre above the road. Why do you do that? Obviously, the triggering cause is that you perceive that the tree has cut off the road in such a way that you cannot continue running. The structuring cause is two-fold. First, your propositional attitudes explain why you are out running in the first place: you want to stay in shape; you had to run now, because you will get a visitor in the afternoon, and so on.

But your propositional attitudes cannot explain why you jump over the tree rather than climb over it or walk around it. Another person with the same propositional attitudes might have acted differently in this situation. This is because the structuring cause of your jumping over the tree is that you perceived the tree as jump-over-able. Another person, with a different body schema, might not have perceived the tree as jump-over-able and would consequently have chosen a different course of action. Alternatively, she might have "valued" the situation differently. Her affordance may not have the same "imperative value" as yours, since her body schema has come to "prefer" not to jump in such situations, though

she perceives the tree is jump-over-able just as you do. Therefore, your states of primordial intentionality are the structuring causes of your action in these kinds of cases.

It is important to note that while the (apprehended) affordances are the structuring causes of the physical action, your propositional attitudes are often, along with the nature of your body schema, structuring causes of your states of primordial intentionality, since they explain why you are engaged in a specific kind of activity. The kind of activity that you are engaged in, along with the makeup of your body schema and the perceived situation, explain what you will perceive that the environment affords. But they are only indirectly, or in a derivative sense, structuring your response. To use Dretske's original terminology, the structuring cause is your primordial intentionality.

6.3.3 HOW THE SEMANTICS OF A STATE CAN HAVE CAUSAL POWER

According to most philosophers – Dretske is one of them – intentional states exhibit three critical features. First, an intentional state is about some (other) state of affairs. It has an intentional object. For example, I can perceive my mother, have beliefs about her whereabouts or have desires for her wellbeing, and so on. This is not to say that the intentional object necessarily exists; I can think about unicorns, though no such entities exist.[192]

Secondly, the intentional object is presented as being in a specific way. For example, my mother is usually apprehended by me as being my mother, and not as being the daughter of my grandparents. Thirdly, an intentional state is semantically evaluable. My belief that Montevideo is the capital of Uruguay may be true or false. My perception that the grass is long may be veridical or not. My desire for having a holiday in Uruguay next year may be fulfilled or frustrated.

It is important to note that primordial intentionality exhibits all three features. Primordial intentionality has a specific object that is presented in a specific way. The intentional object or objects are the object(s) that the body schema is prepared to act in relation to, within the context of a particular situation. Note that these objects are presented in a specific way in the act of primordial intentionality. They are presented as having specific agent-relative properties, as affording certain physical actions.

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[192] How we should account for this feature of intentionality is obviously a very tricky philosophical problem, but not one that needs to be solved in this dissertation. The thesis defended here is not committed to any particular solution of the problem.

Moreover, states of primordial intentionality are semantically evaluable. Their intended object or objects may turn out not to exist, or may turn out not to have the properties they are apprehended as having. They can also turn out to be correct, in which case, the object is as it is presented in the act. In this sense, states of primordial intentionality are no different from normal perceptual states. You can erroneously primordially perceive that there is ice over the river and you can erroneously apprehend the ice as being walkable. But you may also be right. Needless to say, states of primordial intentionality are also evaluable with regards to their imperative content. If you attempt to realise an affordance, you may or may not succeed in doing so. In either case, states of primordial intentionality are semantically evaluable.

We are not home yet, though. According to Dretske, a representational state[193] is an intentional state only if representation is an intrinsic function of the state. For example, the width of a growth ring in a tree represents the amount of rainfall in the year corresponding to the ring. But the *function* of the width of a ring is hardly to represent anything about rainfall; hence, the width is certainly not an intentional state.

It is also important to point out that it has to be an *intrinsic* function of the state to represent something, in order for it to be an intentional state. A thermometer, for example, certainly represents the temperature for its users. But it can only represent the temperature *for* someone who is not the thermometer. It is not an *intrinsic* function of the thermometer to represent the temperature. To the contrary – it is a function that has been *assigned* to it by its users.

Intentional states, or "natural systems of representation" as Dretske coins them in order to distinguish them from other systems of representation, do not have their function assigned to them by others. Their function is derived "from the way the indicators are developed and used *by the system of which they are a part*".[194] This is crucial because the representations would not be intentional states, were they not employed in the right way by the organism of which they are a part. According to Dretske, it is only by having a specific causal role that a state is an intentional state. If intentional states were causally inert, "one may as well not have a mind".[195]

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[193] And now we are using the term "representation" in its most ordinary usage. A representation in Dretske's sense of the term is not a mental representation in the Fodorian sense, nor is it intrinsically connected to representational content, even though Dretske himself may believe that this follows from his theory.

[194] Dretske, *Explaining Behavior*, p 62.

[195] Ibid., p 80. Needless to say, this statement is far from uncontroversial. I do not intend to challenge the assumption, though; the point of this analysis is not to endorse Dretske's position, but to show that there is a primordial intentionality even according to the standard set by one of the best naturalistic accounts of intentionality around.

Therefore, if a representational state is to qualify as an intentional state, it has to have causal powers. However, only specific kinds of causal powers will do. Some representational states of affairs and processes manage to be causally efficient without their being so in virtue of being representational states. This is for example the case with the opera singer who manages to shatter a wine glass with her voice. In this case, a representational state shatters glass, but it is not in virtue of being a representational state, that her voice shatters the glass.

An intentional state, according to Dretske, is a representational state which has causal powers *in virtue* of representing something. If C is a representational state, M the causal effect of C, and F what C represents, then C is an intentional state iff C causes M in virtue of representing F. Thus, the representational relation is not causally inert, but has a significant explanatorily relevance.[196]

Intentional states exert some kind of control over physical actions. But not any kind of control relation will do since it has to be in virtue of *representing* something that the state has control. As a consequence, evolutionary explanations are ruled out. If C causes M in virtue of representing F, C cannot have been selected to cause M. This is true because in the latter case, C, while still representing F, causes M in virtue of being *selected* for this causal role, and not in virtue of *representing* F. The fact that C represents F has no causal efficacy in this case, since C is genetically pre-programmed to cause M. [197]

The right kind of control mechanisms are to be found in places where learning occurs; where representational states shape and acquire control over motor output. It is only when a representational state gradually acquires control over a certain motor output, because of *what it represents*, that the right kind of causal mechanism is present. It is only then that the state has causal powers in virtue of what it represents.[198]

Dretske illustrates his thought with a rather simple model of stimulus and reward learning. If an animal does M when F obtains, the animal can get a certain kind of reward. The animal learns this gradually over time. If C represents F for the animal, C will come to cause M when the right conditions obtain. However, C is not pre-programmed to cause M; on the contrary, C causes M *because the animal has learned* that F brings a certain reward and C represents F. Therefore, it is in virtue of representing F that C causes M.[199]

It is important to point out that C doesn't always cause M in this schema. My belief that there is bread on the table doesn't always cause me to grab it and start eating it. I would only do that if I were hungry. In a similar way, C only causes M if

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[196] Ibid., p 83ff.

[197] Ibid., p 95.

[198] Ibid., p 101.

[199] Ibid., p 99ff.

the right kind of motivational state is present. In other words, a motivational state, D, causes M together with a representational state, C. But the motivation is not a motivation for producing *the specific movement* performed but for producing *any movement that effects satisfaction of some need*, N. What is important is that D causes M (if C represents F) *because* M tends to yield N. In other words, the fact that D is satisfied by N explains why D causes M; the semantics of the motivational state explains the causal efficacy of D.[200]

One important consequence of Dretske's argument is that, just as in the case of representational states motivational states selected by evolution to produce a certain movement do not qualify as intentional states. In this case, their causal efficacy is not explained by the fact that they are satisfied by the effect of the movement. Consider an animal which has been displaced from its natural habitat. In this habitat, M will no longer lead to N. If the motivational state has been selected to cause M (if C represents F) then it will continue to cause M because it is genetically pre-programmed to do so.[201]

Dretske draws the same conclusion for motivational states as for representational states. In order for them to be genuinely intentional, they have to by modifiable by learning. In order for D to be an intentional state, the animal must be able to learn that if M no longer results in N when the animal is in state C, then M should no longer be produced. For it is only then that M is *caused* by the fact that D is satisfied by N.[202]

To sum up: According to Dretske, there are two kinds of intentional states, representational and motivational states; together, these cause physical actions. They have causal powers by virtue of their semantic relations. And this is so, because their causal power is dependent upon what the animal learns about its environment.[203]

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[200] Ibid., p 125.

[201] Ibid.

[202] Ibid.

[203] Crudely put, the upshot of Dretske's theory is that a state of affairs, F, (such as the queen's entering the room) causally triggers an internal state, C, which represents F and causally triggers a movement (Clyde stands up). But the relationship that C represents F does not trigger M. So, it is not in virtue of being an intentional state that C triggers M. The fact that C represents F is the *structural* cause of C triggering M. Not all philosophers are content with this. They want intentional states to have causal powers *here and now*. Thus, on their account, C representing F should *trigger* M. Terence Horgan for example, has tried to modify Dretske's account in this direction by claiming that the semantic property of C indicating F can have causal powers here and now. C is qua intentional state *counterfactually* related to M since in the absence of C indicating F, M would not have occurred. In other words, Horgan claims that we can avoid Dretske's conclusion if we employ a more adequate concept of causation. If Horgan's account of causality is correct, the intentional properties of a state, can by implication have causal powers here and now. See Horgan, "Actions, Reasons and the Explanatory Role of Content", p 89ff. Horgan's revisions are important if you are a functionalist and want to retain the gist of Dretske's

However, is primordial intentionality a kind of intentionality if Dretske's theory is correct? I would argue that it is. We have seen that states of primordial intentionality have both directions of fit. An affordance has both indicative and imperative content. To use Dretske's terminology, a state of primordial intentionality is both a "representational" and a "motivational" state.

On the other hand, do states of primordial intentionality have the right kind of causal efficacy? Do they cause actions in virtue of their semantic relations? Well, if the criterion is that they have to be modifiable by learning, the answer is yes. As has been stressed, the body schema is plastic. What the environment affords us depends upon a complex interplay between our body schema and the environment. We continually learn what kinds of physical actions are possible in certain circumstances. Sometimes a habitual action in a given circumstance fails to produce its expected effect. If this starts a trend, we will stop performing that action in that circumstance. If I suddenly learn that I am no longer able to jump one metre high, I will obviously stop trying to do it, even if I have circumvented obstacles in that way before. Similarly, I may discover that I am able to do something that I have not been able to do before and start a trend by responding to certain situations by performing that action. Again, the body schema is plastic, affordances are modifiable by learning and states of primordial intentionality are states of intentionality, according to Dretske's criteria.[204]

Strictly speaking, primordial intentional states may cease to be generated during learning rather than lose their causal powers. Consider an affordance such as being jump-over-able. If an environmental object normally is apprehended as jump-over-able by an agent, and an agent gradually loses the capacity to jump over the object, then the intended affordance will not only lose its causal power, it will cease to be generated, since the object will no longer afford being jump-over-able. Conversely, if an agent gradually learns that an object in a certain environment *is* jump-over-able, then he will gradually start to apprehend the object as jump-over-able. Rather than describing this as a case in which an intentional state gradually acquires control, we should describe it as a case in which an intentional state will gradually

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theory. As Robert Cummins has argued, Dretske's theory flies in the face of the functionalistic assumption that a mental and a physical state can have the same causal role. See Cummins, "The Role of Mental Meaning in Psychological Explanation", p 107f. It is important to point out that nothing in the present discussion presupposes a particular outcome of this discussion. If Horgan is right, then primordial intentionality is a triggering cause *in the same way* as propositional attitudes. Whatever the outcome may be, primordial intentionality remains an intentionality of its own.

[204] One problematic consequence of this is that there are no innate reasons or intentional states with causal efficacy. If this is correct, it is doubtful if the much discussed innate capacity for imitation can be given an intentional explanation. Since even very young infants can learn to modify their imitations; however, I think it is fair to claim that even according to Dretske's criteria, most imitations can be given an intentional explanation.

start to be generated under certain circumstances since the object was not apprehended as affording jump-over-ability before.

Note that an affordance is able to change causal power and retain its existence, if what is changed is its world-to-mind direction of fit. We may learn that, in certain circumstances, realising some affordances is more advantageous than realising others if we want to reach a particular goal. In these cases, we will still apprehend the affordance, even if its imperative content has changed relative to other affordances. Thus, an affordance may go from demanding an action in certain contexts to inviting an action in the same context, or, as the case may be, the affordance may go from having invitational character to having demanding character.

Dretske has presented what might be construed as an argument against my contention that the body schema has an intentionality of its own. According to him, the *way* that a certain action is performed is not caused by intentional states. Sometimes a specific action may be produced by *this* movement, but another time the same action may be produced by *that* movement. This is not something that requires an intentional explanation.

In a way, I believe that he is right; it does not matter *how* you jump over the fence. However, in another sense, it does matter; in some cases, the affordance specifies that the fence is jump-over-able in this way, but not in that way. In such a case, the way we do something should figure in an intentional explanation. Even here, there is probably room for manoeuvring; jumping over a fence in *this* way, for example with the left leg first, could presumably be done using several different sequences of movements.

Note here that almost all actions are nested within larger contexts. Writing a thesis on intersubjectivity is one possible way of realising a desire to get a PhD; there are certainly other ways open. But this doesn't mean that my writing the thesis *in a specific way* cannot be explained in intentional terms. It can. There are several different ways of writing a thesis. Performing an action almost always requires that you perform certain lower-order actions. The lower-order actions you perform determine in what *way* you perform higher-order actions. Therefore, doing something in a specific way almost always requires that you perform lower-order actions. There is no clear-cut difference between performing actions and performing actions in a specific way.

Needless to say, we will reach a level at some point where we are unable to give intentional explanations for the way that an action is produced. We will have to be content with noting that an action is produced in a specific way and that this way cannot be explained in intentional terms because the action cannot be broken down into other actions. But there is nothing that prescribes that the lowest possible level for intentional explanation has to be found at the level of cognitive intentionality. It

is possible to identify intentional states at a lower level than the cognitive one; it can be done at the primordial level.[205]

6.3.4 EXCURSUS: A COMPARISON WITH THE THEORY PROPOSED BY JACOB AND JEANNEROD

It may be useful to compare my theory with a similar theory proposed by Jacob and Jeannerod in an important work. They argue, as I do, that there is a separate kind of intentionality involved in physical agency. According to Jacob and Jeannerod, physical agency can be explained within a framework of "visuomotor representations", "motor intentions" and "action representations".

Visuomotor representations provide relevant information about the surrounding environment for generating physical action. This information is then fed to the motor intentions. According to Jacob and Jeannerod, these are intentions-in-actions in the sense described by Searle. When an individual forms an intention-in-action, he retrieves a motor schema, a rule prescribing the relevant movement formulas for the action in question.[206]

On the face of it, a visuomotor representation resembles a state of primordial intentionality. For example, we are told that Gibson's notion of affordance is an "ancestor" to the notion of visuomotor representation.[207] Moreover, a visuomotor representation has a hybrid direction of fit.[208] But there are important dissimilarities.

First, my theory, unlike the theory proposed by Jacob and Jeannerod, is presented in a framework of body schema and action-practices. Second, an affordance is an amodal intentional state according to my account, while Jacob and Jeannerod claim that visuomotor representations are visual.[209] Third, a state of primordial intentionality is an intentional state. It is unlike visuomotor representations not an intention.

Fourth, an affordance is a dynamic notion according to Gibson's account as well as my own. Apprehending an affordance involves apprehending which actions are possible and which actions are invited, or demanded, by the surrounding

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[205] One problem which I shall abstain from discussing is the question of exactly where explanations couched in terms from cognitive psychology end and explanations couched in terms of primordial intentionality start, i. e. where the boundary between cognitive intentionality and primordial intentionality lies. I am quite content to note that there is such a boundary.

[206] See Jacob and Jeannerod, *Ways of Seeing*, p 217.

[207] Ibid., p 182.

[208] Ibid., p 204.

[209] Ibid., p xiii.

environment. Even though Jacob and Jeannerod compare their theory to Gibson's and claim that a visuomotor representation has a dual direction of fit, it is difficult to see that they can corroborate this claim. According to Jacob and Jeannerod, a visuomotor representation is not a representation of the *action* that is afforded by the environment, but of the *target* of the action. The target of the action is presented within an egocentrical spatial framework through a visuomotor representation. Therefore, a visuomotor representation provides information about visually presented features such as distance, size and shape of objects, coded in egocentric coordinates.[210] It presents visual information for *computing* which motor intentions are possible, but not information about which actions in fact *are* possible.[211]

In addition, Jacob and Jeannerod's claim that visuomotor representations have a dual direction of fit is also somewhat hard to comprehend. They seem to mean that this is because in performing an action, visuomotor representations represent the target of the action, whereas motor intentions represent the bodily movements for performing the action. The target of the action here is apparently conceived of as the object one *interacts* with, not as the (not yet existing) *state of affairs* that is the goal of the action. The latter is clearly not *visually* represented before the action.[212] Moreover, Jacob and Jeannerod claim that visuomotor representations have a world-to-mind direction of fit but not a mind-to-world direction of causation. In the latter respect, they are clearly separated from both the account defended by me and the account defended by Gibson. On the contrary, we are told that visuomotor representations are caused by what they represent.[213] Clearly, a state of affairs that does not exist, but is only demanded of by the environment cannot cause its own representation. For it does not exist and cannot have any causal powers. Thus, what Jacob and Jeannerod must mean is that it is the object that the agent is interacting with is represented in the visuomotor representation. Clearly, that does not make the state have a hybrid direction of fit.

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[210] Ibid., p 195.

[211] Ibid., p xiv, p 202.

[212] Unless, of course, Jacob and Jeannerod means that one forms a visual image of how one would like the end-state to be. But in this case, the theory seems to be simply wrong. I certainly do not need to entertain any images of myself walking to the kitchen in order to do so.

[213] Jacob and Jeannerod, *Ways of Seeing*, p 203f.

7. The Irreducibility of Primordial Intentionality

If the argument in the preceding chapter is correct, primordial intentionality is something quite different from cognitive intentionality. This entails that the generic theory theory must be erroneous. It is possible to save some version of the theory theory, however, by claiming that the theorising which it postulates occurs at a subpersonal level. The only theory on the market which attempts to explain primordial intentionality in terms of rule-following, rather than in terms of an irreducible component of know-how, is homuncular functionalism. We encountered homuncular functionalism in chapter four. This chapter presents two arguments to the effect that homuncular functionalism is erroneous. If these arguments are correct, then not even this version of the theory theory can be true.

My argument will once again be Merleau-Pontyian in spirit. It is possible to construe an argument based on Merleau-Ponty's philosophy that puts the homuncular functionalist in severe jeopardy and perhaps even shows his position to be incoherent.

7.1 The First Argument against Homuncular Functionalism

The first argument against homuncular functionalism concerns the nature of habitual actions. As we have seen, it is easy for Merleau-Ponty to describe this in terms of the body schema since performing habitual actions is the function of the body schema. According to the Merleau-Pontyian account, the difference between abstract and concrete movements is the difference between movements that can be explained by recourse to propositional attitudes or rule-following and movements that can only be explained by recourse to the body schema. However, such an account is not permitted the homuncular functionalist who has to explain both abstract and concrete movements in terms of rule-following and thereby risks blurring the distinction between the two.

As far as I know, the distinction between concrete and abstract movements has not been addressed by any homuncular functionalist, so any account of how they would construe the distinction has to be somewhat speculative.[214] Presumably, they would claim that the difference concerns the nature of the representations that are being computed.

Now, if concrete movements are to be explained in terms of rule-following, this rule must contain information down to how each muscle should move in the given situation. A person who is learning to walk would acquire one ideal rule for how he should walk straight forward on a horizontal surface. By implication, when he is learning to climb stairs, he must learn a different formula. If he does not possess the formula for the performance of the required movement, according to this account, he will be unable to perform the movement habitually.

Merleau-Ponty's argument is directed against the position that grasping a specific habit is tantamount to grasping that specific formula, which is the ideal outline of the habit in question. He does not deny that acquiring the capacity for habitually performing an action is to grasp a specific significance. However, he claims that this "is the motor grasping of a motor significance". (PoP, p 143) The argument is roughly that no ideal formula can be found for a specific habit. It is wrong to construe knowledge of motor significance in terms of the knowledge of a specific rule:

> The situations may differ widely from case to case, and the response movements may be entrusted sometimes to one operative organ, sometimes to another, both situations and responses in the various cases having in common not so much a partial identity of elements as a shared meaning. (PoP, p 142)

Merleau-Ponty's general point is that when the same skill or bodily habit is expressed in several different contexts, the specific sequence of movements may vary so widely from context to context that one ideal formula could not be applicable to all the actions that are made possible by the habit.

I believe that it is possible to construe an argument based on this general idea that demonstrates that homuncular functionalism is incoherent, since there is no way that it can give a plausible explanation of the difference between habitual and non-habitual actions. In order for this argument to work, two assumptions must be made. The first assumption is expressed here:

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[214] For a different kind of argument, the effect of which is that cognitive science cannot distinguish between concrete and abstract movements, see Kelly, *The Relevance of Phenomenology to the Philosophy of Language and Mind*, p 153ff.

> (hab1) The possession of a specific habitual ability implies the ability to habitually perform actions that, on a homuncular account of action, would require the processing of different sets of representations in different contexts.

Thus, the acquisition of a specific habit means that the chief librarian over at the action control faculty acquires several sets of formulas that can be executed according to the circumstances at hand.

The first assumption's truth is quite clear. Consider the knowledge that a normal runner has. Such a person is perfectly able to run in several different types of terrain. Sometimes, he runs on a flat surface, in other cases on a sloping one. In some cases, the surface is level, in others it is uneven and covered with objects such as stones or tree-roots that make running difficult. Moreover, the runner is usually able to alter his speed depending on the condition of the surrounding terrain as well as his own physical condition and desires.

Hence, being able to run requires the capacity to perform a wide variety of physical movements as well as knowledge of what kind of movement should be performed in a particular situation. Running on a flat surface requires different movements than running on a slope; running on a flat, level surface requires movements different from running on a flat uneven surface; running fast on a flat, level surface requires movements different from running slowly on a flat, level surface, etc. The point is that a complete physical description of running would vary widely from case to case. By implication, knowing how to run would require the possession of a wide variety of representations of physical movements, according to the homuncular account.

The second assumption states:

> (hab2) The possession of a specific ability to perform habitual movements implies that the subject should habitually be able to perform some movements that he has never performed before.

In other words, possessing an ability to act habitually implies the ability to perform novel movements. Assuming that homuncular functionalism is true, this means that you should also be able to perform a movement even if the particular formula which controls that movement has never been used before.

It is clear that the second assumption is warranted. Consider our ability to ride a bicycle, for example. Once we have become skilled cyclists, we are able to cope with environments and contexts that we have not been specifically trained to cope with. These contexts may be trivial and encountered in everyday situations. Let us assume that you are cycling downwards along a narrow cycleway that you have not

previously ridden through and that there is a sharp curve. In the curve you suddenly encounter another cyclist who is going up the road. Behind him, you see a second cyclist, who is also going up the road.

What should you do? Under normal circumstances this should be unproblematic. In fact, I doubt that you would need to attend to the situation at all. You just do what is required of you in the situation. In some cases, you cycle easily by the other bicyclists; in other cases, it would require some effort. In yet other cases, you would need to stop and walk in order to avoid a collision. However, and this is the point, your response to it might be realised in any number of ways. As a consequence, the representations which, according to the homuncular functionalist, are being computed would have to differ from case to case. How steep is the road? How sharp is the curve? How narrow is the road? At what speed are the other cyclists travelling? How far behind the first cyclist is the second? There are numerous factors to consider. Presumably, you would manage fine in most of the possible circumstances, even if you had never before encountered that particular situation. If this is so, the second assumption is met as well.

Can the homuncular functionalist afford to accept this conclusion? If he does, he will have accepted the notion that it is possible to learn how to perform a specific movement in a specific situation and that that movement should be performed in that particular situation, even though the situation has never before been encountered. That seems to run counter to the homuncular explanation of habitual movements as presented earlier.

At this point, the homuncular functionalist has only one way to go. He must claim that even though a particular action in a particular context has never before been performed, the properties of the context and of the action required have been encountered before. In other words, he must invoke some "compositional" capacity of the action control faculty and claim that the mental representation that underlies the action is in some sense analysable into primitive mental representations with which he is familiar. Thus, it would not matter that the particular situation had never before been encountered, since it is sufficient for the subject to have encountered and mastered each factor in the situation in order to be able to cope with the situation.

The trouble with this is that, unless it is restrained, any such "principle of compositionality" implies that the subject possesses the capacity to perform some actions that he certainly is not able to perform. Consider the case of the bicyclist encountered above. Let us assume that he is used to cycling at high speeds and that he is good at it. Does that mean that he would manage well in the situation at hand at a high speed? Clearly it does not, because he need not possess the necessary skill to handle all realisations of the imagined situation at high speeds. He would clearly manage some, but not all of them. However, if the principle of compositionality is

anything to go by, he should have no problem in doing so. The point is that if a situation requires an agent to do x, y and z, the agent could fail in such a situation even if he is clearly able to do x, y and z respectively.

At this point, the homuncular functionalist might attempt to save the day by claiming that the action control centre is smart in another way. In fact, it should be smart enough to devise general rules on the basis of a few particular cases that are applicable to a wider range of cases.[215] Thus, the action control centre would be aware that even though it could do x, y and z, it is also aware of the fact that it could not do x, y and z in combination.

Now, it is probably logically possible to construe a general principle for any given specific habitual ability such that it could inform the action control centre what to do in a specific circumstance, even if that particular circumstance has not been encountered before. However, I shall argue that it is implausible that it works that way because the distinction between habitual and non-habitual actions cannot be respected in such an account. Any such general principle has to have the nature of a hypothetical imperative such as, "if you are in circumstance x, do y". The antecedent here includes variables that specify the properties of the context. The consequent specifies which movements are to be executed.

The trouble is that any such rule will be hopelessly complicated. A football player who is about to pass the ball, would have to be able to take into account the position, speed, direction, size (!) and various physical and technical capacities of an unspecified number of his team mates and opponents, as well as the position, speed and direction of the ball. Not only must the rule be applicable to a very large number of cases, it must also be able to account for unforeseen events – what do you do if a bird suddenly lands one meter from your feet? In addition, as indicated above, the rule must also be able to generate new movements that have not been executed before. Further, it should be restricted so that it doesn't generate too many new types of movements and thus blurs the distinction between habitual and non-habitual movements. It is difficult to see how it could be restricted to suit these needs.[216]

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[215] I owe this suggestion to Alexander Almér, Susanna Andersson and Jonas Axelsson.

[216] Another problem is that it appears as though any version of homuncular functionalism would have to assume that there is a central system that is responsible for processing spatial information. Were this not so, the action control centre would be unable to calculate the correct movement, since it would not be able to fill the open variables of the rule. The trouble with this assumption is that it is probably false. Consider once again the case of typewriting. If you ask a typist to attempt to write with his left hand on the right side of the keyboard and vice versa, he is lost because he no longer knows where the keys are. He can no longer write habitually. In other words, his knowledge of the whereabouts of the keys is specifically located in the hands as they are placed on the keyboard, rather than with the chief-librarian of the action control faculty, or even with his sub lieutenant in charge of

If my argument is correct, the principle of compositionality must be restrained in some way to make it applicable only in the relevant situations. If homuncular functionalism cannot explain skills with recourse to the compositionality of representations, it is highly doubtful if skills can be explained at all in such a framework.

7.2 The Second Argument against Homuncular Functionalism

The second argument consists of two steps. The first step shows that the ability of the perceiver to have perceptions with spatial content depends upon the perceiver having a body schema. The second step argues that homuncular functionalism results in a vicious circle when attempting to explain this connection. By implication, homuncular functionalism must be false.

7.2.1 THE FIRST STEP OF THE ARGUMENT

The first step of the argument is a slightly amended version of an argument found in Merleau-Ponty – his argument does not go all the way.[217] Merleau-Ponty's

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typewriting. If this is the case, some spatial information is not accessible by the main action-control centre. In other words, it is impossible to devise a rule that is applicable to all relevant cases.

[217] The general idea behind Merleau-Ponty's argument has resurfaced in the literature on nonconceptual content. More specifically, it is featured in Gareth Evans' attempt to answer an old philosophical problem, Molyneux's question. See Evans, "Molyneux´s Question". William Molyneux originally asked the question in a letter to John Locke, who subsequently tried to answer it in his *Essay Concerning Human Understanding*. Molyneux asked whether a man born blind, who had learnt to distinguish between a cube and a sphere by touch, would be able to tell the one from the other if he were given the ability to visually perceive them. Evans' answer is yes. His reason for that answer is, in short, that spatial content is not, as Rich Grush puts it, "presented *through* sensation, but rather supplied *to* sensation". See Grush, "Skill and Spatial Content", §7. Evans' argument is that an experience has spatial content in virtue of the fact that the subject having the experience possesses certain embodied skills. Consequently, spatial content is amodal on Evans' account, i.e. it is not dependent on a specific sensory modality. Consequently, he can answer Molyneux's question affirmatively. A second consequence according to Evans is that spatial content is nonconceptual. Evans refers to, and borrows heavily from, an essay by Charles Taylor when arguing that spatial content is dependent upon skills. Evans "Molyneux's Question" p. 384f and Taylor, "The Validity of

argument is based upon psychological studies of vision performed by George Stratton.[218] In a week-long experiment, Stratton wore glasses which "corrected" his retinal images so that they were no longer inverted. He reports that initially the whole landscape appeared unreal and turned upside down. On the second day, he had more normal visual experiences; it no longer appeared to him as though the landscape were turned upside down. Rather, it appeared as though his own body were turned upside down. From the third day on, he had a progressively more normal experience of his body. By the fifth day, he was again able to habitually perform actions. At the end of the week, his body would appear to be in a normal position when he was active. If he was lying motionless on a couch, however, his body presented itself against the background of inverted space, while unseen parts of his body were also experienced in relation to the background of inverted space. The process of normalising the perceptual experience was facilitated when he was physically active. When the glasses were removed upon termination of the experiment, the landscape did not appear inverted but "queer". On the other hand, motor reactions were reversed; he tended to reach out with his right hand when it should have been the left. (PoP, p 244f)

Stratton's results have been followed up in a large number of experiments on perceptual adaptation to modified perceptual conditions, some of which resemble Stratton's experiments, some do not.[219] The most thorough studies confirm the main points of Stratton's original experiment: After a certain period of time, vision is normalized. Physical activity facilitates the process and may even be a prerequisite for it. In a classic study by Ivo Kohler, as well as in a follow-up study by James G. Taylor, subjects were made to wear glasses that inverted the perceptual landscape in various ways. The time frame was very long in some cases, and the subjects were physically active during the experiment. In the original study by Kohler, some subjects were even made to ride bicycles and go skiing while wearing the spectacles! The result was that every subject experienced the positional instability of the perceptual field that occurs in the early stages of the experiment gradually disappearing; all but one experienced the visual field ultimately normalising.[220]

Merleau-Ponty argues that neither "empirical psychology" nor "rational psychology" can provide an explanation for these experiments, but that his own

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Transcendental Arguments". Taylor refers to Merleau-Ponty's argument. It should be noted that Merleau-Ponty himself apparently reached a different conclusion with regard to Molyneux's question.

[218] Stratton, "Vision without Inversion of the Retinal Image" (a), Stratton, "Vision without Inversion of the Retinal Image" (b), Stratton, "Some Preliminary Experiments on Vision without Inversion of the Retinal Image", Stratton, "The Spatial Harmony of Touch and Sight".

[219] For an overview of the discussion, see Welch, *Perceptual Modification*, ch. 5

[220] Taylor, *The Behavioural Basis of Perception*, ch. 8 includes a thorough analysis of the original experiment reported by Kohler, as well as an explanation of why one subject failed to adapt. For the original experiments, see Kohler, "The Formation and Transformation of the Perceptual World".

theory of the body schema can. The explanation favoured by empirical psychology is that the visual world is given to the subject as if it had been turned around by 180°, as being upside down, while at the same time the subject receives tactile and other sensations that remain in their normal orientation. Hence, the direction of visual sensations no longer coincides with the direction of the tactile sensations. By implication, the subject has two mutually inconsistent representations of his body. (PoP, p 245) The situation can only be resolved once one of these representations has been transformed or disappears. Since the process is facilitated if the subject is active, the empiricist argues that the subject learns to harmonize tactile and visual data through experiencing physical movement, which is guided by sight. The subject learns that whereas a move kinaesthetically experienced as being downwards was earlier visually given as a move downwards, it is now visually given as a move upwards. Through such observations the subject will initially learn to translate the inverted space into space as he used to perceive it. Once this process is habitual, stable associations are established between the old and the new spatiality and the old spatial directions simply disappear. The subject will still identify the top of the visual field as "up", but in contrast to his initial experience, he will not only see his feet at the top of the visual field, but also feel that they are located there. Once the spatial directions of the visual data have again been made consistent with the spatial directions of the tactile data, the subject will stop designating the top of the visual field as the top, and revert to designating it in accordance with his previous usage of the term, i.e. "top" will stand for the region where the head is. (PoP, p 245f)

Merleau-Ponty objects to this explanation, calling it question-begging. In order to make the story coherent, the empiricist will need to suppose that the spatial direction in visual perception will vary with the direction of his head and feet as they are presented in the visual field. He must claim that the inversion of the perceptual landscape experienced by the subject can be explained by the fact that his feet appear upwards and his head downwards in the visual field. The empiricist must assume that a spatial direction is presented in the visual field by means of sensorial content. He could claim that the spatial direction is not presented in the visual field until visual sensorial content has been compared with, proprioceptive or other data. However, that is equivalent to claiming that proprioceptive content has an inherent spatial direction. (PoP, p 246)

Nevertheless, and this is Merleau-Ponty's major point, sensorial content can have no spatial content in itself, because there is no inherent spatial direction. This is so because two different perceptions can have the same sensorial content, yet they need not have the same directionality. This can easily be seen from a range of trivial examples; for example, if you are lying on a couch and raise your feet towards the ceiling, you do not perceive the ceiling as being below you, even though it is in the region of your feet. Additionally, if you are standing on your hands and look at your

feet, you do not perceive your feet or the sky as being under you, though they are both "downwards" in your visual field. The point is:

> One cannot take the world and orientated space as given along with the contents of sense experience or with the body in itself, since experience in fact shows that the same contents can be successively orientated in one direction or another, and that objective relationships as registered on the retina through the position of the physical image do not govern our experience of "up" and "down". (PoP, p 247)

Rational or "intellectualist psychology", as Merleau-Ponty coins it, fares no better in his treatment. The spatial content of a perceptual experience is according to the rationalist the result of a process of conceptualization. However, this approach does not even succeed in stating the problem, according to Merleau-Ponty. If spatial content were something that is impinged upon the visual field by an intellectual faculty, then the subject who wore glasses to correct his retinal image would not experience the perceptual landscape as being turned upside down. Remember, the only difference between normal perceptual experience and inverted perceptual experience in the initial stage is that the latter is an experience of the world as being upside down. The same objective correlations between the body and the surrounding environment are preserved. Therefore, if spatial content were only a matter of conceptualising perceptual data, then the problem of inverted spatial perception should not even arise. (PoP, p 247f)[221]

On Merleau-Ponty´s account, spatial content is instead determined by how we move around and act in the perceptual landscape. Perceptions have spatial content by virtue of the fact that they outline possible actions. However, these actions are not only dependent upon the sensorial content in visual perception, but upon the entire body schema. In other words, we must also have requisite proprioceptive and embodied knowledge. Normally, when we act we must be in a suitable spatial position to do so. But to know the suitable position for performing an action in a given context requires information about the environment as well as proprioceptive

[221] Merleau-Ponty has a further argument against the same position. If the auditory field is transposed, in the sense that sounds which are coming from the right is always striking the left ear first and vice versa, the subjects are, even with long training, unable to correct the auditory field. But if spatial content was only a matter of conceptualizing perceptual content, then it should be possible to retrain the organism to locate sounds which are coming from the right, to the left of the organism, in the same way that it is possible to retrain the organism to perceive in a normal way after being made to wear inverted glasses. (PoP, p 251) As Alexander Almér has pointed out (in conversation), this argument is damaging to Merleau-Ponty as well, since auditive content is apparently not sensitive to the body schema.

information and bodily skills. It is ultimately in virtue of the body schema that perceptual experiences have spatial content.

What Merleau-Ponty claims is that it is not possible to explain the spatial content of perceptual experiences except by recourse to the embodied knowledge of possible actions which a subject possesses. It is not possible to explain spatial content in terms of the directionality of the visual field, or the seen or felt position of the body, or as an intellectual operation.

Merleau-Ponty also claims that these mistakes occur because the phenomenology of space has been overlooked. Once we start considering the nature of our experience of space, we start to realize that spatial content is only related to how we would act. In other words, we know of the directionality of space in virtue of the fact that we would act one way or another in space.

7.2.2 A POSSIBLE COUNTERARGUMENT TO THE FIRST STEP

There are two plausible counterarguments against the position of Merleau-Ponty. Charles Taylor hints at one of these in his outline of Merleau-Ponty's position: "Rather, up and down are related to how one would move and act in the field. For it is of course as a bodily agent functioning in a gravitational field that 'up' and 'down' have meaning for me. I have to maintain myself upright to act, or in some way align my posture with gravity."[222] Thus, the directionality of space can be conceived of as being identical to that of the gravitational field and, by implication, an argument could be made that possession of spatial content is in some way dependent upon experiencing the gravitational field rather than upon the body schema. However, as Taylor himself notes, reports by subjects who have experienced the lack of gravitational forces, for example astronauts, indicate that they still experience a certain directionality of space, which is, moreover, related to possible actions.[223]

Merleau-Ponty, perhaps anticipating the objection, presents another psychological study, this time by Max Wertheimer. It appears to indicate that there is more to the experience of spatial direction than the experience of gravitation. In this experiment, a subject was placed in a room which he could only see through a mirror that reflected the room at a 45° angle. Through the mirror, the subject is able to see a man walk about, the walls of the room and a piece of cardboard falling to the floor. Predictably enough, he experiences the room as being odd. But after only a few minutes, his perceptual experience of the room is "normal" again. The

[222] Taylor, "The Validity of Transcendental Arguments", p 23.

[223] Ibid.

walls are once again standing in a vertical position and so is the man he can see through the mirror. (PoP, p 248) In this case, the spatial content seems not to depend upon the experience of the gravitational field. According to Merleau-Ponty, Wertheimer's experiment demonstrates that "the visual field can impose an orientation which is not that of the body. But although the body, as a mosaic of given sensations, has no specific direction, nevertheless, as an agent, it plays an essential part in the establishment of a level." (PoP, p 249) It would appear that we have spatial experiences in virtue of being physical agents. (PoP, p 250)[224]

There is an alternative explanation of the above experiment. According to it, the perceiver projects his own body schema, or his own sense of gravitation, onto the perceived agent that is moving about in the spatial field.[225] According to this line of argument, the room is perceived as normally orientated, not because we perceive the room as affording certain actions for us, but because we perceive the room either as affording certain actions for the perceived agent, or because we infer in some sense that the other room obeys the laws of gravitation which govern *our* posture.

For several reasons, I believe that the alternative explanation falters. First, if we perceive the room as normally oriented, because we project our body schema onto that of the agent, we should perceive the room as being normally oriented for him, but not for us. It would be the equivalent of staring at a picture that is hanging upside down – we know that it is hanging upside down precisely because we perceive that the body schema that we project onto the person in the picture does not conform to our own spatial directionality. However, in the experiment reported by Wertheimer, the subjects reported that they experienced the room as conforming to their own spatial directionality.

Second, it seems to me that we would have no sense of gravity if we had no body schema since, if we had no body schema, we would not be able to act physically in the world. Moreover, if that were the case, we would not sense gravity.

The third reason is that other studies of the experience of spatial directionality rule out this response altogether. In these cases, the subjects experienced a spatial directionality inconsistent with gravitational directionality in the room in which they themselves were acting. This has been reported in numerous studies. Asch and Witkin, for example, construed a room which actually was tilted by 22 degrees. In one version of the experiment, subjects observed the room from without; in another version of the experiment, the subjects were asked to stand in the room. In

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[224] Wertheimer's experiment was later replicated by Asch and Witkin, who reached the same conclusions, albeit with some qualifications. The qualifications don't matter in this context, since other studies confirm that sense of gravitation does not determine spatial directionality. Asch and Witkin "Studies in Space Orientation. I".

[225] I have heard this reply in conversation from several commentators.

both versions, the subjects tended to experience the room as having "normal" spatial directionality, but tended to experience their own body – which was upright in the gravitational sense – as tilted.[226]

7.2.3 A SECOND POSSIBLE COUNTERARGUMENT TO THE FIRST STEP

A second counterargument to the first step would be to claim that even though Merleau-Ponty may have demonstrated that empirical and rational psychology cannot explain the psychological experiments being invoked, there is no reason to believe that Merleau-Ponty can do any better.

According to Merleau-Ponty, the spatiality of the body is, "a certain possession of the world by my body, a certain gearing of my body to the world". (PoP, p 250) A subject is "geared" to the world, when his "motor intentions, as they unfold, receive the responses they expect from the world". (Ibid) It would appear that the subjects' adaptation in the inversion experiments to a normal experience of spatiality is due to the fact that their motor intentions, here conceived of as a purposive interaction with the environment, gradually receive more and more expected responses. At first the motor intentions are not met with the responses that the subject expects. At the end of the week, however, they will once again experience the world in a normal way. Their motor intentions again receive the responses that they expect; the subjects have been "geared" to it, because they have started to inhabit the landscape. (PoP, p 250f) On this account, spatial content depends upon the fact that the perceptual landscape has become familiar to the embodied perceiver.

Merleau-Ponty's explanation makes it understandable how the subjects of the experiment can "gear" back into the world – particularly since this process is facilitated by physical activity. But can it really explain the initial confusion? It can

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[226] Asch and Witkin, "Studies in Space Orientation. II". For a survey of what has happened in this particular field of the psychology of perception after Asch and Witkin's pathbreaking studies, see Irvin Rock, "Comments on Asch and Witkin's 'Studies in Space Orientation II.'". Rock's thesis is that whereas the picture is more complicated than Asch and Witkin concluded, their theory "is still very much alive and kicking", p 405. According to Rock, Asch and Witkin's experiment is yet to be falsified, but some experiments suggest that the solution is more complicated. In particular, Rock points out that if the scene is tilted only 10 degrees, the effect described by Asch and Witkin is negligible. According to Rock, this suggests that a veridical frame of reference is used to anchor the directionality of space. Ibid., p 405f. It is difficult to evaluate this claim, since Rock is none too specific about the details of this research. If, for example, the subjects are not placed in the tilted environment themselves, the result is less than interesting for our purposes.

certainly describe the confusion. No doubt, it involves the fact that the motor intentions do not meet with the expected responses and that subjects realize that they would not meet with the responses they expected had they been acted upon.

However, this account does not *explain* why the motor intentions do not meet with their expected responses, or why subjects realize this in advance. If, indeed, spatial content is present in virtue of the body schema, and not inherent in the sensorial content, then why should wearing inverted glasses cause the subject to experience the world as if it had been turned upside down? After all, the subject is still in possession of the same body schema.

We should however be wary of asking too much from the theory of the body schema. For it might be that an explanation is not available at this level of scientific theorising. In order to see this, let us for the sake of argument assume that perceptions have spatial content in virtue of the perceiver's body schema. This does not mean that spatial content is conferred upon sensorial stimuli.[227] Perceptions do not initially lack spatial content only to have them conferred upon by the body schema; the body schema is an essential part of a normally functioning perceptual system. Spatial content is embodied content.

Now, I have argued that the body schema not only gives us the capacity for performing habitual physical actions, but also enables a specific way of perceiving the world. If the body schema is disturbed in some way, then it is only to be expected that our capacity for physical actions, as well as our capacity for perception, will be disturbed. It would be erroneous to suppose that the initial disturbance in Stratton's experiment was due to anything that occurs at the *intentional* level, however. Empirical and rational psychologists are committed to an explanation of the disturbance in mental terms because they claim that perception is the end-result of a *mental* process in which sensory stimuli are either conceptualised or associated with other stimuli or are interpreted in some way. A theory of the body schema is not committed to a mental explanation of the deficit since, according to Merleau-Ponty's theory, our capacity for physical action is intertwined with our perceptual capacity. If part of the system is disturbed, the entire system is disturbed.[228]

The disturbance in Stratton's example must be explained instead at the *neural* level because the disturbance occurrs at the supervenience base of the mental processes, not at the level of the mental processes themselves. Now, if a perceptual process is disturbed by inversion, we cannot, and need not, explain it at the *mental level* other than as a disturbance of the entire body schema. No further explanation is needed at this level of explanation. However, since perceptions supervene on neural states, it is possible to explain the disturbance at a *lower level* of explanation, that is, on a

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[227] This point will be developed at length in section 7.2.4.

[228] The significance of this point has been pointed out to me by Helge Malmgren.

neurological level. When experimental subjects are made to wear inverted glasses, the entire system is disturbed at the neural level, due to the "corrected" retinal image. Because the body schema is (partially) realized in the brain, it is disturbed too.

Yet, since the brain is "plastic", the action generating centre and the visual processing centres of the brain will gradually start functioning normally again. As a consequence, both the perceptual system and the body schema will start functioning normally once again. They will fulfil their normal functions, with the consequence that the visual experience of the subject is normal once again.

The point is that while rational and empirical psychology, claim to be able to explain the disturbance, this is not the case with the theory defended here. This is because it posits no information-processing system *below* the level of the body schema. On the account defended here, perceptions are thoroughly embodied; perceptual content is spatial in virtue of this fact. No theory of how these perceptions are built up is provided, though, because it does not posit any *perceptual* processes at a lower level of explanation. Wearing inverted glasses is tantamount to disturbing the system at a lower, neurological level; a body-schematic theory does not need to explain why the perceptual system is malfunctioning.[229]

7.2.4 THE SECOND STEP OF THE ARGUMENT

The fact that spatial content is something that we have in virtue of our body schema is prima facie consistent with homuncular functionalism. If anything has been proven, after all, it is that spatial content is dependent upon the body schema rather than on judgments based on reasons. This point would not hurt homuncular functionalism as a theory of how body schemas can be implemented.

There are reasons to believe that the body schema cannot be explained by homuncular functionalism, however, because the latter is committed to a theory of information-processing that is not consistent with the fact that spatial content depends upon the body schema. The initial stage of the argument I have in mind

[229] A possible rejoinder is to claim that persons unable to perform concrete movements would be unable to have perceptions with spatial content according to this theory. But I am sceptical of this claim for two reasons. First, we do not know if there are any persons with *non-existent* body schemas. Being unable to perform concrete movements does not entail that you have *no* body schema, because you might have to rely on it in order to perform abstract movements. It seems that even abstract movements require *some* kind of body schematic control of the parts of the body which are not explicitly in focus. Second, even if these persons lack a body schema, it cannot be ruled out that neurologically damaged persons are able to compensate for it and construe some kind of spatiality of vision in some derivative way.

has best been stated by Gareth Evans. In Evans', and indeed on Merleau-Ponty's accounts,

> [N]o explanation can be given of what it is to have a perceptual representation of space – to be given perceptually the information that objects of such-and-such a character are arranged in such-and-such a way in one's vicinity – except in terms of the behavioural propensities and dispositions to which such information gives rise.[230]

This is also, as Evans points out, a position that has been held before by Poincaré, for example. Unlike Evans and Merleau-Ponty however, Poincaré held that the "representation" of an object in space is tantamount to "representing to oneself the muscular sensations which accompany these movements and which do not presuppose the existence of space".[231] According to Evans' interpretation, Poincaré tries to reduce spatial propositions to propositions involving time and kinaesthetic and tactual sensations that do not refer to, or employ, any spatial concepts in themselves. Even though the possibility of this project is irrelevant to the points made by Evans, he nonetheless speculates that such a reduction is not possible because there could be no finite description of behaviour that is not couched in spatial terms. Evans' point is that a description of the muscular sensations involved in reaching for an object at a certain spot must be widely disjunctive, since there are so many possible ways in which muscles can be activated in order to lead the arm to a certain spot. Not only does it depend upon the starting position of the limb, it also involves the route the limb is supposed to take to the object, which will not always be the most direct one.[232]

Evans argument is somewhat difficult to evaluate, since it is not clear whether or not Poincaré really needs to claim that a description of all behavioural propensities in a given situation is required to describe the spatial position of an object. There is, however, an easier way to attack him. In order to reach his conclusion, Poincaré must subscribe to another thesis that is not affected by Evans' objection:

> (Physmove) It is possible to describe the physical movements in which a physical action is realised in terms that do not refer to any spatial terms or concepts.

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[230] Evans, "Molyneux's Question", p 371.

[231] As quoted in ibid.

[232] Ibid., p 385.

If Physmove is correct, it follows that it is also possible to represent the physical movements required to perform a given movement to oneself without referring to, or even possessing, any spatial terms or concepts.

It would seem that the homuncular functionalist can easily escape Evans' argument by recourse to Physmove. At that point, the homuncular functionalist may claim that the perceptual module feeds the action control centre visual information framed in non-spatial terms. The action control centre subsequently feeds the cognitive centre with visual information framed in spatial terms, which is possible since the action control centre has calculated the possible actions in the perceived situation.

If the homuncular functionalist wishes to take this route, he must claim:

> (Actknow) An agent must be able to know, without any spatial information, which actions the circumstances allow him to perform.

In the case of the homuncular functionalist, this means that the chief librarian of the action control centre must know, without access to spatial information, which orders would be appropriate to issue to his (?) subordinates if he were to initiate any of the possible actions in the given circumstance.

But Actknow simply cannot be true. Let us assume that an agent in a dark room perceives an illuminated object rapidly approaching his head. He – or the chief librarian of the action control centre who receives this perceptual information – knows that he must do something very quickly or he will be hit on the head. What can he do? Well, that obviously depends on his spatial position. If he is standing upright, he can take a step sideways in order to avoid the approaching object. If he is lying down, he should probably roll over, or rise to his feet quickly, and so on. By implication, the appropriate action to perform given a fixed perceptual input, depends upon the subject's spatial position. In conclusion, there would be no way for the subject to know which actions were possible in the circumstance, if neither he nor the chief librarian over at the action control centre knew his spatial position. Actknow must, in other words, be false. Hence, behavioural descriptions are not reducible to non-spatial descriptions, and Physmove must be false too.

Once Actknow and Physmove have been rejected, homuncular functionalism collapses. To illustrate, let us assume that homuncular functionalism is true. If this is the case, there is a central action control centre that knows which actions are possible and decides what to do in a given situation. As we have seen, behavioural descriptions must be at least partially couched in spatial terms, so the control centre

could not function if it were not fed information with spatial content.[233] Consequently, the action control centre can only function, in the sense that it can determine which actions are possible in a given situation, if it is provided with information with spatial content.

Spatial information must however be supplied to the action control centre by some other homunculus. But this leaves us with a regress. As shown by the argument in section 7.2.1, the space-homunculus has to have access to the affordances of the environment, but these are to be calculated by the chief-homunculus on the basis of spatial information. In other words, the homuncular functionalist cannot explain how this situation arises except by turning to an obviously vicious regress.[234]

It should be noted that this objection cannot be raised against Merleau-Ponty's position. Merleau-Ponty relies on the idea of an embodied space. The body schema includes spatial information related to possible physical actions in the surrounding environment. As such, embodied space guarantees that the body schema includes information requisite for it to choose which possible actions shall be performed, if any. However, this theory is not committed to any specific theory of how embodied space *arises*. In particular, it is not committed to any specific theory of how intentional processes are realized in the brain.

Couched in functionalist terms, we could say that the theory is only committed to the fact that there are some neural states which have the same function as embodied space in my Merleau-Pontyian theory. However, there is no reason why this position would be inconsistent with the fact that behaviour can only be described in spatial terms and space only described in behavioural terms. In fact, it would be odd if it were otherwise since behaviour and space are highly interconnected according to my theory. The point is that while homuncular functionalism ends in a vicious regress, my theory is couched in terms that are interdefinable. But that should be no problem, since it does not need to describe space and embodied intentionality in terms that do not refer either to space or to embodied intentionality – something that is on the contrary required by the homuncular functionalist.

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[233] I guess it cannot be logically excluded that it is possible for the homuncular functionalist to escape this assumption. But in that case, the librarians need to be a lot different from those described by Fodor.

[234] A possible counter objection might be to claim that the chief-homunculus is in charge of calculating both spatial information and the affordances in the given situation. But then the problem arises anew at this level since he can only calculate spatial position if he knows the affordances, and vice versa.

Part Three: The Intentionality of Intersubjectivity

8. Transferring the Body Schema

In the present chapter, we return to the discussion of intersubjectivity. We will illustrate the problem using the notions *primordial intentionality* and *body schema* as they have been developed in the preceding chapters. The first section of the chapter contains an introduction to Husserl's theory of intersubjectivity. Husserl's theory is, roughly put, a version of the traditional argument from analogy. Merleau-Ponty presents and elucidates his own theory in contrast to Husserl's theory. The second section will detail a Merleau-Pontyian theory of intersubjectivity, which employs some key notions that are to be found in Husserl's outline. It is, crudely put, Husserl's theory once again but with a different notion of intentionality, primordial intentionality. The result is a theory of intersubjectivity as a transfer of body schema from self to other. The third section contrasts the Merleau-Pontyian theory of intersubjectivity with Husserl's theory, with particular focus on the specific nature of perceiving the other that the Merleau-Pontyian theory entails.

8.1 Husserl's Phenomenology of Intersubjectivity

The most famous phenomenological theory of intersubjectivity is found in the works of Edmund Husserl. Husserl's theory is interesting and worthy of a closer look, not only because of its own merits, but also due to the fact that Merleau-Ponty considered it to be the theory that he was building upon, and contrasted his own theory with it.

One of several problems with Husserl's theory of intersubjectivity concerns the nature of his analysis. Is he trying to prove the existence of other minds, or is he attempting to solve *epistemological* problems of intersubjectivity? Alternatively, is he trying to clarify the *meaning* of the notion of other minds? Or could it be that he is trying to explain our *acquisition of the concept* of other minds? Or is he trying to describe our *habitual ascription* of mental states to others?

All these interpretations have been proposed as plausible readings of Husserl from time to time; all of them have something going for them. If nothing else, it is

quite clear that at least some of these projects are intertwined.[235] However, the major purpose in Husserl's texts on intersubjectivity is nevertheless to answer the question of the *constitution of the alter ego*. According to Husserl, the object of an intentional act is constituted in various ways. The computer in front of me is for example constituted as a spatiotemporal object, an artefact and a useful tool for writing. We can express this in terms of the object being apprehended through various layers of sense which determine the object as a spatiotemporal object, an artefact and a useful tool for writing.

The trouble is that it is not entirely clear exactly what this means in the context of intersubjectivity, since Husserl normally operates with two notions of constitution, static constitution and genetic constitution. The former notion refers to the process of constitution that is possible once we acquire the layers of sense in accordance with which the object in question is being constituted. The latter notion, however, refers to the process of acquisition of these layers. Thus, genetic constitution is something akin to "developmental phenomenology."[236]

As far as I can see, Husserl never managed to explain the relation between static and genetic constitution of other egos to a satisfying degree. In his most famous treatment of the problem of the alter ego, *Cartesian Meditations*,[237] which I will rely upon in my treatment of his theory, he explicitly declares that he is doing static phenomenology.[238] However, as A. D. Smith has pointed out, only a few pages later Husserl declares that the process of static constitution refers back to the primal instituting, *Urstiftung*, or genetic constitution of the other.[239] He argues that it is characteristic of intersubjectivity that the primal instituting of the other is operative in the living presence, i.e. that the same process that is operative in the genetic constitution is also operative in the habitual and static constitution of the other.[240]

Another problem with Husserl's account is that he normally makes a critical distinction between phenomenological and psychological analysis. But it is difficult to see how a phenomenologist could study the genesis of the notion of the other without taking psychological evidence into account. Judging by his late writings on intersubjectivity, made available posthumously in *Husserliana*, Husserl came to recognize this, since he there makes frequent use of empirical findings and observations.

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[235] Cf ch 1.

[236] There are other interpretations of these notions, but those given here make most sense to me.

[237] It is important to note that in posthumously published texts, Husserl may be interpreted as presenting a theory that is much closer to the guiding intuitions behind Merleau-Ponty's theory. For analyses of Husserl that point in this direction, see Smith, *Husserl and the Cartesian Meditations*, p 238ff, and Gallagher, "Phenomenological Contributions to a Theory of Social Cognition", p 96ff.

[238] I have used the Felix Meiner edition. See Husserl, *Cartesianische Meditationen*.

[239] Smith, *Husserl and the Cartesian Meditations*, p 236.

[240] Husserl, *Cartesianische Meditationen*, p 114f.

The notion of *primordial reduction* is of central methodological concern to Husserl. In order to grasp that notion, we must look closer at Husserl's notion of constitution. According to Husserl, an intentional object is constituted through a form of passive and non-conscious process, a passive synthesis, in which the intentional object is gradually given various layers of sense, or meanings.[241] On this account, a passive synthesis is performed lawfully in accordance with *eidetic necessity*. The object that I am currently looking at, my computer monitor, is constituted as being a physical object; it is constituted as extended in time and space. It has one adumbration (Abschattung) that is sensorily present, its front, and several adumbrations that are sensorily absent, yet could be made sensorily present in other intentional acts. Furthermore, it is constituted as having a rather complex use-function – it can display the letters and words that I am writing, and so on. It is also constituted as something objective, which in this case entails that it is intended as though if someone else were sitting in my place, she would have roughly the same perceptual experience of the object that I have now.

According to normal Husserlian terminology, an adumbration of an object that is sensorily absent during an act of perception is *apperceived* or *appresented* in the act.[242] I am thus currently apperceiving the rear side of my computer monitor. The apperception of an object can be more or less specific. My apperception of the rear side of my computer monitor is fairly specific, since I have looked at it several times and remember roughly how it looks. On the other hand, were I to take a stroll through an unfamiliar city, I would of course apperceive that the houses I looked at had sensorily absent adumbrations, such as rear sides. These apperceptions would not be specific at all, however, since I would not be familiar with the view of the back side of the houses.

In normal cases, an intentional object is permeated by intersubjectivity. My computer monitor is not only constituted as being objective and hence intersubjective, but also as having been manufactured by others with the purpose of being useable for humans. Further, the text it displays, if it functions properly, is constituted as being readable by other humans, and so on.

Now, if we are going to analyse intersubjectivity phenomenologically, we can obviously not rest content with the above description. Phenomenologists need to uncover, or at least imagine, a state of affairs in which intentionality has not yet been permeated by intersubjectivity. It is quite obvious that Husserl's favourite method, transcendental reduction, will not help us here. The credo of the

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[241] Objects can also be constituted through active synthesis, but that need not bother us here.

[242] Husserl's notion of apperception is quite different from the Kantian notion. It should be noted that Husserl mainly uses the notion of apperception in connection with intersubjectivity. The notion of appresentation is frequently used in that context too, but is otherwise used mainly to refer to spatial adumbrations that are absent.

transcendental reduction is that one must not assume the existence of any objects, but it could well be that an object is constituted as having a conscious life even though the question of whether it exists or not is left open.

Primordial reduction is different from transcendental reduction, since it involves bracketing all layers of an object's sense that refer to, or presuppose, the notion of an alter ego or other minds. If I were performing a primordial reduction, I would bracket the layers of sense that constitute my perception of a computer monitor as being manufactured by other subjects, useable by other subjects and objective, since objectivity on Husserl's account is just intersubjectivity. Needless to say, this kind of reduction can also be used when encountering an object that would normally be constituted as an alter ego. In this case, after having abstracted away from "him" or "her" all that refers to foreign minds, or egos, or mental states, I simply constitute the other as being a pure physical object.[243] The end result of the process of primordial reduction, according to Husserl, is a particular "sphere of ownness".

Husserl makes a critical distinction between two kinds of embodiment, *Körper* and *Leib*. According to Husserl, any perceptual object within the realm of the primordial sphere is constituted as a *material* body (*Körper*). In essence, this means that it is a physical object in the sense that it consists of matter, it is temporally and spatially extended, and so on. In the sphere of ownness, a material body is not constituted as being intersubjective or objective. A *Leib* is also a *lived* body. As such, it is a material body too, but it is a body that is animated and living.

Husserl's next move is to point out that, in my sphere of ownness, one object distinguishes itself from the others in that it is not merely a material body, but it is also a lived body, my body. A lived body is distinguished from a purely material body in several respects. First, it is a sensible body; I can feel warmth or cold with it, be touched at it, feel pain in it, and so on.

A second, perhaps even more critical distinguishing feature of the lived body is the fact that my body is under my voluntarily control. I can move my body, lift my hands, redirect my eyes, and so on. In other words, I can do things with my body; I perform actions through my body. Or, as Husserl would put it, my relation to my body is characterised by an "I can".[244]

The volitional characteristic of my body is closely related to a third feature, which is that it is through my body that I perceive. This means, as A. D. Smith has put it,

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[243] Whether or not any such project is feasible is debatable. However this is not the place to discuss all the problems that are associated with Husserl's theory of a primordial reduction. The purpose here is simply to give a rough description of how Husserl conceives the reduction.

[244] Husserl, *Cartesianische Meditationen*, p 99. We are dealing here with what is very likely the origin of Merleau-Ponty's notion of a body-schematic intentionality. Husserl never really presented a full-fledged theory of that kind of intentionality.

that "my body is the 'null centre' of my orientation towards the world".[245] However, my body gives me not only an egocentric perceptual perspective of the world. It is also through my body that I perceive things as being near or far, as being within or beyond reach, and so on. It is the moving and acting subject that perceives. I can for example change my perceptual perspective, either by moving my head or my ear, or by moving my body to a different location. However, I can not only change perceptual perspective on the world, I can also perceive the world through acting. This is the case when I touch things in order to feel them, for example.

According to Husserl, this analysis has demonstrated that the personal ego is affected by, and can act in, the world through its body. The personal ego is constituted as a psychophysical unity. Now, according to Husserl, we intend others in the non-primordial sphere as psychophysical beings too. In that respect, they are constituted in the same way as the constituting self. This is where the term "alter ego" is derived: I see the other precisely as another ego, qualitatively similar to me, yet numerically distinct. My perception of the other is a perception of another psychophysical person.

However, it is patently not the case that I can sense the conscious states of another being the same way that I sense the colour of a flower or a pain in my foot. But when I perceive him, I nevertheless perceive him as a psychophysical unity. This is possible because the conscious life of the other is apperceived in the act of perception. The conscious life of an alter ego has a similar constitutional status as the apperceived rear side of a physical object. In other words, I appresent that another person has a mental life in the same way that I appresent that he or she has a back.[246]

According to Husserl, the other is constituted from within the first personal sphere on the basis of the personal I. In the sphere of ownness, our perception of someone else can only be a perception of the material body of someone. The sense-layer "ensouled body", or "embodied consciousness" must be constituted on the basis of the material provided within the primordial sphere. Furthermore, the only forthcoming candidate is the living body of the constituting subject. After all, I have constituted myself as a personal ego and as a psychophysical unity. When I constitute the other as a psychophysical unity, the constitutional process employs the same layers of sense that are active in my constitution of my own body as a living body, which arose in turn from my self-constitution. Therefore, it is possible to apperceptively transfer the meaning that my body has for me, to the material

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[245] Smith, *Husserl and the Cartesian Meditations*, p 221. My interpretation of Husserl is indebted to Smith's analysis, which is not to say that I agree with Smith in all details.

[246] Husserl, *Cartesianische Meditationen*, p 111ff.

body of the other, and in the same process constitute that body as being a living body. This is the gist of Husserl's famous analogical theory of other minds.[247]

Husserl's version of the analogical theory is cashed out in terms of the notion of *pairing* (the German term is *Paarung*). According to Husserl, pairing is a kind of passive synthesis that occurs when two or more objects are constituted as belonging to the same group or class. As such, the pairing is a "universal phenomenon of the transcendental (and, in parallel, the intentional-psychological) sphere".[248] Moreover, pairing is a primitive form (*Urform*) of association. As Smith has pointed out, Husserl's notion of association differs significantly from Hume's notion, though both of them agree that our mind fundamentally works by way of association. On Hume's account, associations are merely a matter of psychological laws. Husserl, who wholeheartedly loathed all forms of psychologism, is not surprisingly of a different opinion. According to Husserl, associations, at least the kinds of associations that are operative in passive synthesis, operate according to *eidetic* or *intentional* laws. This means that association occurs in virtue of the meanings that objects have for a constituting ego [249]

A typical, if primitive, case of pairing association occurs when two data (*Daten*) in the unity of a consciousness are constituted as being similar or as forming a pair.[250] When more than two data are constituted as being similar, they are constituted as forming a group, and so on. The critical point is that when two or more data are constituted as a group, an apperceptive transfer, or intentional overreaching, occurs in the mind in which each datum is constituted according to the meaning of the others. In the case of two data, *a* and *b*, *a* is constituted according to the meaning of *b*, without losing the meaning it had prior to the intentional overreach; the same goes for *b*. Thus, if *a* is constituted in accordance with only the layers of sense *q*, *y*, and *z*, and *b* is constituted in accordance with the layers of sense *q* and *x*, then *a* and *b* will both be constituted in accordance with the layers of sense *q*, *x*, *y* and *z* after the pairing. It should be stressed that such total apperceptive transfers do not always occur. There are cases when the apperceptive transfer is merely partial. In such cases, a pairing of *a* and *b* may leave *a* unaffected, while *b* is apperceived as *q*, *x* and *y*.[251]

An alter ego is constituted whenever the constituting ego perceives someone as being physically similar to the constituting ego. Couched in Husserl's terminology,

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[247] Ibid., p 113f.

[248] Ibid., p 115. (My translation)

[249] Smith, *Husserl and the Cartesian Meditations*, p 225.

[250] Husserl's terminology could in these cases appear to be slightly odd. Even though it is clear that Husserl claims that one is never intending a pure sensorial datum, his terminology of data being constituted could be read as contradicting this position.

[251] Husserl, *Cartesianische Meditationen*, p 114ff.

this means that a material body that looks similar to the body of the constituting ego enters the primordial sphere. When this happens, a process of pairing is initiated, in which the material body of the other is paired with the lived body of the constituting ego.[252]

A requisite for the process to be completed is that the other body behaves like a lived body. Husserl doesn't develop this idea in the *Cartesian Meditations*, though there are some interesting, albeit scattered and unsystematic, notes in his posthumously published texts on intersubjectivity. In the *Cartesian Meditations*, he is content with noting that it is behaviour that ultimately indicates that the body of the other is united with something psychological. This means that the body of the other has to behave roughly like the constituting subject would do in the kind of situation that the other finds himself in. If this is not the case, the other would not be constituted as a *Leib*, but as a *Schein-Leib* according to Husserl.[253]

Husserl insists that the other is not paired with the constituting subject as apprehended from a first person point of view, but as apprehended from a third-person point of view. So, the visual perception of another human body "over there" is not paired with the constituting subject's apprehension of itself "here", but with the subject's apprehension of how his own body would appear visually, if it were located "over there", where the other is currently located. The constituting subject is positioned at a "here"; it forms a centre of the primordial world. This centre is not only a centre in a geometrical sense, but also a centre of bodily capacities. My body, as conceived from a first person perspective, essentially includes my ability to act with my body. The other, as a material body, is "over there", and is as such not the centre of *my* primordial world. He or she is, it will turn out, a centre of *another* primordial world, which is by definition not a centre of my physical capacities. The pairing of the other with myself, apprehended as if I were located "over there", is supposed to ensure this feature of the constituting process.[254]

Consequently, the perception of the body of the other is not paired with myself as visually apprehended from a first person perspective, but with a visual *representation* of my material body as it would appear from a *third person point* of view. A prerequisite for this process is obviously that the constituting ego can represent itself as an external body. This means that the constituting ego can access a representation of its own body, which in turn entails that it must have constituted its own body as it is externally perceived. Moreover, the constituting ego must be able to "imagine" what its body would look like from different perspectives.[255]

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[252] Ibid., p 116.

[253] Ibid., p 117.

[254] Ibid., p 121f.

[255] Ibid.

Couched in terms borrowed from the previous chapters, we could express this in terms of the *body image*. What the perception of the other awakens is (at least a part of) the body image of the constituting ego.

Husserl finds support for the notion of pairing in his phenomenology of space. As we have seen, Husserl claims that only one adumbration of an object is sensorily present in an act of perception. This does not stop Husserl from claiming that other possible adumbrations of an object are co-constitutive of the meaning of the object. They are, so to speak, apperceived in the act of perception. We should note that our constitution of spatiality is at stake here. Were it not the case that objects are constituted as having sensorily absent adumbrations, we would not be able to constitute objects, including our own body, as being spatial.

According to Husserl, this constitution is possible because the subject apprehends the sensorily absent adumbrations of an object as adumbrations of the object that the subject would perceive, were he placed over *there*. Due to its kinaesthetic, or motor, capacities, the subject knows that he is able to turn every "here" into a "there" and vice versa. In other words, he knows that he can move around in the perceptual landscape and shift perspective. Thus, it is "constitutive of every object not only that its system of appearance belongs to a 'from here', but also to a corresponding change of position, which would put me in a there".[256]

As an embodied subject, my position is essentially tied to a "here" which is not only a perceptual perspective on the world, but also a centre of action. "Here" is always where my personal self, my ego as a psychophysical unity, is located. When the other enters my perceptual field, he is obviously not perceived as being "here", but as being over "there", a place I could have occupied, had I been over there. The material body is thus paired not with the constituting subject as being here – but with the constituting subject as it would appear, were it at the place of the other. Hence, the other is through the pairing apperceived as being at *another* "here", not at the here of the constituting subject; the other is centre of its own primordial world. As such, the other is not a duplicate of my self, but constituted as another self – an alter ego.[257]

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[256] Ibid., p 120. The problems connected with this theory have been discussed in detail by Dan Zahavi. According to Zahavi, who draws upon posthumously published texts, another interpretation of Husserl is possible which is, in Zahavi's opinion, philosophically more attractive. On this interpretation, the sensorily absent adumbrations are not constituted as adumbrations that could be present to *me*, were *I* positioned over there, but rather as adumbrations that could be present to *someone*, if that *someone* were positioned over there. For a detailed analysis, see Zahavi, *Husserl und die Transzendentale Intersubjektivität*, p 32ff., and cf below section 8.2.2.

[257] Husserl, *Cartesianische Meditationen*, p 119f.

8.2 Towards a Primordial Intentionality of Intersubjectivity

In this section, I shall present and discuss the main points of a Merleau-Pontyian conception of intersubjectivity. Merleau-Ponty's theory of intersubjectivity is to some extent a further development of Husserl's theory of intersubjectivity, but it is also to some extent a sharp criticism of it. It is in particular Husserl's notion of pairing that Merleau-Ponty at once uses and distances himself from. This is one central strand of Merleau-Ponty's discussion of the problem. There are several other crucial features of his theory.

The substance of Merleau-Ponty's conception of intersubjectivity is expressed not only in the *Phenomenology of Perception*, but also in an essay entitled "The Child's relation with Others":

> I can perceive, across the visual image of the other, that the other is an organism, that that organism is inhabited by a 'psyche', because the visual image of the other is interpreted by the notion I myself have of my own body and thus appears as the visible envelopment of another 'body schema'.[258]

What is noteworthy about this concise statement of his position is that the body schema is conceived of as having a crucial function in the perception of the other as another human being. The other is not seen as a body with a connected soul, but as another embodied agent with a body schema. The other is seen as such because the visual image of him is "interpreted" against the background of the body schema of the perceiver. Moreover, it is not a body image, or some other kind of cognitive model of the body of the perceiver, that is employed in this process. The intentionality of the body underlies our perception of others: "It is this transfer of my intentions to the other's body and of his intentions to my own […] that makes possible the perception of others."[259]

There are two critical aspects of Merleau-Ponty's theory of intersubjectivity. The first aspect is the emphasis on seeing the movements of the other as movements that I could perform with my body. The second is that perception of another

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[258] Merleau-Ponty,"The Child's Relation with Others", p 118. I have changed the English translation of this essay slightly in order to standardize the terminology. It should be noted that Merleau-Ponty claims that the other is *interpreted* by the apprehension that the perceiver has of his own body. It is likely that he is merely using the term "interpretation" as a metaphor in this context.

[259] Merleau-Ponty,"The Child's Relation with Others", p 118.

human being entails one seeing the world as outlining possible actions for him or her.

8.2.1 THE FIRST ASPECT OF THE BODY–SCHEMATIC TRANSFER

Let us take a look at the first aspect. In the recent scholarly discussion, in particular in the context of the ability of neonates to perform certain facial imitations, this has been referred to as a kind of "cross-modal" or supramodal perception, where the seen image of the other is translated into a proprioceptive awareness of the body of the perceiver. Further, in the long run, the perceived movement of the other is translated into a possible movement that the perceiver can perform.[260] Merleau-Ponty's describes it this way:

> A baby of fifteen months opens its mouth if I playfully take one of its fingers between my teeth and pretend to bite it. And yet it has scarcely looked at its face in a glass, and its teeth are not in any case like mine. The fact is that its own mouth and teeth, as it feels them from the inside, are immediately, for it, an apparatus to bite with, and my jaw, as the baby sees it from the outside, is immediately, for it, capable of the same intentions. 'Biting' has immediately, for it, an intersubjective significance. It perceives its intentions in its body, and my body with its own, and thereby my intentions in its own body. (PoP, p 352)

As we have seen, Gopnik and Meltzoff have demonstrated in a series of experiments that this capacity for imitation is innate. In one experiment, neonates not older than 3 days were able to imitate facial movements performed by an adult.[261] In other experiments, Gopnik and Meltzoff have shown that neonates not older than two months are able to imitate a wide range of hand and finger gestures. So, the imitative capacity is not limited to movements of the facial muscles.[262]

Imitation is not confined to babies, of course. It is generally the case, that the perception of human movement is related somehow, albeit not in a simple way, to the capacity of the perceiver to perform the imitated movements. When we watch someone do something, we tend to perform a latent simulation of the movements

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[260] On Merleau-Ponty's views on this matter and its relation to modern studies of neonates, see in particular Gallagher and Meltzoff, "The Earliest Sense of Self and Others". Cf below section 9.1.

[261] Meltzoff and Moore, "Imitation in Newborn Infants".

[262] Ibid., p 182f.

that he is performing, or is about to perform. There is not only a large body of phenomenological and anecdotal evidence for this, but there is significant experimental evidence, in connection with imitation in infants as well as in connection with the discovery of mirror neurons, viz. neurons that fire both when an agent performs an action, and when he observes someone else performing the action.[263]

We can express this feature of the perception of others by claiming that

> (M1) Visual perception of human movement is normally automatically apprehended by means of the body schema of the perceiver as embodied knowledge of how to perform the same movement.

Let us call the process described in (M1), m1!

There are at least four noteworthy features of m1. The first and most important one is that m1 enables the perceiver to see the *other* as having a body schema. Since the perceiver has no control over the perceived movement he cannot apprehend it as one that he has initiated himself. Instead, the action must be seen as initiated by the other and the other must a fortiori be perceived as having the capacity of initiating the action, viz. of having a body schema.

The second feature is that whereas the principle allows that an observed action can be performed by the perceiver, this need not always be the case. Sometimes, the perceiver can perceive the action by means of her body schema even though she is unable to perform it herself. This could for example be the case when a short person is not tall enough to reach a book in a bookshelf, but is still able to transfer her body schema to someone who is tall enough to reach the book. In principle, her body schema knows how to perform the movement, so m1 is operative in this case too.

Other times, a given movement is so complicated that it is impossible for the body schema to "read" the movement being performed. Think of the case when we are unable to do the moves being required by a skilled athlete or worker. I am for example unable to perform a Fosbury flop high jump. But this does not mean that my body schema is not operative at all in the process of perceiving such a high jump. I can for example perceive some parts of the whole movement, as movements which I could in principle perform.

The third feature is that M1 does not require a physical similarity between the perceiver and the perceived in order for an apprehension of the movements of the other by the body schema to occur. It is sufficient if there are kinematic similarities between the perception and embodied knowledge of how to produce the perceived

[263] On mirror neurons, see also section 8.2.3.

movement. The prerequisite for a transfer is that the other moves in a way that the perceiver could move.[264] [265]

The third feature does not entail that a bodily-identification as specified in M1 would not occur in the absence of kinematic similarity; it may well be the case that physical similarity of a certain kind is another sufficient condition and that a non-moving person could be apprehended through the transfer as having a body-schema, albeit an inactive one.[266]

The fourth feature is that, as it stands, M1 does not imply that the perceiver apprehends that the other is in any *specific* intentional, psychological or conscious state. When we ascribe intentional states to someone based on physical movements, the environmental context in which the movements occur plays an essential role in the ascription. If we see someone perform a particular movement but do not see the context in which it occurs, we do not always ascribe any particular intentional state to the performer of the movement, but tend to be perplexed and to not know what to make of the situation. Consider someone who performs the movements that a fly fisher performs when fishing. If he does this at a riverside with a fishing rod in hand, we ascribe one kind of intentional state to the agent. On the other hand, if he does it without a fishing rod, with no water in sight, we might be puzzled and not know what he is doing or ascribe the quite different mental state of *pretending* that he is flyfishing.

8.2.2 THE SECOND ASPECT OF THE BODY-SCHEMATIC TRANSFER

The previous argument leads naturally to the conclusion that what is lacking in M1, is in particular a reference to a world which the perceived other is performing his movement in. More specifically, the link between the self and the world is missing, but this is supplied by the second aspect of the theory. It is only as subjects involved in and turned towards the world and objects therein that we can perceive the other as having intentional states: "If I am a consciousness turned toward

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[264] I borrow this idea from A. D. Smith, *Husserl and the Cartesian Meditations*, p 241. Smith's idea is that we have to recognize kinematic similarities, rather than material similarities, in order for the transfer to take off. On my account, however, while kinematic similarity is an objective prerequisite for a transfer to take off, we do not *recognize* it until after the transfer.

[265] Experimental support for this can be found in Gunnar Johansson's now classical study of biological motion. Johansson found that a person who moved in a dark environment and who was only visible due to lights attached to her body and limbs could still be identified as a human agent by observers. See Johansson, "Visual Perception of Biological Motion and a Model for its Analysis".

[266] For an analysis of movement in images, see Malmgren, "Rorschach's Idea of a Movement Response in the light of Recent Philosophy and Psychology of Perception".

things, I can meet in things the actions of another and find in them a meaning, because they are themes of possible activity for my own body."[267]

A recurring theme in Merleau-Ponty's discussions of intersubjectivity is that we perceive others as engaged in a meaningful context. When we perceive someone else, our capacity for primordial perception is at the same time applied from the perspective of the other. Our ability to perceive affordances, our ability to see an environment or an object as inviting or as enabling certain kinds of actions, is thus re-centred to the perspective of the other. Instead of seeing things as affording something for me, I now see them as affording something for someone else:[268]

> No sooner has my gaze fallen upon a living body in process of acting than the objects surrounding it immediately take on a fresh layer of significance: they are no longer simply what I myself could make of them, they are what this other pattern of behaviour is about to make of them. Round about the perceived body a vortex forms, towards which my world is drawn and, so to speak, sucked in: to this extent, it is no longer merely mine, and no longer merely present, it is present to *x*, to that other manifestation of behaviour which begins to take shape in it. Already the other body has ceased to be a mere fragment of the world, and become the theatre of a certain process of elaboration, and, as it were, a certain 'view' of the world. There is taking place over there a certain manipulation of things hitherto my property. Someone is making use of my familiar objects. But who can it be? I say that it is another, a second self, and this I know in the first place because this living body has the same structure as mine. I experience my own body as the power of adopting certain forms of behaviour and a certain world, and I am given to myself merely as a certain hold upon the world; now, it is precisely my body which perceives the body of another, and discovers in that other body a miraculous prolongation of my own intentions, a familiar way of dealing with the world. (PoP, p 353f)

When this re-centring of primordial perception takes place, I perceive as a result that the floor, is walkable for the other. Moreover, the cup of coffee, which is perceived as being out of reach for me, happens to be within reach of the other and

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[267] Merleau-Ponty,"The Child's Relation with Others", p 117. I believe that "consciousness" in this quote should not be understood as phenomenal consciousness, bur rather as intentionality.

[268] This is not to say that our normal I-centred primordial perception suddenly stops working. It still works, but it is now doing double duty; I see things in their relation both to me, and to the other.

is perceived as being *graspable for him*. We perceive the other as apprehending what the environment affords for him.

No reasoning is involved in this process. It is completed simply by re-centring our capacity to primordially perceive, upon the body of the other. Hence

> (M2) When perceiving another human, we are automatically re-centring our capacity for primordial perception upon the other. We thereby begin to see which affordances in the world the other apprehends.

Let us call the process described in (M2) for m2! Note that (M2) does not state that what I perceive is that the environment outlines actions that would be possible for me if I were in the position of the other. The process m1 has ensured that what I perceive over there, is another embodied agent who is capable of acting on his own, and who has a body schema over which I have no control. Hence, what I perceive by means of m2 is that the environment has a specific meaning for *him*, and outlines specific actions for *him*.

However, even though I perceive the world as outlining certain possible actions for the other, this capacity may be *rooted* in the capacity to perceive what the environment would afford for me, were I to occupy another spatial position. It is quite clear that primordial perception outlines the world as affording actions for me from certain possible positions. A glass of water may be seen as being graspable if I were standing in front of it. After all, the fact that we are able to have such perceptions is the reason we are able to move in specific positions in order to perform certain actions. Therefore, we need not postulate any new module or faculty for perception in order to make sense of (M2).

Moreover, while (M2) implies that our primordial perception is re-centred upon the other, we would do well to note that in a lot of cases, my own affordances overlap to a large degree with the affordances I apprehend from the perspective of the other. If I see something as being jump-over-able, I will ordinarily see it as jump-over-able for the other as well; if I see something as walkable, I will normally see it as walkable for the other too, and so on. In many cases, I can transfer much of the environmental meaning that the perceived world has for me directly to the perspective of the other.

Further support for M2 can be found in Edmund Husserl's theory of perception. A critical distinction in Husserl's theory of perception is the difference between the perceived object and its adumbrations. The adumbration of a perceived object is the sensible profile of the object. If I perceive a house from its front, the front of the house is the adumbration of the house. However, the object is co-constituted by possible adumbrations of the house that I am not having currently. Thus, the

house is perceived as being an object which has a back side, a roof, and so on, even though these adumbrations are not being given to me currently. In other words, the meaning of the perceived object transcends its present adumbration.

How can this be so? According to Dan Zahavi, Husserl presents three different answers to this question. In the first answer, the co-intended but absent adumbrations are intended as adumbrations of the object that I have had, or that I could have had. In the second version, they are co-intended as adumbrations of the object, that I would have, were I positioned in a different way, that is, as possible adumbrations for me. On the third account – endorsed by Zahavi – they are, however, intended as adumbrations that *anyone* can have assuming she is positioned in the right way.[269]

No matter how we interpret the phenomenological status of absent adumbrations, it is clear that the very act of perception is co-constituted by other possible adumbrations, by the implicit knowledge of other perceptual perspectives in the same environment. This being so, it is natural to assume that the perceptually absent profiles of an object can also be given as perceptual information *that others do have*.

Yet another argument in favour of (M2) can be found in the literature on joint action. The ability to perform actions with others is an essential feature of human life. In a recently published paper, Sebanz, Bekkering and Knoblich[270] have argued that there are three constitutive features of this ability. The first feature is the capacity for joint attention. The second feature is the capacity for knowing what others will do in the present situation. This capacity is based upon knowledge of the movement that the other has started to perform. For example, if somebody raises her hand with a hammer we know that she will likely drive a nail into something. The third feature is the capacity for knowing what others would do were they to encounter a particular situation. Thus, we know for example that car-drivers are prone to stop their cars when they encounter a red light. Our ability to re-centre primordial perception is a prerequisite for all three of them.

When we engage in a common endeavour with someone else, it is important to know how the environment appears from the perspective of the other, and which obstacles he is likely to encounter. Sebanz et al. note that our ability for joint attention creates a "perceptual common ground" which links two minds to the same actualities and enables them to initiate and coordinate joint actions.[271] They also point out that joint action is further facilitated by action observation. I will have more to say about this later, but for now it suffices to note that recent

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[269] Zahavi, *Husserl und die Transzendentale Intersubjektivität*, p 36f.

[270] Sebanz, Bekkering and Knoblich, "Joint Action: Bodies and Minds Moving Together".

[271] Ibid., p 70. The authors point out that research in developmental psychology indicates that this process ability develops around the age of 12-18 months. Ibid.

research indicates, "that during observation of an action, a corresponding representation in the observer's action system is activated".[272] Moreover, this "representation" is a representation of the *goal* of the action rather than of a particular movement, though the given goal need not have been realised at the time of perception.[273]

Joint action is also facilitated by knowing what others should do in a given situation. Recent research suggests that individuals often activate their motor systems in advance of action observation. This clearly suggests that they are able to apprehend what the other is about to do before he does it.

To sum up, m1 allows the perceiver to identify the other as another embodied agent, as another being with a body schema. Through m2, the perceiver is able to see the world as having a certain meaning for the other in virtue of the other having a body schema.[274] This is because primordial perception, as we have seen, is something that a perceiver has in virtue of having a body schema. It outlines actions for the perceiver that are only realisable by the body schema. Primordial perception assigns a specific primordial meaning to the situation. Thus, to primordially perceive something is to be in a specific intentional state, because it implies that the perceived environment has a specific meaning for the perceiver. Hence, transferring the body schema to the other by means of m1 and m2 is equivalent to perceiving the other as being in a specific intentional state.

This theory resembles, but is distinct from, a similar theory proposed by Shaun Gallagher.[275] Gallagher singles out a process that resembles m1 as a genetic first stage of intersubjectivity.[276] Even though Gallagher stresses the intermodal character of perception, he does not recognize the crucial role of m2. This does not mean that Gallagher is unaware of the importance of the practical contexts involved in intersubjectivity. He just thinks that the contextual aspects of intersubjectivity belong to a later genetic stage. In earlier stages, we always encounter others in pragmatic contexts of a certain kind. But these contexts do not contain a shared behaviour towards pragmatic features of the environment in general, as described in M2, but *towards others qua human beings*. We encounter others

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[272] Ibid., p 71.

[273] Ibid., p 71.

[274] This is not to say that m2 necessarily follows temporally, logically, or even genetically from m1. It only means that within the process of the transfer of the body schema, one can distinguish between m1 and m2.

[275] Gallagher, "Phenomenological Contributions to a Theory of Social Cognition".

[276] See chapter 9.1 for a criticism of something that may be coined a "Gallagherian account of m1". In the paper now under discussion, Gallagher however seems to distance himself from the account criticised in chapter 9.1 since he emphasizes that intermodal perception does not require any cognitive inferences. I am not certain of what exactly this means for his views about the nature of the intentionality involved.

in virtue of the *role* they *perform* in the context of our projects.[277] Therefore, according to Gallagher, our first encounter with the other is qua someone *who performs a specific role* in our lives. Moreover, this encounter is made possible by our capacity for intermodal perception. So, in a sense, the other is present from the very beginning according to Gallagher's account.

My account is distinct from Gallagher's in two ways. First, as I have emphasized, we encounter the other through our body schema. Our initial encounter occurs at the level of primordial intentionality.[278] Second, whereas I agree with Gallagher on the role of intermodal perception, perceiving what the environment affords for the other is an essential feature of the body-schematic transfer. According to the theory that I defend, apprehending the pragmatic contexts in which we ascribe intentional states to others does not *presuppose* a sphere of intersubjectivity, only a capacity for interacting with general features of the environment, which is then simply transferred to the other.[279]

At this point, I would like to clarify an ambiguity. The argument thus far has been that we perceive that affordances obtain for the other through a body schematic transfer and, ipso facto, we apprehend the other as being in certain intentional states, as being intentionally directed upon certain features of the environment. It is however also the case that we can note that the other fails to apprehend that certain affordances obtain for her. This might be the case when we see that someone is attacking a person from behind. In this case, we obviously perceive that the environment affords danger for the other, and that the other is unaware of this. How should we explain this perception?

I think that the natural explanation is that the body schematic transfer re-centres primordial perception in the direction of the gaze of the other, in which case, the body schematic transfer does not automatically result in apprehending that the other is threatened. However, we may primordially perceive that the other does not notice the affordance. If we were attacking the other, we would primordially see him as attackable, precisely because his gaze is directed upon something else. Further, if we were watching him being attacked, we might primordially see him as someone in need of help, and so on.[280]

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[277] Gallagher, "Phenomenological Contributions to a Theory of Social Cognition", 101ff.

[278] Gallagher though, it should be emphasized, claims in the paper under discussion that there is no cognitive inferences going on in crossodal "translation". It is clear that his account resembles mine in this respect, but as far as I can tell, he nevertheless does not operate with two distinct kinds of intentionality, since he speculates that a direct crossmodal translation might imply that one can directly detect the thoughts and feelings of another person.

[279] It may be that m1 is *genetically* prior to m2. If this is the case my account may be consistent with Gallagher's.

[280] I owe this argument to Helge Malmgren.

Another possible explanation is that the affordances the perceiver apprehends as *objectively* obtaining for the other are automatically apprehended as affordances that the other is intentionally directed upon. If this is the case, it is not possible to primordially perceive that an affordance obtains for an agent but that it is not apprehended by her. It is still possible for this information to feature in the *representational* content of a perception, though. In such a case, the information specified by the body-schematic transfer that the affordance is apprehended by the agent is, so to speak, overruled by the perception that the other is looking in a direction which makes it impossible for her to apprehend that affordance.

8.2.3 BODY-SCHEMATIC TRANSFER AND MIRROR-NEURONS

Before we conclude section 8.2, we should note how neatly my theory fits in with recent research in neurobiology, in particular the discovery of mirror neurons, originally discovered in a section of the macaque monkey's premotor cortex. These are characterised by the fact that they fire when the monkey performs a particular physical action such as grasping an object with its hand as well as when it sees another individual, be it a monkey or a human, perform the same action. Research in recent years suggests that the human brain functions in a similar way:[281] "In conclusion, neurophysiological experiments clearly show that action observation determines in humans an activation of cortical areas involved in motor control."[282]

The original experiments demonstrated that mirror neurons were operative when monkeys watched hand-movements. Recent evidence suggests that, at least in humans, "the mirror-system is not restricted to hand actions, but includes a rich repertoire of body actions".[283] Buccino et al. demonstrated that foot-actions, such as kicking a ball, and mouth-actions were also monitored by the mirror system.[284]

Now, there are four reasons to believe that the functional role of mirror neurons is to help realise a body schematic transfer. The *first* reason is that mirror-neurons are characteristically found in the premotor cortex of humans and primates, an area in which the body schema is realised. This means that mirror-neurons are directly involved in the execution of motor actions and, by implication, that if there is such a thing as a body schema, one of their functional roles lies in enabling it to work

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[281] See for example, Rizzolatti et al. "The Mirror System in Humans", and Rizzolatti et al., "Neurophysiological Mechanisms Underlying the Understanding and Imitation of Action".

[282] Rizzolatti et al. "The Mirror System in Humans", p 41.

[283] Buccino et al., "Action Observation Activates Premotor and Parietal Areas in a Somatotopic Manner: an fMRI Study", p 403.

[284] Ibid., p 40ff.

smoothly. It also suggests that enabling cognition and thought is not a function of mirror neurons. This is not to say that mirror neurons have nothing to do with our capacity for rational thought. Though, the evidence does suggest that their role is as limited as the role of the body schema, since they operate within the motor system of the brain

The *second* reason is that mirror neurons primarily fire when actions are observed, not just when a body, or a part of a body, such as a hand, is observed. This suggests that mirror neurons are related precisely to action understanding, and not to the apprehension of physical similarity between the perceiver and the actor. Needless to say, this is a property that we have ascribed to a body schematic transfer.

The *third* reason is that mirror neurons are sensitive to the type of movement executed as well as to the *context* of the movement. In the case of monkeys, mirror neurons discharge only when the movement is performed in the context of an object. They do not discharge when a movement is mimicked with no object to act in relation to.[285] This is not the case for humans, whose mirror system is activated by seemingly meaningless movements.[286] However, whereas the human mirror system is activated even without a proper context, it is activated to a significantly higher degree in the presence of a meaningful context. Marco Iacoboni et al. demonstrated this in a recent paper.[287] They had subjects watch three different video clips. The first clip (labelled "the context condition") showed two scenes consisting of three-dimensional objects, such as a teapot, a mug and cookies. In the first scene the objects were arranged as they would be just before tea; in the second scene the objects were arranged as for just after tea. The second clip ("the action condition") pictured two scenes in which a hand was seen grasping a cup in the absence of any meaningful context. The third clip ("the intention condition") pictured two scenes in which the movements from the second clip were embedded in the environment in the first clip. In other words, a hand was shown grasping a cup of tea in the context of a table prepared for a meal.[288]

The authors discovered that observation of the third clip yielded greater activity in the inferior frontal cortex than observation of either the first or the second clip did. Thus, these areas were more active during observation of the intention condition than during observation of the context condition. Moreover, the authors discovered that the intention condition yielded more activity in the right inferior frontal cortex than the action condition. This is critical because that area of the brain is directly connected with motor execution and was also active during the

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[285] Rizzolatti et al. "The Mirror System in Humans", p 37.

[286] Rizzolatti et al., "Neurophysiological Mechanisms Underlying the Understanding and Imitation of Action", p 664.

[287] Iacoboni et al., "Grasping the Intentions of Others with One's Own Mirror Neuron System"

[288] Ibid., p 2.

action condition. The authors suggest that this means that that part of the brain "does not simply provide an action recognition mechanism ('that's a grasp') but rather that it is critical for understanding the intentions behind other's actions."[289]

The authors conclude that whereas the "conventional view" of intention understanding distinguishes between comprehension of what is done and comprehension of why it is done, their study suggests "that the intentions behind the actions of others can be recognized by the motor system using a mirror mechanism".[290] In other words, the motor system is involved in more than providing a description of the seen action; it can also provide the "reason" a particular action was done.

Once again, it is important to note how nicely this fits in with the theory developed here. We have seen that body schema can act in an environment without the benefit of explicit instructions from our capacity for rational thought and cognition. Moreover, we have seen that a transfer of body schema involves both a proprioceptive element and an element of (external) primordial perception. Transferring the body schema is tantamount to apprehending the other as an embodied agent in an environment that affords meaningful actions for him. What Iacoboni et al. demonstrate is that there are neural correlates of this capacity; our theory can give these mirror neurons a specific functional role.

The *fourth* reason to believe that the functional role of mirror-neurons is to help realize the body schema is that evidence suggests that the mirror system is activated during action observation as well as when the perceiver *anticipates* that the agent will execute a specific action. Kilner et al. showed that when an agent had reason to anticipate a particular action, the motor system activated in advance of the actual performance of the action. The authors suggest that this may be because it is advantageous for subjects to be able to anticipate rather than merely react to the actions of other individuals.[291] The study is also highly consistent with a theory of intersubjectivity as a body schematic transfer, which states that a transfer can predict what the other is about to do when the other is apprehended as intentionally related to certain affordances in the environment. Some of these may do more than invite an action; in the context of certain activities, they may demand that an action be performed. A body schematic transfer is sensitive to these affordances by its very nature; consequently, it will detect them in advance. It is not implausible to suggest that one of the major functional roles of the mirror-system studied by Kilner et al. is enabling this element of the body schematic transfer.

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[289] Ibid., p 3.

[290] Ibid., p 5.

[291] Kilner et al, "Motor Activation Prior to Observation of a Predicted Movement", p 1300.

8.3 Some Implications and a Comparison to Husserl

Merleau-Ponty's theory is heavily indebted to Husserl's. It is presented within the framework provided by Husserl's theory and the novelties in Merleau-Ponty's analysis are best brought out in comparison with Husserl's theory. It is important to point out that the Husserl we are about to criticise is but a crude version of the real Husserl. The Husserl of the *Cartesian Meditations* is different from the Husserl we encounter in his posthumously published texts. These may turn out to be consistent with Merleau-Ponty's theory to some extent and are not open to this criticism if that is so. However, Husserl's precise position in his posthumous texts, and the degree to which he escapes Merleau-Ponty's objections, is a horribly difficult problem that we cannot deal with here.

In his criticism of the classical analogical account,[292] Merleau-Ponty points out that it involves four critical features. The first is the apprehension that the subject has of himself, in particular of his own "psyche". The second feature is the body image. The third feature is the appearance of the other as a body. The fourth feature is the critical notion of the psyche of the other, which, on this account, the constituting subject must "re-constitute" or "guess" "across the appearances of the other through his visual body". Moreover, a step from the first three notions to the fourth is needed in Husserl's particular version, which is a form of associative "pairing".[293] Merleau-Ponty's criticism is directed at several steps in this argument. On Merleau-Ponty's account, what is flawed is first the notion that some kind of intellectual inference is involved in the process and, second, that the relation between the bodily appearance of the other and the intentional states he is seen to be in is indirect. Let us turn to the first objection!

8.3.1 OBSERVING INTENTIONAL STATES

In Husserl's account, the visual appearance of the other is paired with the body image the perceiver has of himself. The visual appearance of the other is similar to the image that the perceiver has of himself. Through the process of pairing, the other is ascribed the same characteristic properties as those the perceiver has

[292] Husserl is actually not singled out explicitly in the passage referred to, but it is probably safe to assume that he is the target.

[293] Merleau-Ponty, "The Child's Relations with Others", p 115.

ascribed to himself. Merleau-Ponty develops his own theory in comparison to Husserl's theory:[294]

> To the extent that I can elaborate and extend my body schema, to the extent that I acquire a better organized experience of my own body, to that very extent will my consciousness of my own body cease being a chaos in which I am submerged and lend itself to a transfer to others. And since at the same time the other who is to be perceived is himself not a 'psyche' closed in on himself but rather a conduct, a system of behavior that aims at the world, he offers himself to my motor intentions and to that 'intentional transgression' (Husserl) by which I animate and pervade him. Husserl said that the perception of others is like a 'phenomenon of pairing' [*accouplement*]. The term is anything but a metaphor. In perceiving the other, my body and his are paired, resulting in a sort of action which pairs them [*action à deux*]. This conduct which I am able only to see, I live somehow from a distance. I make it mine; I recover [*reprendre*] it or comprehend it. Reciprocally I know that the gestures I make myself can be the objects of another's intention. It is this transfer of my intentions to the other's body and of his intentions to my own […] that makes possible the perception of others.[295]

This passage makes it clear that Merleau-Ponty considers his own theory of intersubjectivity to be a version of Husserl's, but that he differs from Husserl on the crucial question of what is paired and what pairing is. According to Merleau-Ponty, the visual appearance of the other is not paired with the body image of the perceiver; the body schema of the perceived person is paired with the body schema of the perceiver. This insistence that the body schema is paired, not the body image, has two important consequences. The first consequence is that the process of pairing is exhausted by m1 and m2. (See above secs. 8.2.1-8.2.2) The perceiver perceives the other as a corporeal being with a primordial perception of his own. Through the transfer of the body schema, the perceiver apprehends that the other is in certain intentional states. The second consequence is that the pairing is not a *cognitive* process, as in Husserl's theory. According to Husserl's account, the body image of the perceiver is paired with the visual appearance of the body of the other. The body image is a set of (linguistic and non-linguistic) *mental representations* that the

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[294] This has also been noted by Dillon, who makes a different, and exegetically possibly more faithful interpretation of Merleau-Ponty's thoughts on the matter. See Dillon, *Merleau-Ponty's Ontology*, p 121f.
[295] Merleau-Ponty, "The Child's Relation with Others", p 118

subject has of his own body. Even though the perceiver need not consciously draw any inferences, one consequence of Husserl's theory is that the process of pairing depends upon mental representations which are available for cognition. Certain beliefs regarding the nature of the other are inferred by "eidetic necessity" from certain representations or beliefs regarding the nature of the perceiver.[296]

Merleau-Ponty's alternative approach has some intriguing consequences for the status of beliefs based upon a body-schematic transfer. Philosophers have usually distinguished between perceptual beliefs which are independent of previous beliefs and perceptual beliefs which are dependent on such beliefs. Jerry Fodor has cashed this out as the distinction between observation and inference.[297] According to Fodor, a perceptual belief is observational if the belief-fixation is a direct consequence of the activation of the senses. A perceptual belief is inferential if it is mediated by a process of inferences from previously held beliefs.

It is important to point out that, according to Fodor's definition, the inferential process need not be conscious or cognitively accessible. An acceptance of the gist of Fodor's distinction need not even necessarily imply an acceptance of a cognitive psychological theory of belief-acquisition.

A typical example of observational belief would then be the case when we perceive an object as being a red ball. We do not need earlier beliefs to perceive geometrical shapes and colours. A typical case of inferential belief would on the other hand be when a physicist at work perceives traces of hydrogen atoms by means of an instrument. In this case, the physicist does not perform any conscious inferences based on visual perception, but her belief that she perceives hydrogen atoms is nevertheless dependent upon an inferential process that involves her previously acquired beliefs. A person with no education in physics would not have the same perceptual content.

Now, in most theories of intersubjectivity, beliefs about the intentional states of the other cannot possibly be other than inferential. This is certainly the case in Husserl's theory of intersubjectivity. Perceiving the other as an embodied consciousness requires on Husserl's account not only that the perceiver have certain representations regarding the nature of his own body, but also that these representations are operative in an associative process which proceeds by eidetic necessity. However, since this process is belief-dependent, Husserl's account of the

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[296] Husserl's theory is obviously far more sophisticated than this; he does not fit easily into any cognitive-scientific framework. The point here is that he is committed to a theory according to which the analogical process depends upon representations of my own body and mind, which are available for cognition and are in some sense objects for beliefs. This makes the process described in his theory inferential and based upon beliefs, if expressed within the framework provided by cognitive psychology, even though Husserl himself would not have preferred these terms.

[297] See Fodor, "Observation Reconsidered".

intentionality of intersubjectivity implies that our perceptual beliefs about the mental states of the other are based on inferences.[298]

But this is not the case with the Merleau-Pontyian theory developed here. The body schema is not cognitively accessible. It is not made up of a set of beliefs about the body. Rather, it is an ability to see the world as inviting certain actions along with an ability to perform those actions. Transferring the body schema to the other is an ability to see the environment as outlining certain possible actions for the other, while seeing the other as able to perform such actions. There are no propositional attitudes involved in the transfer of the body schema. By implication, the perceptual beliefs that arise as a consequence of a body schematic transfer arise independently of inferences involving previously acquired beliefs. A fortiori, the apprehension that the other has certain primordial intentional states is not inferentially mediated; hence, our perception of the other through a body schematic transfer is observational.[299]

Nevertheless, the very idea that we are able to observe intentional states is counterintuitive to most philosophers.[300] Part of the reason for our reluctance to admit that we can observe psychological states is presumably that many of us have a (pre-) theoretical notion of intentional states as essentially phenomenally conscious and a connected notion that they are either phenomenally conscious for

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[298] According to Shaun Gallagher, this reading of the *Cartesian Meditations* is erroneous. According to him, the pairing is not visual in nature, but kinaesthetic, made possible by a "direct" link between motor activity and perception; in turn, enabling the perceived movements to be directly mapped upon one's own proprioceptive system. According to Gallagher's account, Husserl's theory would closely resemble Merleau-Ponty's. See Gallagher, "Phenomenological Contributions to a Theory of Social Cognition", p 97f. For a different, in my opinion exegetically more correct, view of the Husserlian project, see Smith, *Husserl and the Cartesian Meditations*, p 241. For a recent non-Husserlian defence of an idea similar to Gallagher's Husserl, see Montero, "Proprioceiving Someone Else's Movements". Two important differences remain between my Merleau-Pontyian theory and Gallagher's Husserl / Montero. According to my account, states of primordial intentionality are intermodally perceived, not intuitions or states of cognitive intentionality. A second difference is that on my account not only kinaesthetic information, but also, and more importantly, the affordances of the other are intermodally perceived.

[299] It is important to note that the fact that the perceptual content is observational, does not render it epistemically secure. For example, if a transfer of body schema is made towards a person who, unbeknownst to the perceiver, is physically handicapped in a critical way, it will likely not result in a veridical perception. If I were to automatically ascribe a glass of water as graspable for the right hand of a partially paralyzed person, even though he is unable to move his right hand, I am ipso facto falsely ascribing an intentional state to him. Moreover, the other person may not be in the ascribed state even if he is fully functional – he may simply have failed to apprehend that an affordance obtains for him.

[300] My discussion of this particular problem owes a lot to a discussion I had with Alexander Almér, though I can no longer remember which ideas were his and which were mine.

us or non-observable. Therefore, according to this account, it is conceptually impossible to observe the intentional states of someone else.

However, I think that this objection rests on a mistake because an intentional state need not be phenomenally conscious. Propositional attitudes, for example, are not normally phenomenally conscious, yet at least some of us are inclined to count them as being intentional. Moreover, there is no specific phenomenal quality associated with states of primordial intentionality. Therefore, our apprehension of our own states of primordial intentionality need not differ from our apprehension of the primordially intentional states of others in the sense that the former apprehension has a specific phenomenological quality which the latter lacks.

Another line of objection might be that the intentional states of others can never be sensed and that our concept of observability is closely related to our concept of sensibility. An object that can be observed, according to this account, can be sensed since observing an object involves having some kind of sensory awareness of it.

While it is true that we are unable to sense the psychological states of the other, I believe that it is erroneous to claim that we can only observe sensible properties of an object. Consider my current perception of my cup of tea. I clearly perceive the cup as "within reach". I do not believe that most philosophers or ordinary folk would complain if I ventured to say that I could also *observe* that the cup is within reach. Yet, the affordance of being reachable is clearly not a *sensible* property of either the cup or of the cup-as-it-is-related-to-me. So it appears that we can non-controversially observe at least some non-sensible properties of objects.

It is true that there is a difference between perceiving an affordance and perceiving through a body-schematic transfer that another person is intentionally related to an affordance. Bu the difference is primarily to be found at the level of the causal-genetic origins of the perception. In both cases the intentional object is a non-sensible property of an object. Apprehending an affordance that obtains for yourself is a process that normally is caused by perceiving a specific object and results in a body-schematic preparedness to act in relation to the affordance. Apprehending that the other is intentionally related to an affordance is normally a process caused by perceiving a specific external object *and* an individual, resulting in an automatic transfer of the capacity for primordial perception to the perspective of the other individual. Thus, the difference is not so much a difference in the nature of the mental processes involved as a difference between the distal stimuli leading to the perception. For no mental inferences are going on in either case. By implication, it appears that perceiving someone else as intending an affordance is just as observational as perceiving an affordance for yourself.

Let us turn to another problem: A natural objection at this point may be that even though the reasoning above may be correct, it is irrelevant in the context of the modern philosophical discussions on other minds or intersubjectivity. Such

discussions centre upon the *cognition* of the mental states of others; nothing in the discussion so far has indicated that a "transfer of the body schema" would in any way involve information that is cognitively accessible. In the account given so far, the body schema has on the contrary frequently been referred to as to some extent cognitively inaccessible. By implication, such an objection may argue that, in cases where it is claimed that perception of certain intentional states can be direct, perception cannot be representational. Therefore, if some mental states are perceived directly, they must be perceived directly by the body schema, for whatever use that creature may make of this, and should be considered to feature only as non-representational content in perceptions.[301]

Now, even though I believe that a transfer of the body schema yields information that is not by necessity cognitively accessible, but that may nevertheless be used by (the body schema) of the perceiver, I also believe that a transfer of the body schema in the normal course of affairs results in a direct and representational perception of the other as being in a certain intentional state. It is a brute fact that we can perceptually represent that others are in a specific state of primordial intentionality. No doubt, the easiest way to explain this is by assuming that it is due to our capacity for body-schematic transfer, rather than any inferential capacity.

There is a further argument to the same effect: our own body schema is to some extent operative in perceptually representing the world. So the results of a body-schematic transfer should also be perceptually represented. Even though the operations and dispositions of the body schema need not be cognitively accessible in their entirety, they are normally to some extent accessible for cognition. We know for example roughly what we are doing, and can to a certain extent monitor our movements, even though we have no way of consciously monitoring our movements in any detailed way. However, if the body schema is cognitively accessible to some degree, there appears to be nothing to hinder our having rough knowledge of what we are doing as well as of the fact that we can perform the same kind of movements that *the other* is perceived as performing. By implication, M1 (See section 8.2.1) applies to the representational content of perception.

What about M2 (See section 8.2.2)? Well, affordances are perceptually represented to some extent. The fact that an object has a certain use-function contributes to the representational content of the perception. This does not mean that all the information that is available to the body schema is mirrored in the representational content of the perception, but some of it is. I might perceive that an object is graspable; in this case, the object is represented as being graspable. However, the object is primordially perceived as *graspable if I perform these kinds of bodily movements*. Such a specification of bodily movements being required in order

[301] Assuming, that is, that it makes sense to speak of non-representational content that is not cognitively accessible.

to perform the movement does not contribute to the representational content of the perception, at least it is not entirely mirrored in that content. In line with the reasoning regarding M1, it follows that it is possible to observe affordances as obtaining for the other. By implication, M2 applies to the representational content of perception. *A fortiori*, a body schematic transfer can yield representational perceptual content.

8.3.2 PRIMORDIAL INTENTIONALITY AND THE MANIFESTATION OF INTENTIONAL STATES

The argument thus far has established that we apprehend, in virtue of a body schematic transfer, that the other is intentionally related to features of his environment. This obviously makes a body schematic transfer epistemically somewhat insecure since the other may fail to intend what the environment would afford for the perceiver, if she were in the position of the other. However, in some cases the epistemic situation is more secure, as is the case when the other is engaged in the process of physically acting in the world, viz. attempting to *realise* an affordance.

This, I take it, is the gist of Merleau-Ponty's second objection to Husserl's theory. According to Merleau-Ponty, Husserl makes a fatal mistake in assuming that the relation between the bodily appearance of the other and her intentional states is indirect. On Husserl's account, behaviour is at most an indication of something that can never be perceived and never be definitely confirmed, viz. the presence of a conscious state. Merleau-Ponty, on the other hand, does not operate with Husserl's traditional Cartesian notion of a conscious state. What is primary in Merleau-Ponty's account is a notion of an intentional state, which need not be phenomenally conscious. It need not necessarily be enclosed within the psychological sphere, but can manifest itself outwardly in behaviour. We should note that "consciousness" in the following quote does not mean phenomenal consciousness but rather intentionality.

> My 'psyche' is not a series of 'states of consciousness' that are rigorously closed in on themselves and inaccessible to anyone but me. My consciousness is turned primarily toward the world, turned toward things; it is above all a relation to the world. The other's consciousness as well is chiefly a certain way of comporting himself toward the world. Thus it is in his conduct, in the manner in which

> the other deals with the world, that I will be able to discover his consciousness.[302]

What does this mean? I think that it means two specific things. Or at the very least, since Merleau-Ponty is not explicit at all, it ought to mean two things. First, it means that you can observe the intentional states of the other in the sense explained above. Second, it means that you cannot perform habitual physical actions without the environment affording those actions and that you apprehend these affordances. In other words, it means that when you do something in which your action involves a habitual component, you are intentionally related to some features of the environment that make the action possible.

Let us look a bit closer at the second feature. To be in a state of primordial intentionality entails that you apprehend which physical actions the environment invites, or demands of, you to perform. It consists in other words of the apprehension of certain relations between you and your environment. Performing a habitual physical action is tantamount to *physically* relating oneself to these affordances. You attempt to realise the demands of the environment, you decline some invitations and accept others. Thus, performing a physical action is a physical way of being related to one's affordances. In short, it is to *manifest* them.

This does not mean that the physical movements *themselves* are intentional states. It is rather the case that you couldn't perform physical actions without being in specific intentional states. Thus, for example, you could not jump over a fence without perceiving the fence as jump-over-able. So jumping over the fence entails being intentionally related to the fence.

It is true that the physical movements required to jump over the fence are still merely a sign of this intentional state. However, this relation does not resemble the relation between mental states and behaviour as conceived of in the traditional discussion of other minds. This is because whereas *physical movements* indicate mental states, it makes no sense to say that *behaviour* indicates mental states.[303] If you perform a physical action, you must have apprehended that the environment affords that action. But the physical movement required to jump over the fence indicates the physical action or behaviour of jumping over the fence. It is logically possible to perform jump-over-a-fence-movements without actually doing it as an action, though you would presumably have to resort to referring to zombies or bodies kidnapped by aliens in order to find examples of this. However, the

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[302] Merleau-Ponty,"The Child's Relation with Others", p 116f.

[303] This point has been forcefully made by Dretske. See his *Explaining Behaviour*, ch 1.

movements would not constitute a physical *action*, unless the agent had *apprehended* that the environment afforded that action.[304]

Now, expressions of pain, suffering or joy are only contingently related to physical movements. It is not necessary to feel pain in order to express pain-behaviour. However, jumping-over-the-fence-behaviour is *necessarily* related to intending the fence as jump-over-able; it is not possible to pretend to jump over a fence and not intend the fence as jump-over-able.[305] In this sense, performing a habitual physical action is tantamount to manifesting the affordances (qua intentional states) which invite or demand the action. These affordances are non-sensible features of the perceived action. Nevertheless not all states of primordial intentionality are thus manifested; affordances which are not realised are not manifested in the action.

It is important to emphasize that the fact that states of primordial intentionality can manifest themselves does not entail that they are reducible to movement. A purely *physical* description of a physical movement, no matter how complete, would on this account not include facts of an intentional or mental nature. For states of primordial intentionality are non-physical features of physical action.

Through the capacity for re-centring primordial perception the other is perceived as intentionally directed towards features of the environment. The other will be perceived not as *moving* around in a purely physical world, but as *behaving* in an ecologically meaningful world and his actions will be seen as fulfilments of the invitations and demands of the affordances of his environment.

The error in most traditional accounts of the problem of other minds and, indeed, in Husserl's account too, is assuming that if a purely physical *description* of a physical movement does not yield intentional or mental facts, then it follows, ipso facto, that there are no observational and non-inferential visual *perceptions* of intentional or mental states. But, as I have tried to show, this does not follow, because there is – literally – more to visually perceived actions than meets the eye. Moreover, due to the process of the transfer of the body schema, we are able to noninferentially observe some of the intentional states that the other finds himself in, whether they are manifest or not.[306]

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[304] For an analysis of play-acting and pretension, see Mikael Jensen, *Lärande och Låtsaslek. Ett kognitionsvetenskapligt Utvecklingsperspektiv*, Göteborg 2007.

[305] It is however possible to pretend that one shall jump over the fence without intending the fence as jump-over-able but that is another matter.

[306] It is important to note that the notions of observation and inference are only employed at the level of cognitive content. If the modular theory of perception is correct there are some ongoing processes and inferences which are not cognitively accessible, but which are nevertheless critical for the correct functioning of the perceptual system. In that sense, perception is in some sense inferential. Cf. McDowell, "The Content of Perceptual Experience".

8.3.3 A POSSIBLE COUNTER OBJECTION, OR A ROLE FOR PROPOSITIONAL ATTITUDES AFTER ALL

Before we close this chapter, it is necessary to deal with an important consequence. I have argued that the nature of an affordance depends upon the environment, the body schema of an agent and the particular activity in which the agent is involved. I have also argued that what an agent does within the context of an activity is rarely if ever possible to explain in terms of his propositional attitudes, but must be explained by recourse to his body schema. But I have also argued that why an agent is engaged in a certain activity in the first place, is normally to be explained by recourse to his propositional attitudes. However, since affordances depend upon the activity of the agent, it appears that they will depend upon his propositional attitudes as well. If this is the case, transferring a body schema might require "tuning in" to the activity of the agent. Since his activity depends upon his propositional attitudes, a veridical transfer might therefore seem to depend upon the beliefs of the perceiver concerning the activity in which the target of the mentalising process is involved. Moreover, if this is the case, the transfer-based perception is not observational after all.

It is however very important to point out that the body-schematic transfer may yield knowledge that is observational but nevertheless be dependent upon our previously held beliefs. If this is correct, there can be observational beliefs that depend upon previously acquired beliefs. This may seem to contradict our previous account, but the contradiction is merely superficial. For some beliefs may be genetically dependent upon other beliefs, even though they are not "inferentially" dependent upon them. For beliefs and desires may shape the *nature* of the body schema, without interfering in the *processes* that makes it function.[307]

The body schema can adjust according to the beliefs and desires of the agent without the body schema subsequently being dependent upon propositional attitudes. Learning to play football, for example, requires that your body schema adjust to the rules of the game; someone who is free with his own goalkeeper and sees a chance of scoring has obviously failed in this respect. However, as we have seen, the body schema operates independently of the propositional attitudes of the agent. So whereas the *properties of the body schema* may to some extent depend upon the propositional attitudes of the agent, the *intended affordances* of a particular situation do not directly do so. For the body schema does not have a symbol-processing or inferential nature. The point is that whereas it is possible to change the nature of the body schema by means of practical reasoning, the body schema

[307] This is a common feature of entities. A person's character is shaped by his parents, but he can function without them. A computer is shaped by various engineers, but the engineers do not intervene directly in the computational processes, and so on.

does not *operate* by processing beliefs and desires. Once you have changed your body schema through practical reasoning, it can operate independently of that reasoning. This, of course, applies in cases of body schematic transfers as well.

I think that there are six other points that needs to be made in the course of replying to this objection. But let me first point out that my thesis is not that *all* body-schematic transfers yield observational knowledge. The argument is that some do. And this is also all that is required when the thesis is put to philosophical use in chapter 10.

First, it is important to point out that the nature of some affordances does not depend upon the activity in which an agent engages. It is quite clear that some affordances will almost always demand a particular course of action, regardless of the agent's activity. Generally, a vertical slope downwards will demand-afford that the agent stays away from it.

Second, perceiving a manifestation of an intentional state as discussed in section 8.3.2, does not require knowledge of the particular activity the agent is involved in. Indeed, in this case, the perceiver may not even apprehend that an agent apprehends an affordance before the agent attempts to realise it. However, in this case, the perceiver's apprehension of the agent's intentional state is entirely a matter of body-schematic transfer. Seeing someone walk across a floor requires for example no prior knowledge of the activity that the agent is involved in, in order for a perceiver to see the agent as apprehending the floor as walkable.

A *third* point that needs to be made is that quite a lot of affordances are independent of the particular activity of the agent. My cup of tea affords grasping, regardless of my particular activity, as long as I am within reach. This is not to say that I will grasp for it, only that as long as the cup of tea features within embodied space, it is intended as affording grasping. If I perceive a cup close to someone else, I will apprehend through a body-schematic transfer that the other intends it as graspable too. I may get the demand / invite character of the affordance wrong or it may be left open, but I will nevertheless apprehend that the other is in a particular intentional state.

So far we have been content to analyse the role of intentional-state ascriptions. It is also important to point out that a body-schematic transfer has an important role to play within the context of behavioural predictions. For a behavioural prediction to be adequate at the level of body-schematic transfer, knowledge of the specific character of the affordances that obtain for the other is required. As we have seen, an agent will normally attempt to realise affordances with demand-character, but not always attempt to realise ones with invite-character. However, the specific character of an affordance will often – but not always – depend upon the nature of the activity the agent is involved in. Therefore, for most body-schematic predictions

of behaviour, knowledge of the particular activity an agent is engaged in, is necessary.

This leads to a *fourth* point. In some cases, it is possible to know which activity an agent is engaged in, without a prior apprehension of her propositional attitudes. If you see someone walking in a certain direction, you may see her as constantly realising certain affordances and declining others. This knowledge, while not involving any particular beliefs and desires, may still lead to an apprehension of the particular activity she is engaged in. For example, let us assume that Lisa walks across a field, where some kids are playing football. She never looks at the kids, attempts to kick the ball or make any other detours; she is walking straight across the field while someone is walking in the opposite direction. In this case, we can see that she constantly declines some affordances and only realises the affordance which leads to the shortest way towards meeting the other person. Hence, she is obviously engaged in the activity of meeting someone but it is possible to apprehend that without using our beliefs about social encounters. We need only our perceptions of affordances declined and realised.

The *fifth* point that needs to be made is that, at times, it is indeed the case that we need propositional attitudes in order to know which activity an agent is involved in. Thus, perceiving a game of football as a game of football presumably requires that you use some of your propositional knowledge of football. In this case, perceiving what the other will do requires that you first "tune in" to his activity by using your propositional knowledge of a certain activity and, in the second step, perform a body-schematic transfer in order to predict what he will do within the course of his activity.

This leads us to the *sixth* point. In some cases, the target of the mentalising process may be engaged in a very complicated activity that would normally not be explainable except with recourse to the propositional attitudes of the agent. As it happens, you are engaged in the very same activity as the other. In other words he is seen as pursuing the same goal as you, or, as the case may be, trying to prevent you from reaching your goal. This may be the case with athletes who play football, with fishermen out at sea or with carpenters building a roof. In these cases, it would normally require certain beliefs in order to "tune in" to the activity of the other. However, if the other is already primordially intended as engaged in the same context of activity you are, you obviously do not need any mediation of beliefs in order to figure out what he is up to.[308] When you encounter someone on the football field running with the ball, he is *primordially intended* as engaged in playing the same game you are. *A fortiori*, you will through a body-schematic transfer make rather accurate predictions of what he will do, even though you do not draw upon

[308] This is, I take it, Gallagher's point in his analysis of intersubjectivity as an interactive practice. See in particular, Gallagher, *How the Body Shapes the Mind*, ch 9.

your beliefs. You will primordially intend him as helpful or harmful in certain ways. In this case, beliefs may be required in order to engage in an activity and, if you are not already engaged in it, you presumably need some beliefs in order to figure out what activity the other is engaged in. However, you do not need to *draw* on these beliefs in order to make accurate predictions once you are engaged in the same activity.

9. Theory Theory and Simulation Theory Revisited

If my account of the intentionality of intersubjectivity is correct, there are some intriguing consequences for how we should view the debate between simulation theory and theory theory. Needless to say, a theory of intersubjectivity as being a transfer of the body schema cannot solve all the problems that "mindreading" or the so called "problem of other minds" gives rise to. However, it has some surprising implications for what has been normally conceived of as the attribution of beliefs and desires to other subjects.

I argued in chapter 6 that primordial intentionality is not reducible to cognitive intentionality. Primordial intentionality cannot be explained in terms of propositional attitudes. In effect, this pulls the plug on the traditional theory theory in so far as that theory attempts to explain primordial intentionality, since it does not distinguish between cognitive and primordial intentionality.

But there may still be a couple of loopholes left open for the theory theorists. Andrew Meltzoff and Shaun Gallagher have proposed an account of how we attribute states of primordial intentionality to others that can be described as simulative on a cognitive level, while leaving a small role for primordial intentionality or something akin to it. I will present and criticise that theory in the first section of the present chapter. In the second section, I assume that primordial intentionality can be explained within the framework of homuncular functionalism – contrary to my argument in chapter 7. I present and criticise an attempt at explaining the attribution of states of primordial intentionality to others by theorising at a homuncular level. Once again, Andrew Meltzoff's ideas are my target, though this time his co-authors are Alison Gopnik and Keith Moore. In the third section, I discuss the implications of my theory for standard versions of belief-desire psychology and in the fourth section I argue that it lends some support to Robert Gordon's version of the simulation theory.

9.1 Attribution of Primordial Intentionality as Cognitive Simulation

According to Gallagher and Meltzoff, we attribute states of primordial intentionality through a kind of cognitive simulation.[309] This claim is presented in the course of a discussion from an alleged Merleau-Pontyian perspective of Meltzoff's and Moore's famous empirical studies. According to Gallagher and Meltzoff's theory, the neonate initially receives visual information about the appearance of the other. This information is transmodally transferred in the second stage to the infant's proprioceptive awareness, thus making the infant proprioceptively aware of what movement the other is performing. Both these stages occur at the cognitive level – this is the critical difference between Gallagher and Meltzoff's theory and my own Merleau-Pontyian theory. At the third stage, the infant's proprioceptive awareness of the movement of the perceived other is transformed to the body schema and can be executed as an imitative action of the perceived other.[310]

Gallagher and Meltzoff provide three arguments for their theory. The first argument is that neonates are able to imitate novel gestures.[311] This argument is directed against the possible counter objection that imitation is a reflex. It does not threaten my position, though, since the crossmodal "translation" which Gallagher and Meltzoff claim occurs on the cognitive level, occurs on the primordial level in my account.

Their second argument is that neonates can correct their imitations. The initial imitations that the infants displayed in Meltzoff and Moore's respective studies did not always show a great degree of resemblance to those of the adult being imitated. However, during subsequent attempts, the infants fared better and better.[312] This proves that there has to be a capacity for correcting motor responses.

Now, it is quite clear that there is such a correction mechanism at the cognitive level; after all, this is why we are consciously able to act counter to our habits and to retrain our body schema. But there is a correction mechanism at the primordial level too. This is demonstrated by the light-switch experiment in which subjects changed the course of movement when the target changed, although they were

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[309] Gallagher and Meltzoff, "The Earliest Sense of Self and Others", p 224. Or, since the concept is not featured in their theory, we attribute something at least akin to primordial intentionality.

[310] Gallagher however, locates the intermodal process at the body-schematic level in a later work. (His concept of body schema however differs from mine) See Gallagher, *How the Body Shapes the Mind*, p 225. This is however contradicted by an earlier theory in the same work. Cf. Ibid, p 75ff.

[311] Gallagher and Meltzoff, "The Earliest Sense of Self and Others", p 222f.

[312] Ibid., p 223.

unaware of the switch of movement and of the switch of target.[313] Why should we assume that a cognitive mechanism is operative in the case of the neonates? As far as I can see, Gallagher and Meltzoff provide no answer to that particular question. Moreover, even if the movement is corrected due to an intervention at the cognitive level, it still doesn't prove that simulation of the other occurs at that level. It may be that the other is first simulated at the primordial level, but that the correction is a subsequent revision of the process of imitation due to the infant's belief that the imitation was erroneous.

Their third argument is based on the fact that infants are able to imitate a certain movement even after a certain period of time has passed after they perceived it. Thus, infants initially observing a man performing certain facial gestures imitated these gestures. 24 hours later, when shown the same man, only this time not performing any facial gestures, the infants still managed to imitate the man's original gesture. According to Gallagher and Meltzoff, this shows that infants can imitate from memory.[314]

What does this experiment prove? Does it really prove that *imitation* is a cognitive process? While Gallagher and Meltzoff's account can explain the phenomenon in terms of a cognitive process, it can also be explained in terms of the Merleau-Pontyian theory defended here. In my account, what really occurs is that the infant incorporates a new movement in his body schema when he imitates the man. When he sees the man he imitated 24 hours before, he associates this movement with the man and performs it again.

So far, I have argued that Meltzoff and Gallagher's theory has no distinct advantages over my version of the Merleau-Pontyian theory. A case could also be made that the latter has certain advantages which the former lacks. I will mention two such advantages.

According to Meltzoff and Gallagher, visual information is given to cognition and translated into the framework of the perceiver's proprioceptive awareness of herself. The information is transferred to the body schema in the next stage.

The first reason the theory of a body schematic transfer is preferable is, as we have seen, that there are informational barriers between the primordial and cognitive levels. As a result, some information is bound to get lost when information is transferred from the cognitive level to the primordial level. Hence, Gallagher and Meltzoff's theory makes little or no computational or evolutionary sense.

It is often directly relevant to the actions of the perceiver that she knows which affordances obtain for the other. The other's future actions can feature as an affordance in embodied space. If he is about to hit me, he affords danger, and so

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[313] See chapter 6.

[314] Gallagher and Meltzoff, "The Earliest Sense of Self and Others", p 223.

on. But this being so, it makes more sense if the crossmodal transfer occurs at the primordial level because, if that is the case, less information will get lost in the process. Moreover, not only will less information get lost, the process will take shorter time too.

The second reason is that, at some stage, mentalising has to be made available for cognition. The other is perceived to be in a specific mental state at some stage. The infant is not only imitating; at some stage, the infant perceives that the other is in the same state as herself. Moreover, crossmodal transfer is normally only a part of a more comprehensive capacity for attributing intentional states and predicting actions. I have argued that this is best explicated as a body-schematic transfer, but in any case, some kind of simulation is likely operative.

Now, Gallagher and Meltzoff could plausibly and consistently claim that simulation of the other is performed at the cognitive level (which is the likely interpretation of their theory) or at the primordial level (a less plausible reading since their main point is that the crossmodal transfer occurs at the cognitive level). If simulation is performed at the primordial level, Gallagher and Meltzoff would end up with a theory which claims that the crossmodal transfer occurs at the cognitive level, subsequently, the information is transferred to the primordial level and then transferred back to the cognitive level. Needless to say, this makes no biological sense at all, since informational losses would occur both when information is transferred to the body schema and when it is transferred from it. On the other hand, if they claim that simulation or identification occurs at the level for cognition, they end up with a theory that makes little computational sense. Why should our minds be construed so that we simulate the other at the cognitive level, when we would get far more accurate output if we were simulating him at the primordial level? Again, should we really assume that animals have to simulate each other at the cognitive level, in order to know each other's intentions?

9.2 If Homuncular Functionalism Were True…

I argued in chapter 7 that primordial intentionality cannot be explained within the framework of homuncular functionalism. Assuming that argument is correct, the theory theorists cannot save the day by claiming that the theorising involved in mentalising is done at a subpersonal level. However, there are a few theories on the market that might be interpreted as claiming this. For the moment, let us assume

that primordial intentionality can be explained by homuncular functionalism, and look at the explanatory value of these theories.

Gopnik and Meltzoff in particular can be associated with the homuncular version of the theory theory (although Meltzoff can be interpreted as supporting other theories in other publications). Even though they claim that the process described in their account is theoretical, it is difficult to see just what it is that makes it so. Gopnik claims that the view is theoretical in the sense that, according to it, neonatal imitation goes "beyond immediate perceptual experience, it enables genuine and productive predictions, and it is revised in the light of further evidence".[315]

Unfortunately, the fact that neonatal imitation enables predictions does not make it a theoretical system. A simulation theorist would for example claim that this feature characterises mental simulations as well. And it is characteristic of a transfer of the body schema too.

The fact that neonatal imitation can be "revised in the light of further evidence" can also be explained in terms of a body schematic transfer. First of all, as we saw above, the body schema is dynamic and capable of automatically adjusting movements. Moreover, a theory of intersubjectivity centred upon the notion of a transfer of the body schema does not in the first hand attempt to explain (the learning of) physical movement, but the attribution of intentional states. The fact that a neonate has to adjust his movements in order to better match the movements of the person he is imitating is compatible with a transfer of the body schema. Even though a neonate by means of such a transfer can correctly perceive what kind of movement is performed, he may not be able to perform the movement himself initially, because his own body schema may not be fine-tuned when it comes to the execution of the movement. By implication, the fact that a neonate adjusts a movement in order to better match the movement imitated does not, in itself, indicate that the neonate is employing a theory when imitating.

Another claim made by Meltzoff and Moore is that "representations" underlying imitation employ the same "supramodal language" as the visual perception of the movement and that the "cognitive act is to compare these two representations".[316] One way to understand this is to conceive of the supramodal system as a system that detects motor plans and executions but is epistemically neutral between the first and the third person. Thus, the theory is equally applicable in first and the third person, even though the information that it is applied to may not be presented in the same sensory modality.

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[315] Gopnik, "The Scientist as Child", p 510.

[316] Meltzoff and Moore, "Infants' Understanding of People and Things", p 53. The reference to a "cognitive act" could plausibly be interpreted as though they were arguing for a theory theory in the hardliner's sense. There are passages that would contradict such an interpretation.

Oddly, this would be consistent with the claim by Meltzoff et al. that the supramodal system allows the perceiver to infer by analogy some mental states of the perceived. The idea here is that when I do something I have certain mental "experiences" or "kinaesthetic sensations", which become mapped onto the execution of the motor plan. When I watch the other do the same – through the presumably theoretical supramodal system – I can infer by analogy that the other is in the same kind of state.[317] On this account, the detection of a certain sort of action is made possible by a certain theory, but the subsequent inference of mental states is made possible by a simulation, or by an analogical inference. However, I am not sure whether Meltzoff et al. would agree with this presentation of their views on the relation between theory and simulation – their various presentations of their theory oscillate somewhat between primordial mindreading being a form of theorising and a form of simulation.

The trouble with Meltzoff and Moore's theory in my interpretation, keep in mind that we are still assuming that homuncular functionalism is true, is that the evidence does not prove what Meltzoff et al. needs, viz. that a *theory* is involved in the mentalising any interesting way. Why should we for example assume that crossmodal mapping resembles theorising in any interesting sense?

9.3 Primordial Intentionality and Belief-Desire Psychology

Let me state from the outset that my theory cannot explain all there is to our attribution of propositional attitudes to other human beings. In particular, I do not believe that it can explain various problems involved in metarepresentation. For example, there is the almost classical problem of how one might explain certain false beliefs of autistic children, as studied in some famous experiments. In such cases, a child first watches an object being placed at a particular place in front of a second person. The second person is absent in the next stage and the object is removed from its location and hidden some other place. In the third stage, the second person returns to the scene. Children who master the concept of false belief attribute the belief that the object is wherever it was placed in the first stage to the second subject. Those who do not master the concept of false belief (particularly,

[317] See for example, Meltzoff, "Elements of a Developmental Theory of Imitation", p 35. Meltzoff's claims that the process results in an apprehension of phenomenal states is, mildly put, not very convincing.

autists and three year olds have been reported in the literature) attribute the belief that the object is where it is hidden to her.

At last, on the face of it, a theory of intersubjectivity built upon the notion of a transfer of a body schema cannot explain this phenomenon, in essence, because it involves cognitive states such as beliefs. The body schema does not operate with cognitive intentional states; it operates with states of primordial intentionality. However, my theory is still able to explain some features of propositional attitude psychology.

I have argued that primordial intentionality is different in nature from cognitive intentionality. However, when we explicitly reason in an everyday context about our motives for performing actions, we tend not to make this distinction. In such cases, we tend to explain behaviour in terms of propositional attitudes, not in terms of primordial intentionality. In non-scholarly discussions, the natural way of explaining psychologically why a subject jumps over an obstacle when he is running is to explain it in terms of his beliefs (he believed he could jump over it, he believed he would stumble and fall were he not to jump over it, etc.) and desires (he desired not to stumble and fall), rather than by the fact that he had a certain primordial perception that his body schema acted upon.

This is the kind of intuition that is operative in propositional attitude psychology. It has to be conceded that it is a strong intuition, but I believe that it is possible to explain it. The intentional states of primordial intentionality often correspond to particular cognitive states, or give rise to such states. For example, if I primordially perceive an object as affording a specific action, the representational content of my perception normally presents this affordance as obtaining, though it need not present the affordance at the same level of detail as it is presented in primordial perception.[318] We primordially perceive the floor as *walkable if this and that movement are performed* but we only represent the floor as *walkable*.

My point is not only that we need not invoke beliefs in order to explain certain aspects of human behaviour, but also that a theory of primordial intentionality can explain why we are inclined to invoke beliefs. Take a very simple example: Why does Alan walk over the bridge rather than on the ice over the river? Because the bridge affords walking, the ice over the river does not afford walking and Alan is intentionally related to his environment. But if we were to ask Alan, would he answer that he believes that the bridge affords walking and that the ice does not afford walking? Yes, he would, because the affordances feature in his representational content. Moreover, depending upon your favourite theory of belief-formation, you could say that it is available for cognition or that it is qua

[318] That a perceptual experience is representational means in this context only that it presents certain states in the world to a perceiver as obtaining, and that this content is available for cognition. It does not imply that the immediate perceptual object is a representation, rather than "the real thing".

representational content already a kind of belief. But it does not *cause* his behaviour *qua* representational content.

So our intuition to explain almost every facet of behaviour with recourse to the beliefs of the agent can be explained. How about our inclination to invoke desires? Roughly the same answer can be given here. As we have seen, affordances have both a mind-to-world and a world-to-mind direction of fit. Within the context of a certain practice, an affordance may demand that its invitation to action is met, even though it is not in a similar way obeyed in other contexts. To give a few very trivial examples: If you are out taking a walk, you will always attempt to walk in walkable places. If you are playing football and you see a situation which affords scoring, you will attempt to act on that affordance. If you are trying to climb a hill, you will attempt to take a climbable route to the top, and so on. If you are already engaged in a certain activity, some of the affordances that you encounter will regulate your behaviour rather directly. In the context of a certain practice, you will want to obey some affordances due to the very nature of that practice.

Now, just as the mind-to-world fit of affordances features in processes of belief-formation, their world-to-mind fit can feature in processes of desire-formation. A perception of a particular affordance not only gives rise to (a disposition to form) a corresponding belief, but it can also give rise to (a disposition to form) a corresponding desire. For example, when you primordially perceive that a bridge over a river is walkable and when you are engaged in an activity that requires you to cross the river, you will be disposed to form the belief that the bridge is walkable and that you desire to cross it. Therefore, if asked why you crossed the bridge, you will answer by referring to your propositional attitudes.

If the above reasoning is correct, a correct explanation of habitual movements that are performed by the body schema, cannot be given in terms of the beliefs and desires of the agent. However, it is still possible to give a convincing, if systematically false, explanation of most actions that is couched in terms of beliefs and desires, because the agent has, or is disposed to have, those kinds of beliefs and desires that make the action rational from the standpoint of propositional attitude psychology. Still, the propositional attitudes do not cause the action.

The same kind of intuition that deludes us in this case, deludes us in the case of intersubjectivity. It deludes us in the sense of leading us to assume that our attribution of intentional states to others, or prediction of their behaviour, can be explained in terms of *our* propositional attitudes as well as in the sense that it makes us believe that what we attribute to the other are propositional attitudes.

To sum up this section, there are two common errors involved in belief-desire psychology. The first error is made easily enough. One might reason that, even if all intentional states are not propositional attitudes, surely any attribution to others of intentional states and any prediction of their actions, must be explained in terms of

the propositional attitudes of the attributor. I have argued that this is a deeply mistaken view, since not all propositional attitudes have direct causal powers. The causal power may reside with the corresponding states of primordial intentionality. The second error is somewhat different. It overlooks the fact that there can be some actions which are not reducible to stimulus-response correlations but are still not explainable in terms of propositional attitudes. In other words, the error is that it assumes that an intentional state with causal powers must either be a propositional attitude or be intimately related to a propositional attitude. However, this misconstrues the nature of physical action.

9.4 The Theory of Body Schematic Transfer and the Simulation Theory

If my account is correct so far, two important consequences follow. The first is that we can now explain how some attributions of beliefs and desires to the other work. The second consequence is that Robert Gordon's version of the simulation theory has received some support.

The first consequence should come as no surprise at this point. By means of a transfer of the body schema, we can apprehend the other as intending the affordances of his environment. By implication we can, following the reasoning outlined above, also know that the perceived agent has the corresponding beliefs and desires.

On Gordon's account, we should remember, the perceiving subject first imaginatively transforms himself into the agent whom he wishes to simulate. On this account, the simulator attempts to put himself into the position of the person simulated by adjusting his own relevant intentional states to the states the other is supposed to be in. In the *second* step, certain propositional attitudes are ascribed to the perceived subject by means of an ascent routine. Generally speaking, this means that the simulation is run at a lower level than the subsequent output that is ascribed to the other. Thus, if person, A, is asked *whether person B believes that p is the case*, A puts himself in the shoes of B and performs a simulation. In the next step, A asks himself *whether or not p is the case*, given the simulated perspective in which he finds himself. The answer is subsequently ascribed as the belief of B. Consequently, A has managed to answer a question that employs mental concepts by means of a process, a simulation, that does not in any way employ such concepts. The advantage of this theory is that it can explain how it is possible to attribute a specific mental state to someone without possessing the corresponding concept of

the mental state. The simulator need not master the concepts of belief or desire, in order to ascribe beliefs and desires to the other, since the ascription is performed at a lower level, one of imaginatively projecting oneself into the position of the other rather than the level of explicit psychological theorising.

In a similar way, the theory of the transfer of body schema can explain how at least certain beliefs and desires are ascribed to the other. It is accomplished through a body-schematic transfer; the perceiver apprehends the other as intentionally directed to the affordances of his environment. As explained above, the perceiver, while thus maintaining a "simulated" perspective of the other, can also apprehend affordances as featuring in the representational perceptual content that the other has. Given this information, it is finally possible for the perceiver to apprehend some of the propositional attitudes that the other has. What I am suggesting, in short, is that the attributor can attribute representational perceptual content to the other on the basis of his knowledge of the affordances that obtain for her, and propositional attitudes on the basis of his knowledge of the representational perceptual content that obtain for her.

If this account is correct, simulation theory can avoid at least one alleged problem. According to Nichols and Stich, simulation theorists cannot account for the detection of what other subjects perceive. This is something that Nichols and Stich claim that their theory can do. They assume that there is a specific perception detection mechanism responsible for detecting available information in the perceptual landscape and for what the perceiver is looking at. According to Nichols and Stich, it is unlikely that this detection mechanism has much to do with simulation because it is unlikely that information about the perceiver, such as direction of gaze and whether or not her eyes are open, can be explained by a process resembling simulation.[319]

Of course, Nichols and Stich are correct in pointing out that detecting the direction of the gaze of the perceiver and whether or not her eyes are open is unlikely to have anything to do with simulation. Strictly speaking, this does not show much, because detection of gaze and whether or not the eyelids are open need not, I would venture to say *does not*, play a prominent role in detecting which perceptual information is available to the other. In the normal state of affairs, we simply assume that the other has her eyelids open and that she is looking in roughly the same direction that her head is turned. Further, information regarding the direction and posture of the head is given through our amodal perception of the position of the other. Consider people with sunglasses, for example. In the normal course of events, we are fairly confident that we know roughly what they perceive, even though we have no access to information regarding the direction of their gaze and whether or not their eyelids are open.

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[319] See for example Nichols and Stich, *Mindreading*, p 135f.

It is true that there are cases where information regarding gaze and whether or not the eyelids are open is important. However, these cases do not pertain to the issue being discussed here: the question of *habitually* attributing mental states. When we habitually try to ascertain the perceptual beliefs of the other, this kind of information is simply not used. It becomes relevant if we explicitly note that the other has her eyelids closed, or is constantly staring in a direction that is different from the direction in which her head is turned. These examples can presumably be explained by assuming that the habitual understanding is overruled by our cognitive system in these cases. Beliefs derived from a body-schematic transfer are not exempt from revision if they conflict with other beliefs. In this sense, they are just like all other beliefs; they are sensitive to theoretical beliefs and explicit theorising. However, this sensitivity does not imply that our basic capacity for mentalising is theoretical in nature.

If my explanation of how we apprehend the perceptual states of the other is true, the modest version of "simulation theory" that emerges from the present explanation really can explain our attributions of beliefs and desires. Using a Merleau-Pontyian theory of transfer of the body schema and a Gordon style process of semantic ascent, we can explain how the habitual attribution of propositional attitudes arises. The components that, according to Stich and Nichols, make it necessary to assume that there is some kind of special perceptual detection mechanism responsible for ascribing these propositional attitudes, are simply not operative in the habitual understanding of other persons.

Against this background, it is also possible to respond to two other objections to Gordon's position that were raised earlier. Or, to put it another way, it is possible to defend Gordon's theory in so far as it is interpreted in accordance with Merleau-Ponty's theory of a transfer of the body schema.

The first objection was originally raised by Alvin Goldman. He claims that, even though an ascent routine may work for beliefs, it is difficult to see how it can work for desires. However, on the account being given here, affordances have two directions of fit. Representationally perceving an affordance is tantamount to being disposed to form a belief that that affordance obtains and, if it has a demand-character, to form a desire that it should be realised. In other words, an affordance could just as well give rise to a desire as to a belief. So Goldman's objection can be countered.

The second objection raised was that, given Gordon's description of an imaginative transformation of the attributor into the target, it was difficult to see how this process can be accomplished if it does not include bracketing of some relevant beliefs and desires of the agent. I still find it difficult to see how Gordon might be able to escape this objection, but it should be noted that it is not a problem for the account being defended here. According to Gordon's version of

the simulation theory, the intentional states that are processed are propositional attitudes, even though the simulator need not be able to recognize them as such. However Merleau-Ponty's account does not start with propositional attitudes at all; it starts with a form of primordial intermodal perception and an ability to primordially perceive from the perspective of the other. In a way, the problem is solved automatically. As a matter of fact, we need not bracket any states at all because our knowledge that the other is in certain intentional states is observational rather than inferential.

10. Body Schematic Transfer and the Conceptual Problem of Other Minds

The question concerning the conceptual problem of other minds characterises a large part of mid-20th century philosophy of mind. In this chapter of the dissertation, I wish to relate my theory to this classical discussion through a critical analysis of P.F. Strawson's famous chapter "Persons" in his *Individuals*. Strawson's account of the problem of other minds, in my opinion, is one of the best accounts to emerge from the discussion concerning other minds that prevailed in the decades around and after 1950. He manages to avoid the traps of both behaviourism and a dualism gone mayhem. Furthermore, he is perhaps the best critic of the idea that our epistemological access to other minds can be found in some kind of reasoning by analogy. Moreover, in various passages Strawson indicates having sympathy for a solution of the problem of other minds that focuses on our ability to make sense of the physical movements of others, which is the kind of account that I have attempted to provide here. The first section of the chapter presents Strawson's account. The second compares it with my own theory, and the third section presents a novel analogical solution to the conceptual problem.

10.1 Strawson on the Problem of Other Minds

The main thesis in "Persons" is that persons are basic particulars, i.e. the notion of a person is primitive and can be reduced neither to a set of mental properties nor to a set of physical properties. Thus conceived, both mental and physical properties can be ascribed to a person, but a person is neither a purely mental, nor a purely physical entity. Strawson reaches this conclusion after trying to answer questions concerning why one's states of consciousness are ascribed to anything at all and, in particular, why they are ascribed to the same thing as certain physical properties.[320]

[320] Strawson, *Individuals*, p 90.

A natural response to Strawson's question might be to emphasize the crucial role played by our body in different kinds of experience – particularly perceptual experience, and to claim that the self is a physical entity, viz. a body. Strawson considers this a plausible answer, but argues that it ultimately fails. In order to show why this is so, Strawson offers a thought experiment of a creature S, who has one unified mind but whose perceptions are dependent on facts about three different bodies, A, B and C. S can only see if the eyes of body A are working and the eyelids of body A are open. In this respect, the states and conditions of the eyes and the eyelids of bodies B and C are irrelevant. However, the states and conditions of bodies A and C are irrelevant for what perceptual view S has of the world. That view is singularly determined by the location of the head and eyeballs of body B. However, S can only see from the position of body C, hence, the location of bodies A and B are irrelevant for what S can see.[321]

According to Strawson, this odd example illustrates the fact that the perceptual experience of a person depends on the body of the perceiver in several ways as well as that every single kind of dependency is contingent. Strawson's conclusion is that even though human beings are one-bodied, the "complex uniqueness" of our own body appears to be "a cluster of contingent matters".[322]

Strawson thinks that these relations of contingent dependence can explain why a person can feel a particular "attachment" to a specific body, but that they do not explain why he or she would also be inclined to ascribe corporeal properties to a self. Much less can they explain why *experiences* should be ascribed to the same self – after all the relation between an experience and a body is contingent. Hence, Strawson feels free to conclude that whatever a self may be, it is not (identical to) a body.[323]

Before proceeding to explicate his own theory of the nature of the self, Strawson considers two other theories, the rarely held "no-ownership theory" and the classical Cartesian dualistic answer. Strawson is uncertain if anyone has ever explicitly argued for the no-ownership theory, but sees some evidence that the theory was once held by Moritz Schlick and at one time by Ludwig Wittgenstein. Be that as it may, the general idea of the no-ownership theory is that, strictly speaking, there is no substance or entity that owns an experience. The no-ownership theorist does not deny that there is a causal dependence between bodies and experiences; thus there is no disputing the fact that my current experience of a light pain in the right shoulder depends on the state of my body. In that sense, the experience of pain can be said to belong to my body. However, this relation is entirely contingent

[321] Ibid., p 90ff.

[322] Ibid., p 92.

[323] Ibid., p 92ff.

and does not imply or mean that the experience of pain is *owned* by an ego or a self whose function is to possess or own experiences.[324]

Strawson though, argues that the above formulation of the no-ownership theory is incoherent. In order to present his view, the theorist will have to state, "All *my* experiences are causally dependent on body A" or something in a similar vein. Now, the upshot is that "my" obviously refers to a self – which the theorist denies exists – and that it cannot be eliminated. If the theorist simply eliminates it, the result will be a sentence that is ridiculous – all experiences are causally dependent on one unique body. On the other hand, if the theorist argues that "my" in this context simply means "body A", the sentence is analytically true. However, since the theorist needed the sentence to be contingently true, his efforts has once again failed. If states of consciousness could not be ascribed to a particular person, we would not be able to refer to them at all. As we have seen, the no-ownership theorist is unable to ascribe states of consciousness to particular persons in a coherent manner. Thus, his only way out would be to deny that it is possible to refer to particular states of consciousness. But that is an absurd view of the matter. Hence, the no-ownership theory cannot be true.[325]

The Cartesian, on the other hand, holds the diametrically opposed view that experiences not only can be ascribed to egos or selves, but that properties that are mental in nature are the only properties that can be so ascribed. The Cartesian is in other words a substance dualist and subscribes to the thesis that human beings consist of two different entities, one mental by nature, the other material by nature.

Strawson's attack on the Cartesian position is that it makes any attempt at solving the problem of other minds impossible. Strawson assumes that we can, strictly speaking, have knowledge of and make meaningful utterances about other minds and that sentences ascribing mental properties to a particular person have the same meaning whether or not they are uttered by the person himself or by another person. Thus, the predicate-word in the sentence "I am in pain" has the same meaning as the predicate-word in the sentence "he is in pain."

Strawsons next move is to argue that the Cartesian is unable to explain how this could be so. This is because we cannot ascribe mental properties to other selves if only private mental properties can be ascribed to the self. This follows naturally since selves according to the Cartesian account have only privately accessible properties, and it is by implication impossible to identify other selves. Hence, we cannot know anything about these entities or the properties that apply to them. This generates further bad news for the Cartesian. If *the only criterion* for identifying states of consciousness is *private experiences*, then it becomes impossible to conceive of the distinction between one's own experiences and those of another. Hence, it

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[324] Ibid., p 94ff.

[325] Ibid., p 96f.

becomes impossible to ascribe experiences to *anybody*, which is obviously a ludicrous position.[326]

At this point, the Cartesian would probably protest, and claim that it is possible to discern other selves, in which case the absurd conclusions don't follow. The natural starting point would be to claim that every self (at least in this world) is in some way correlated to a body. Basically, the Cartesian would have to do with a version of the analogical argument for the existence of other minds. If I know that I stand in a special relation to a certain body and see a similar body, I can infer that there is another self correlated with that body in the same way that I am correlated with this body.

Strawson though, argues that this argument misses the point. What is at stake is not in the first place the possibility of being able to ascribe psychological states to others, but the possibility of being able to ascribe psychological states to anyone at all, be it in the first person or in the third person. What the Cartesian assumes is that I can ascribe psychological properties to myself because I stand in a special relation to a certain body. According to Strawson, however, this implies that I must be aware of a difference between myself and another self. If this were not the case, the analogical argument would never get off the ground. But this is not possible since selves on the Cartesian account only can be ascribed properties that are not accessible to the third person.

According to Strawson, it is in the nature of psychological predicates that they can only be possessed by creatures that can ascribe them both to the first person and to the third person. Strawson's argument for this, if I understand him correctly, is that the predicates have the same meaning, when ascribed to the first person as when they are ascribed to the third person. Thus, any argument from analogy has to presuppose that the subject can ascribe psychological predicates. However, one cannot ascribe those predicates according to Strawson's argument, unless one is both a first and a third person ascriber. Hence, the argument has to presuppose what it shall prove, that the constituting subject can ascribe psychological states to others.

Having dispatched with no fewer than three answers to his initial questions, Strawson is now ready to give an answer of his own. The answer is, in short, that the concept of *person* is logically primitive and that persons are ascribed both mental and physical properties. In this way, Strawson manages to steer away from the defects of the other answers. In contrast to the view that the self is identical with its body, Strawson can claim that the self is something different. In contrast to the no-ownership theory, Strawson can point out that mental properties, on this view, can be ascribed to a specific entity. And in contrast to the Cartesian, Strawson can claim that mental properties can be ascribed to an entity that is not immaterial. Hence he

[326] Ibid., p 100.

avoids substance-dualism without committing himself to a materialistic theory of the mind.

It should be noted at this point that Strawson is not claiming that the concept of a person is to be described in terms of an "embodied soul" or an "animated body". That the concept of a person is primitive means that it does not refer to a compound of two different entities, but to one single entity. Strawson admits of course that we are tempted to describe a person as a compound of a mental and a material entity. But to do so would be a mistake, since there are, as we have seen, good reasons to assume that an immaterial purely mental entity cannot be logically primitive – if that were the case, then the Cartesian would have been right. But as this is not the case, it is impossible to describe the concept of a person as referring to such a compound of body and soul. Hence, any concept of a pure immaterial ego must be considered to be a non-primitive concept, which, in turn, must be analysed in terms of the concept of a person, for example as a "disembodied ego".[327]

According to Strawson, two types of predicates can be ascribed to a person, M-predicates and P-predicates. The former type of predicate can be ascribed to all types of material bodies. M-predicates, for example, ascribe weight, length and form to the individual in question. The latter kind of predicate on the other hand, is only applicable to persons. There are various kinds of P-predicates, examples range from "smile" and "go for a walk" to "believe in God" and "be in pain".

Ascribing M-predicates to another person is obviously not too difficult a problem. However, in the case of P-predicates, we immediately run into the problem of other minds. Now, Strawson cannot claim that P-predicates are ascribed based on observations of signs of their presence, because if signs were the only criteria for ascription of P-predicates, we would have to retreat quickly to a Cartesian position. Any ascription that is based on signs must be based on an analogical inference from the first person case. But the analogical theory is according to Strawson untenable.[328]

Strawson's conclusion is that, at least in the case of some P-predicates, there must be "logically adequate kinds of criteria for the ascription of the P-predicates".[329] Presumably, this means that an observation of the individual in question is sufficient in order for us to ascribe the P-predicate to the individual. But what is observed has to be more than merely a sign of the Psychological state, because otherwise, we would once again end up with an argument from analogy. The observation of the other has to involve certain logically adequate kinds of criteria. Strawson is careful to point out that not all P-predicates have to be ascribed on

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[327] Ibid., p 101ff.

[328] Ibid., p 105f.

[329] Ibid., p 105.

such a basis. It is sufficient if some P-predicates can be so ascribed.[330] This caveat has no function in Strawson's overall theory however; it appears, at times, as if he has forgotten it.

Therefore, according to Strawson, one can ascribe P-predicates to persons on the basis of observations of behaviour. Moreover, the behavioural criteria involved in ascriptions of P-predicates are, at least sometimes, logically adequate for such ascriptions.[331] This leaves Strawson with what he considers to be a problem that must be solved. The problem is that we typically do not ascribe psychological predicates to ourselves on the basis of observation of behaviour. For example, we do not ascribe states of pain to ourselves on the basis of such observations.

But according to Strawson this problem is illusory, and can be avoided once we "acknowledge the unique logical character of the predicates concerned".[332] The mistake we make when we see this problem looming on the horizon is that we assume that we learn to apply psychological predicates first in one way, and then in another. So, for example, on the account being given by the analogical theorists, we first learn to apply a psychological predicate to ourselves, and at a second stage, we learn to apply the same predicate on the basis of observation to the third person. On the account being given by the behaviourist on the other hand, the order is reversed. Initially, we learn to apply the predicate to the third person on the basis of observation, and at the second stage, we learn to apply the same predicate to ourselves.[333]

But both these accounts miss the point. It is on the contrary characteristic of these predicates that they are being used both in the first person and in the third person sense. This means that they are both self-ascribable on the basis of non-observational criteria, and ascribable to the third person on the basis of observational criteria. According to Strawson, it is impossible to possess these predicates without being both a first-person ascriber and a third-person ascriber. One would not understand a mental predicate, unless one was both a first and a third person ascriber.[334]

So, the common error of the analogical theorist or the behaviourist is to assume that one can master the P-predicates either as self-ascribers or as other-ascribers, without at the same time mastering the other ascriptive use of the predicate.

> So we oscillate between philosophical scepticism and philosophical behaviourism. When we take the self-ascriptive aspect of the use of

[330] Ibid., p 105f.
[331] Ibid., p 106.
[332] Ibid., p 108.
[333] Ibid., p 107f.
[334] Ibid., p 108.

> some P-predicates, say 'depressed', as primary, then a logical gap seems to open between the criteria on the strength of which we say that another is depressed, and the actual state of being depressed. What we do not realize is that if this logical gap is allowed to open, then it swallows not only his depression, but our depression as well. For if the logical gap exists, then depressed behaviour, however much there is of it, is no more than a sign of depression. But it can only become a sign of depression because of an observed correlation between it and depression. But whose depression? Only mine, one is tempted to say. But if *only* mine, then *not* mine at all.[335]

If, on the other hand, "we take the other-ascriptive uses of these predicates as primary, or self-sufficient, we may come to think that all there is in the meaning of these predicates, as predicates, is the criteria on the strength of which we ascribe them to others".[336] By implication, unless we accept Strawson's analysis of the P-predicates, we are forced to choose between the Scylla of scepticism and the Charybdis of behaviourism.

Strawson admits that his account leaves one large problem unsolved:

> Now our perplexities may take a different form, the form of the question: "But how can one ascribe to oneself, not on the basis of observation, the very same thing that others may have, on the basis of observation, reasons of a logically adequate kind for ascribing to one?" This question may be absorbed in a wider one, which might be phrased: "How are P-predicates possible?" or: "How is the concept of a person possible?"[337]

This is a problem that strikes at the very heart of Strawson's theory.

Strawson does not offer an answer to this problem, but provides what he considers to be the beginnings of an answer, through a discussion of a particular class of P-predicates, viz. those predicates that ascribe actions or doings to a subject. Strawson believes that the ascription of such a predicate is by implication an ascription of an intention or a mental state, but not necessarily an ascription of any particular experiences or sensations. These predicates are similar to most P-predicates in the sense that they are ascribed to oneself non-observationally, whereas they are ascribed to others, on the basis of observational information.

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[335] Ibid., p 109.

[336] Ibid., p 110.

[337] Ibid., p 110.

However, according to Strawson these predicates are special in the sense that, unlike in the case of other P-predicates, we are not reluctant to admit that it is the same kind of predicate that is ascribed in both cases. This is due to the fact that there is a "marked dominance of a fairly definite pattern of bodily movement in what they ascribe" and a correspondingly "marked absence of any distinctive experience".[338]

Action-predicates release us according to Strawson, from the idea that the only thing which we can know about without any observation or inference is sensations or experiences. We can, for example, know quite a lot about the future movements of our own body, without having any specific observational knowledge to that effect. Yet we can, and certainly do, know quite a lot about the movements of other bodies by means of observations and inferences. But in both the first person case and in the third person case, we interpret these movements as actions, which means that we see them in terms of intentions. And this implies that we see these movements as being performed by individuals, which are themselves self-ascribers of P-predicates.[339]

10.2 Disarming Strawson's Objections

Strawson's strategy is to present a *reductio* argument against the analogical theory, which supposedly leaves the criterial theory as the only viable theory still alive. For reasons outlined in the first chapter, I do not believe that the criterial theory is particularly viable, but Strawson's arguments against the analogical theory still stand. A theory of body-schematic transfer can however avoid them. There are basically two major lines of attack against the analogical theory in Strawson's argument. According to the first, one would not be a self-ascriber of psychological predicates unless one was also an other-ascriber. According to the second attack, one cannot ascribe psychological states to other subjects unless one can identify other subjects. And one cannot identify these subjects, if one is not an other-ascriber of psychological states. I shall discuss the arguments in turns.

[338] Ibid., p 111.

[339] Ibid., p 111f.

10.2.1 DISARMING STRAWSON'S FIRST OBJECTION

According to Strawson's first line of attack, one could not possess a psychological concept if one were not both a first and a third person ascriber of it, since psychological predicates have the same meaning whether they are ascribed from a first or from a third person perspective. By implication, it would not be possible to be only a first person ascriber. Thus, an analogical apprehension of another self would be impossible, since it presupposes a state of affairs in which one is only a first person ascriber.

Now, I for one do not believe that one has to be a third person ascriber of a psychological concept in order to be a first person ascriber. In fact, I find the arguments for that idea rather weak. Nevertheless, even if it were correct, Strawson's argument would still not go through against the theory of body-schematic transfer.

A close look at Strawson's counterargument reveals that it presupposes that an analogical theory has two specific characteristics: The first is that ascribing a psychological state to someone is a cognitive process in which one ascribes a psychological predicate to the other. The second is that the process is inferential. We perceive signs of the presence of a psychological state in the other and infer that the other is in that state.

But a theory of body-schematic transfer does not have these characteristics. A body-schematic transfer is not a cognitive process, so the perceiver does not need to be a possessor of *any* psychological concepts. Moreover, a body-schematic transfer does not mean that we interpret a visual perception of something as a sign of an intentional state. We must recognize the critical difference between a description of the physical features of an action, and a perception of an action. As we have seen, the perception of an action can yield observational knowledge of the intentional states of the agent, even though no such information is forthcoming from a description of the physical features of the action.

Human movement is never apprehended through a body-schematic transfer as a sign in need of interpretation, nor is a psychological state inferred from the movement. If this reasoning is correct, a transfer of the body schema results in a perception of a psychological state, which could not be described in any sense as resulting from the interpretation of a sign.

Now, it is true that when we apprehend that the other is in a (primordial) intentional state, we can do so both at the primordial and the cognitive level. Thus, it may be argued, at the cognitive level we have to ascribe a psychological predicate to the other. This can only be done, by assumption, if we are both self- and other-ascribers, but an analogical process presupposes that we are self-ascribers before we are other-ascribers. However, this objection misses its target. For if my theory is

correct, we apprehend the (primordial) intentional states of the other at the level of the body schema before we apprehend it at the cognitive level.

In order to see the point of my last counterargument more clearly, let us suppose that we can only perceptually represent that another subject is in an intentional state if we possess some concept which applies to that state. It does not follow that we have to possess this concept in order to apprehend the state at the primordial level. When we apprehend the state at the primordial level, we apprehend it as a state, which we could be in as well. And it is as such a state that we representationally perceive it, viz. as a state that is both self- and other-ascribable.

We have seen that the assumptions behind Strawson's first objection are actually quite consistent with the account that I defend. We could even speculate that we acquire concepts which apply to primordial intentionality through a transfer of the body schema. Perceptually representing that someone is in a state of primordial intentionality could be sufficient for acquiring a concept of that state. A transfer of the body schema models the third person on the first person. Perceptually representing that someone is in a primordial intentional state would thus be a situation in which one could be a third person ascriber and potentially a first person ascriber of the same concept concurrently. Thus, my Merleau-Pontyian account would not only be consistent with Strawson's theory in principle; it might actually provide it with a theory of how we acquire (certain) psychological concepts!

10.2.2 DISARMING STRAWSON'S SECOND OBJECTION

Strawson's second objection to the analogical theory boils down to the claim that it would be impossible to identify another self, if one were not *already* an other-ascriber of psychological properties. Strawson's argument, however, is based on the assumption that the analogical theorist is a Cartesian who claims that a self is a disembodied being. Given the presuppositions, this argument may well be correct. But this does not mean that Strawson's argument against the analogical theory works for non-Cartesian versions. It does not. This becomes crystal clear if we assume that a self is an embodied being who conceives of herself as such a being. We may even go as far as to accept Strawson's own ontology and assume that a self is a person, viz. an entity that can be ascribed both physical and psychological properties. In fact, the Merleau-Pontyian theory of intentionality that I have developed in the course of this dissertation probably implies something akin to a Strawsonian theory of personhood.

At this point, a Strawsonian may protest, arguing that we are not warranted in assuming that a solipsistic self, one that has not encountered another self, would conceive of herself as a self. If so, is our assumption warranted? I would argue that

it is. And the reason is that it is *not* a contingent state of affairs that primordial (or embodied) intentionality is related to a *particular* body.[340] Whereas it is possible and perhaps plausible that cognitive and phenomenal states are contingently related to a body, this is not the case for states of primordial intentionality. Beliefs and desires appear for example not to be essentially related to a particular body. Surely you could have had the same beliefs, even if you had not had any body at all! But primordial intentionality is different.

Typically, primordial intentionality is realized in our perception of affordances. Now, a perception of an affordance is an intentional state, the content of which is dependent not only upon the perceived environment, but also upon the body schema of the perceiver, viz. upon the skills of the body and the position of the body in the perceived environment. An affordance is constituted by a subject as presenting an opportunity to do something for the subject. I conceive of the floor as walkable for *me*. Shaun Gallagher has pointed out that no difference between self and body is experienced when habitual actions are performed using the body schema.[341] When performing habitual actions, you *are* your body as embodied intentionality. In the case of cognitive intentionality, you experience your body in a quite different way. In this case, the body is represented in the same way as things that you happen to own, like clothes and books, etc.

If my argument is correct, then (perceived) affordances are by their very essence constituted as belonging to an *embodied* subject. An affordance belongs to the same entity as the body schema.[342] Therefore, insofar as a subject apprehends himself as a physical agent – something that all normal agents do – he will apprehend himself as a person in Strawson's sense. For apprehending that someone is a physical agent entails that one apprehends that a subject can be ascribed both physical and psychological states.

We can frame the argument in a different way to emphasise the main point a bit more clearly. Whether apprehended or not, every affordance is related to a body schema by definition. An ecological property such as being within reach or being walkable, is always constituted by a relation between a feature of the environment and an embodied agent who is capable of acting the way the affordance indicates. So, any affordance must by its very nature be conceived as belonging to an embodied entity.

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[340] The following remarks are a very free interpretation of what I take to be some main tenets or entailments of Merleau-Ponty's account. Scattered remarks in Husserl's posthumously published works indicate that he was on to some similar argument. It was Sebastian Gardner, however, who first brought my attention to the key role of physical agency in any analogical account of other minds. However, my account differs from his on central points. See Gardner, "Other Minds and Embodiment".

[341] Gallagher, "Body Schema and Intentionality", p 228.

[342] This is not to say that I am my body. I conceive of myself as embodied, not as a body tout court.

Now, the fundamental way of apprehending an affordance is through activating the body schema in accordance with the affordance. And when I do something that requires physical agency, like running or walking, I conceive of *myself* as performing the action. I do not conceive of myself as performing the action *through* my body. By implication, I conceive of myself as *an essentially embodied agent*. Therefore, when I act on, or prepare to act on, an affordance, I apprehend something as affording an action for *me* qua embodied being, not for my body. *A fortiori*, the property of *intending* that an object affords a specific action belongs to an embodied subject since the property of intending the affordance surely belongs to me. Moreover, I have conceived of myself as embodied through physical agency.

Consequently, if a subject can ascribe both physical and psychological states to herself, she can conceive of herself as a self. It is true that she may yet not be able to distinguish between self and other self but if this is the case, it is because she has not yet *encountered* another self, not because she is in *principle* unable to conceive of another self. Once she performs a body-schematic transfer, she will analogically apprehend another embodied being as intentionally related to its affordances. This being is not her self, for *she* cannot realise the affordances. Therefore, she will conceive of this embodied being as *another* person.

It is important to note that on my account, we may suppose that Strawson is right in assuming that a self is not identical to a body. For according to my argument, an embodied agent conceives of herself as an embodied agent, viz. as a subject that can be ascribed both psychological and physical states. But this is obviously consistent with the fact that she is not *merely* a body, since the ontology at work is Strawson's own ontology of personhood.

10.3 Solving the Conceptual Problem

The preceding sections have shown that whatever merits Strawson's objections against analogical theories have, they are not applicable to a theory of body-schematic transfer. This means that we can explain how we are able to acquire the capacity for ascribing primordial intentional states in the first place using a theory of body-schematic transfer. In this section I want to sketch in what way my theory is an analogical theory and how it can solve the conceptual problem of other minds, not only with regard to primordial intentional states, but with regard to all kinds of intentional states.

My Merleau-Pontyian theory of a transfer of the body schema is an analogical theory in two senses of the word. First, it does not preclude the possibility that the

subject is a self-ascriber before the subject is an other-ascriber. This runs counter to Strawson's claim that one cannot be a self-ascriber before one is an other-ascriber.

Second, according to my theory, psychological states that are ascribed to the other on the basis of a body-schematic transfer have their content in virtue of being self-ascribable. The subject can ascribe psychological states to the other because he can simulate the body schematic intentionality of the other by a body schematic transfer. In this sense, his own (real or possible) intentional states form the basis for his apprehension of the intentional states of the other.

Note that according to my account, the subject need not actually have ascribed a psychological predicate to herself in order to ascribe it to the other. The critical point is that the psychological state in question must be self-ascrib*able* in order to be other-ascrib*able*. A consequence of this is that it is possible, in principle, that a psychological predicate is *ascribed* to the other before it is ascribed to the self.

This somewhat peculiar feature is a consequence of the fact that the body schema is transferred. As we have seen, an affordance is what the environment affords a perceiver. But an affordance is something that a perceiver has in virtue of having a specific body schema. Situations are likely to occur during the course of a transfer of the body schema, in which the other is ascribed as apprehending an affordance, which has never been perceived as obtaining for the ascriber. This can be the case when the target of the mentalising process is perceived as encountering a peculiar and rare situation that the perceiver himself has never encountered. Were he in that situation, he would see the situation as affording a specific action by means of his body schema. That very affordance is now ascribed instead as apprehended by the target. Here, the perceiver is ascribing an intentional state to the target even though he has never been in that intentional state himself. It is worth emphasizing that even in this case, the content of the intentional state that is ascribed to the target derives its meaning from the body schema of the perceiver. The content is determined by which affordances the perceiver would intend as obtaining, were he or she in the position of the target. In this sense, my theory is analogical.

If my account is correct, one crucial mistake that has often been made in traditional theorising about the problem of other minds has been to consider phenomenal states, such as pain, as the paradigm mental states. The basic trick proposed here is to shift focus to primordial intentionality and start by explaining the primordial attribution of primordial intentional states. Then, we can also explain how we acquire the capacity to ascribe primordial intentional states in the first place, thus solving "the conceptual" problem of other minds for that particular class of mental state attributions. Perhaps the description of this problem as the "conceptual problem" is somewhat misleading in this case. However, since the capacity to ascribe intentional states to others must be considered a prerequisite for

the linguistic acquisition of the corresponding concept, the problem of how we acquire that capacity is an essential part of the conceptual problem.

I have argued that a theory of body schematic transfer avoids the conceptual problem of other minds. If this is correct, then the conceptual problem disappears for analogical apprehensions of other kinds of intentional states too. One main contention in this dissertation has been that a body schematic transfer underlies our habitual ascription of states of primordial intentionality to others. I have not presented a theory of how we habitually ascribe other intentional states such as propositional attitudes or phenomenal states. Neither have I presented a solution for the conceptual problem of ascribing such states to others. I will now try to show that once the conceptual problem has been solved for *some kind* of intentional state, such as primordial intentionality, then it has been solved for *all kinds* of intentional states.

When we attribute two or more distinct kinds of mental states to ourselves, we attribute them to *the same entity*, our own self. In fact, it is not possible even to deny this coherently. Therefore, my states of primordial intentionality are attributed to the same entity as my propositional attitudes and my phenomenal states. It is I, an embodied being, who intends the cup of tea as graspable, has a pain in the foot and believes that Montevideo is the capital of Uruguay. These states belong to the same entity, and I know that.

It follows that propositional attitudes and phenomenally conscious states, no less than states of primordial intentionality, are apprehended as belonging to embodied entities. And I can apprehend them as belonging to myself even though I have never attributed some of these states to anyone but myself. *A fortiori*, if I have ascribed s*tates of primordial intentionality* to *another* self, I can ascribe *states of phenomenal consciousness* to the same self through an analogical process based on first person knowledge. The counterargument, that they are ascribed to *me*, is untenable. When I see someone else displaying pain-behaviour for the first time, I will attribute the pain to him, even though his behaviour is merely a sign of the intentional state. For I (could) have attributed states of primordial intentionality to him, so I know that the embodied creature over there is *another* (embodied) self.

So, the conceptual problem of other minds disappears once we have learned how to attribute some intentional states to others. For once this capacity has been acquired we have learnt that *other selves are embodied beings*. By implication, it becomes possible to analogically ascribe mental states to others on the basis of mere signs of these states. The objection that these states are ascribed to oneself no longer holds, since one knows that selves are embodied beings.

Strawson claims that a logical gap opens up once we treat psychological predicates as primarily self-ascribable and secondarily as other-ascribable, and that this gap swallows the distinction between self and non-self. We can now see that

this is erroneous. If it is indeed the case that some psychological predicates, such as predicates ascribing phenomenal states, are primarily self-ascribable, then it does indeed follow that our ascription of these states to others is analogical and based upon signs rather than logically adequate criteria. This does not mean that the distinction between self and other is nullified. That distinction has already been established by the constitution of the self and the other as persons by ascribing primordial intentional states to the self and to the other.

The preceding arguments have shown that the theory of body-schematic transfer provides a key to the solution of how we acquire the capacity to ascribe intentional states to others. By implication, Strawson's argument against the analogical theory does not get off the ground. Strawson assumed that the analogical theorist had to be a committed Cartesian and must consequently fail to distinguish between self and other. But this is an unwarranted assumption. If we on the contrary assume that something akin to a Strawsonian ontology is correct, an analogical account can distinguish between self and other, precisely because both the self and the other are conceived of as being embodied. Once it can be shown that the distinct selves are conceived of as being embodied, the problem disappears. There is no problem involved in distinguishing between self and other, therefore, a process resembling analogical reasoning (although no reasoning is involved in a body-schematic transfer) is possible.

11. Concluding Remarks

The title of this dissertation is *Intentionality and Intersubjectivity*. If it has a *Leitmotiv* in any sense, it is precisely that in order to understand the nature of intersubjectivity we must first apprehend the nature of the intentionality involved.

The conception of intersubjectivity within modern analytical philosophy provided the point of departure for this work. The first part of the dissertation provided an overview of some of the main current positions and arguments within modern philosophy of mind and cognitive science. I have tried to show how a particular set of problems about other minds came to generate a specific theory of the nature of mind, in other words, functionalism. Functionalism in turn, provides both the mental architecture and the guiding intuitions behind the main kind of theory about other minds in analytical philosophy and cognitive science, viz. theory theory. Functionalism has also led to a specific conception of intentionality within this community: a conception of intentionality as essentially linguistic and rule-following.

In the second part of the dissertation, I argued that the standard conception of intentionality which functionalism generated cannot adequately explain all facets of human actions. Following that, I developed an alternative account based on Merleau-Ponty's notion of body schema. It is in virtue of having a body schema that a person can habitually perform physical actions such as walking and cycling. However, the nature of the body schema cannot be explained in terms of how the agent represents the world as being, that is, in terms of his cognitive intentionality since the body schema can function in virtue of a distinct kind of intentionality, what I call primordial intentionality. This consists of apprehending what (habitual) actions the surrounding environment affords. I argued that primordial intentionality is not reducible to cognitive intentionality and that it cannot be described adequately within a cognitive-scientific framework.

However, primordial intentionality is not unrelated to cognitive intentionality. Actions are normally nested within other actions. The ends of actions performed by the body schema are normally means for attaining goals that can be explicated at the level of the propositional attitudes of the agent. Succinctly put: An agent's propositional attitudes explain why he is engaged in a particular practice, but his primordial intentionality explains why he does what he does within the context of the practice. Thus, cognitive intentionality has an indirect effect on the content of states of primordial intentionality because an environment will afford different things for you depending on the nature of your activity.

I substantiated these claims by arguing, based on phenomenological evidence and psychiatric studies, that primordial intentionality is not reducible to cognitive intentionality. Having the "right kind" of propositional attitudes is neither a sufficient nor a necessary requirement for a properly functioning body schema. It is for example possible to type even if you have no beliefs about the location of the keys on the keyboard. In certain psychiatric cases, patients have correct beliefs about the location of the object that they wish to point at and no motor disturbances that prevent them from doing so, yet they are still unable to point at the object.

Nevertheless, we have to postulate intentional states in order to account for how the body schema works. I demonstrated this by analysing the body schema within the framework provided by Fred Dretske's theory of intentionality. Dretske distinguishes between triggering and structuring causes of an action. Intentional states function as structuring causes and have their causal powers in virtue of their semantics. I argued that the body schema functions as a structuring cause rather than as a triggering cause of bodily movements. It explains why the perception of a specific environmental feature triggers one specific action rather than another.

The body schema can structure an agent's environmental responses in virtue of the fact that the agent is in certain states of primordial intentionality. Moreover, states of primordial intentionality have their causal efficacy in virtue of their semantics. The body schema is modifiable by learning. If realising an affordance does not lead to its expected outcome, you will soon cease to act upon that affordance; its motivational power on the body schema will cease gradually. It is precisely in virtue of *indicating* that a goal in the environment is attainable and *demanding* or *inviting* to realisation of the action leading to the goal that the state exerts its causal power.

The body schema is plastic. If a specific kind of movement fails to lead to its expected effect, that movement will no longer be produced or, at any rate, it will not be produced in the environment in which it fails to lead to its expected effect. Therefore, the imperative content of states of primordial intentionality is modifiable by learning. The indicative content of primordial intentionality is equally modifiable. If it turns out that a state indicating an affordance "misrepresents", it will gradually cease to indicate the specific affordance and will lose its causal power.

In the third part I applied my Merleau-Pontyian theory of primordial intentionality to the problem of intersubjectivity. I argued that a Merleau-Pontyian theory of body-schematic transfer presents a more plausible explanation for a large amount of our mentalising abilities than do those provided by philosophers working within the standard cognitive science paradigm. I also argued that such a theory presents a novel solution to the conceptual problem of other minds.

A theory of intersubjectivity as a body schematic transfer is an analogical theory. Unlike most if not all other analogical theories, however, this one does not entail that the analogical apprehension occurs at the level of cognitive intentionality. A transfer of the body schema has two crucial components. The first component is an apprehension of perceived human movement by the body schema in the form of embodied knowledge. It is important to note that this step does not require any perceived physical similarity between the perceiver and the perceived mover. It occurs at the primordial level. The second component is that when we perceive another human being, we recentre our capacity for primordial perception to the perspective of the other. We start to perceive what the *other* apprehends the world as affording.

These two features jointly insure that we perceive the other as another embodied agent for whom the world has a specific meaning. What it accomplishes is that it is possible to perceive that the other is in a specific intentional state, a state of primordial intentionality.

If my account is correct, it has one very important consequence. In traditional analogical theories the analogical process is conceived of as an essentially cognitive process involving the propositional attitudes of the perceiver. A transfer of the body schema however does not rely on propositional attitudes at all, since it occurs at the level of primordial intentionality. As has been argued here, primordial intentionality is not a symbol-processing or linguistic kind of intentionality; a body-schematic transfer is essentially a *non-inferential* process. By implication, a perception of the other that is based upon a body-schematic transfer results in an *observational* belief about the (primordial) intentional states of the other. In a very specific sense, we are able to observe that someone is in an intentional state.

The failure to correctly appreciate the nature of intentionality involved in intersubjectivity is nowhere more apparent than in the works of those great anti-cartesian philosophers Ludwig Wittgenstein and P. F. Strawson. They famously argued that an analogical solution to the conceptual problem of other minds is impossible, because it would be impossible to ascribe psychological states to another self on an analogical basis. In the last chapter of the thesis, I discussed Strawson's argument, and argued that a body-schematic transfer can avoid his objections.

The critical feature of my theory of body-schematic transfer is that states of primordial intentionality belong to, and are apprehended as belonging to, embodied selves. Consequently, persons who apprehend that they themselves are in states of primordial intentionality will apprehend their own selves as being embodied. By implication, the usual objection against analogical theories, that they result in an attribution of psychological states to *myself*, but in another body, does not work against a theory of body-schematic transfer. Those persons who perform body-

schematic transfers conceive of *themselves* as embodied beings. Therefore, a body-schematic transfer can result in the apprehension that *another* body-self is in certain intentional states.

In the last section of the last chapter I argued that my theory not only escapes Strawson's objections, but also that it can solve the conceptual problem of other minds outright with regard to all psychological states. If a person attributes his states of *primordial intentionality* to an embodied self, then he will obviously attribute *all his mental states* to that same self. It follows that he will apprehend phenomenal states as belonging to an embodied subject. *A fortiori*, the classical objection cannot be raised against an analogical apprehension of phenomenal states either.

I believe that the Merleau-Pontyian theory outlined in this book solves the conceptual problem of other minds; I also believe that it provides an important piece to the puzzle of how we habitually mentalise. There are also important problems that it cannot directly solve; problems regarding, for example, our attribution of propositional attitudes to others. For some of these problems, though, my theory may contribute to the solution.

I am in particular thinking of how we apprehend the mental states behind gestures and facial expressions, especially the feelings and emotions expressed through them. There are indications in recent emotion research that our apprehension of the emotional states of others is facilitated by a mirror-neuron system similar to that which is operative in a body-schematic transfer. Moreover, our capacity to understand emotional expressions has never been given a satisfying explanation.

It may be that both emotional expressions and their decoding are part of the body schema. Here is how such a story may go: Emotional expressions are a kind of actions – a kind of communicative action directed towards others. When we see someone else express an emotion, a body-schematic transfer is triggered and we apprehend the emotional state of the other. There is a problem with this story, however. Unlike states of primordial intentionality, emotions are not had in virtue of the body schema. Therefore, it should not be possible to use one's own body schema as a simulation device in the case of expression. This indicates that we have a distinct capacity for expressing and apprehending emotions. On the other hand, it could also be that we apprehend the other's expression qua *affordance*. Social expressions, we may suppose, afford different actions. Someone in pain affords helping, someone who is grieving, consolation. Even though a lot of further research is needed in this area, the conceptual framework employed in this book may have an important role to play in unravelling this specific puzzle.

Summary in Swedish

Den här avhandlingen handlar om vår kunskap om det annanpsykiska. Traditionellt har tre frågor förknippats med det problemkomplexet: När är vår kunskap om andras mentala tillstånd berättigad? Hur kan vi överhuvudtaget föreställa oss något sådant som ett annat självliv? Och vilka mentala processer är inblandade i attributionen av mentala tillstånd till andra? Den här avhandlingen behandlar de två sista problemen, men dess slutsatser har viss betydelse också för det första.

I den nutida filosofiska diskussionen är det framförallt den tredje frågan som har diskuterats. De två första frågorna försvann i stort sett från den filosofiska dagordningen i samband med att olika filosofer utvecklade funktionalistiska ståndpunkter inom medvetandefilosofin. Ett annat skäl var att de till funktionalismen konkurrerande alternativen, den kriteriologiska teorin och analogiteorin, utsattes för häftig kritik – framförallt det andra problemet, det så kallade "konceptuella problemet" har ansetts olösligt inom den förklaringsmodell som dessa har att erbjuda. Funktionalismen har samtidigt ansetts kunna lösa det andra problemet på ett relativt smidigt sätt.

I modern filosofisk och kognitionspsykologisk forskning är det således framförallt det tredje problemet som diskuteras. Den dominerande teoribildningen hävdar här att vår mentaliseringsförmåga, vår förmåga att tillskriva andra mentala tillstånd, på ett väsentligt sätt involverar en slags teori. På samma sätt som vi har en (förvisso omedveten) teori om fysiska objekts rörelser, som medför att vi korrekt kan förutsäga och förklara hur fysiska objekt interagerar med varandra, så har vi en "folkpsykologisk" teori om hur andra människor fungerar, och kan med hjälp av den teorin förklara och förutsäga hur de beter sig samt tillskriva dem mentala tillstånd. En alternativ teori, som utvecklats på senare år, hävdar dock att det i själva verket rör sig om en form av simulation av den andre, där vi använder våra egna mentala kapaciteter, och så att säga kör systemet "offline" för att simulera fram en beteendeprediktion eller attribution av ett mentalt tillstånd.

Enligt teori-teoretikerna så är de relevanta mentala tillstånd som är involverade i attributionsprocessen propositionella attityder – framförallt naturligtvis försanthållanden men i någon mån också önskningar. Det här ligger naturligtvis i linje med deras påstående att mentalisering är en form av teoretisering – det är svårt att se att teoretiserande kan vara baserat på annat än propositionella attityder. Simulationsteoretikerna är mindre precisa och skiljer sig åt i högre utsträckning i den här frågan. Det är dock värt att notera att också när teori-teoretikerna accepterar att det förekommer någon form av simulering i mentaliseringsprocessen,

så är det nästan uteslutande subjektets propositionella attityder som de anser utnyttjas i simulationsprocessen.

Den grundläggande tesen i den här avhandlingen är att vår kunskap om andras medvetanden i första hand inte är av teoretisk art. Det här betyder naturligtvis inte att inte någon kunskap om det annanpsykiska är teoribaserad, bara att den i första hand inte är det. Mer specifikt så försvarar min avhandling en analogiteoretisk lösning på de två senare av de ovan nämnda problemen, men det är en analogiteori som skiljer sig på flera centrala punkter från en traditionell sådan. Traditionella teorier om vår kunskap om det annanpsykiska har utgått från att de centrala mentala tillstånd som skall attribueras är tankar eller rent fenomenella medvetandetillstånd. I min avhandling hävdar jag tvärtom att det är en form av kroppslig intentionalitet, en primordial intentionalitet, som i första hand attribueras till andra. Tesen utvecklas i anslutning till Merleau-Pontys fenomenologi och mer specifikt hans teori om en intentionalitet hos kroppsschemat och om vår kunskap om det annanpsykiska som en transfer av kroppsschemat.

Grundtanken är nu att om man flyttar fokus från tankar och fenomenella medvetanden till primordial intentionalitet, så kommer den här teorin att undkomma de traditionella invändningar som har riktats mot analogiska teorier – framförallt invändningen att analogiska teorier inte kan lösa det begreppsliga problemet. Dessa invändningar tycks nämligen i första hand fungera om man utgår från andra mentala tillstånd än tillstånd av primordial intentionalitet. Ytterligare en fördel med den här versionen av den analogiska teorin är att teori-teorin inte kan förklara vår habituella attribution av primordial intentionalitet, vilket teorin om intersubjektivitet som en transfer av kroppsschemat uppenbarligen kan.

Avhandlingens första del presenterar den moderna filosofiska och kognitionspsykologiska diskussionen om det annanpsykiska. Jag argumenterar också för att om teori-teoretikerna skall kunna hantera fenomenet primordial intentionalitet, så måste de antingen hävda att primordial intentionalitet är reducerbar till propositionella attityder, eller att den kan implementeras i vad man kan kalla en ”homunculus-funktionalistisk” mental arkitektur.

I avhandlingens andra del presenteras och diskuteras den primordiala intentionaliteten utförligare, och jag argumenterar för att den utgör en distinkt form av intentionalitet som inte kan implementeras i en homunculus-funktionalistisk arkitektur. Begreppet primordial intentionalitet utvecklas i anslutning till Merleau-Pontys begrepp kroppsschema och Gibsons begrepp anmodanskaraktär.

En persons kroppsschema är det som gör att personen kan utföra vanemässiga fysiska handlingar, som till exempel att promenera, simma, sticka och snickra. Ett kroppsschema fungerar utan att vi på något sätt behöver uppmärksamma det. När vi utför vanemässiga fysiska handlingar, så behöver vi inte tänka på dem; kroppen utför dem automatiskt.

Det här innebär inte att ett kroppsschema fungerar oberoende av en individs kognitiva intentionalitet. En person som är inblandad i en viss fysisk aktivitet – till exempel att spela fotboll eller att promenera – har naturligtvis vanligen fattat ett rationellt beslut att delta i den aktiviteten. Men själva aktiviteten utförs som regel i första hand av kroppsschemat. Att jag överhuvudtaget är ute och går är något som kan förklaras med hänvisning till mina propositionella attityder – men inte att jag lyfter benen för varje steg.

Ett kroppsschema har tillgång till information av två slag. För det första har den information om kroppsdelarnas position och rörelse både i relation till omgivningen och i relation till andra kroppsdelar. Annars skulle kroppsschemat inte kunna koordinera utförandet av handlingarna. För det andra – och det är det som är det viktiga i det här sammanhanget – har kroppsschemat information om omgivningen och vilka handlingar som är möjliga i en given situation. För att använda en term från perceptionspsykologen J. J. Gibson så har kroppsschemat tillgång till de omgivande objektens anmodanskaraktär – "affordance" är den engelska termen.

Primordial intentionalitet är en relation som råder mellan en individ och ett objekt i hans omgivning i kraft av att individen har ett kroppsschema. Individen uppfattar att objektet har en anmodanskaraktär, och det innebär att individen antingen handlar i relation till objektet eller har en handlingsberedskap i relation till det. På så sätt kan primordial intentionalitet också beskrivas på samma sätt som traditionell intentionalitet; också primordial intentionalitet har ett innehåll som presenterar det intentionala objektet på ett specifikt sätt – objektet blir presenterat med sin anmodanskaraktär. Det här framträder tydligt om kroppsschemat analyseras utifrån Fred Dretskes intentionalitetsteori.

Primordial intentionalitet är emellertid inte reducerbart till den vanliga formen av kognitiv intentionalitet, eftersom habituella fysiska handlingar inte är direkt styrda av propositionella attityder. Det visas av en rad experimentella och patologiska fall. Det kan inte heller implementeras i en homunculus-funktionalistisk mental arkitektur, eftersom varseblivningar har rumsligt innehåll i kraft av att varseblivaren har ett specifikt kroppsschema. En homunculusfunktionalistisk analys av primordial intentionalitet skulle emellertid tvingas hävda att rumsligt innehåll är något som presenteras för kroppsschemat, dvs något som föregår kroppsschemat. En konsekvens blir följaktligen att teori-teoretikerna inte kan hantera den primordiala intentionaliteten.

I avhandlingens tredje och sista del appliceras den här intentionalitetsteorin på det annanpsykiskas problem. Bakgrunden är Merleau-Ponty's idé om intersubjektivitet som en transfer av kroppsschemat. Merleau-Ponty's teori är i första hand en utveckling av Edmund Husserl's analogiska teori om vår kunskap om det

annanpsykiska, fast med den inte oväsentliga skillnaden att Husserl använde sig av ett mer traditionellt intentionalitetsbegrepp.

Grundtanken är nu att man i första hand kan avläsa andra personers avsikter och (primordialt) mentala tillstånd genom att ”flytta” det egna kroppsschemat till den andre. I så måtto påminner teorin både om den klassiska analogiska teorin och om simulationsteorin. Man simulerar helt enkelt den andre genom sitt eget kroppsschema, eller, annorlunda uttryckt, man utgår från att den andre fungerar på ett analogt sätt som man själv.

En transfer av kroppsschemat består av två kritiska moment. Den innebär för det första att när man ser den andres rörelser så begriper man dem utifrån det egna kroppsschemat. Kroppsschemat utför helt enkelt en latent simulering av de rörelser som den andre utför, men utan att direkt utföra dem själv. Den innebär för det andra att man med kroppsschemats hjälp ser vilka handlingsmöjligheter som den andre har i den situation som denne befinner sig i. Man ser med andra ord vilken anmodanskaraktär de objekt som omger den andre har för denne.

En transfer av kroppsschemat kommer därför att resultera i att den andre attribueras vissa primordiala mentala tillstånd, dvs de primordiala intentionala tillstånd som det egna jaget skulle ha varit i, om det befunnit sig i den andres situation. Även om den här processen pågår på ett primordialt plan, så finns det ingenting som hindrar att själva resultatet av den, dvs uppfattandet att den andre befinner sig i vissa specifika intentionala tillstånd, är tillgängligt för kognition.

En viktig konsekvens av det här resonemanget är att vår kunskap om andras mentala tillstånd delvis vilar på direkt observation. Traditionellt så brukar man skilja mellan perceptuella trosföreställningar som är inferentiella och sådana som är observationella. Skillnaden är att de förra, men inte de senare, är beroende av varseblivarens övriga trosföreställningar. Primordial intentionalitet är emellertid en annan sorts intentionalitet än kognitiv intentionalitet och involverar inte några propositionella attityder. Följaktligen är en transfer av kroppsscheman och resultatet av en sådan transfer oberoende av subjektets propositionella attityder. En naturlig konsekvens av det här resonemanget är att de försanthållanden om den andres (primordialt) intentionala tillstånd som en varseblivning resulterar i är observationella, eftersom de inte är beroende av varseblivarens propositionella attityder.

Om den här teorin är riktig, så kan den också lösa det konceptuella problemet om det annanpsykiska, något som tidigare ansetts vara den största stötestenen för analogiska teorier om intersubjektivitet. En av de mer berömda argumenten mot analogiteorin som tar fasta på detta problem har försvarats av Peter Strawson.

En central premiss i Strawsons resonemang är att mentala tillstånd är kontingent relaterade till kroppar. Per implikation så kan ett själv inte vara identiskt med en kropp och per implikation så attribuerar vi inte mentala tillstånd till fysiska kroppar.

Poängen i det här resonemanget är nu att om en analogisk teori vore riktig, så skulle vi inte kunna identifiera mer än ett själv – det vill säga det som vi attribuerar våra egna mentala tillstånd till. Förvisso skulle vi varsebli andras kroppar, men eftersom dessa inte är identiska med några själv och eftersom några mentala tillstånd hur som helst inte attribueras till dem, så hjälper inte det den analogiske teoretikern. När vi med hjälp av ett analogislut har lyckats identifiera att ett mentalt tillstånd är relaterat till en annan kropp, så skulle vi attribuera tillståndet till det enda själv vi känner till – det vill säga vårt eget. Och det här är naturligtvis en oacceptabel slutsats.

Problemet är emellertid att Strawson har tittat på fel slags mentala tillstånd när han utvecklade sitt argument. Det är förvisso sant att fenomenella mentala tillstånd som smärta tycks vara kontingent relaterade till en specifik kropp. Men ur detta följer inte att mentala tillstånd i allmänhet är kontingent relaterade till en specifik kropp. Att primordialt intendera ett objekt i sin omgivning är med nödvändighet relaterat till en specifik kropp, eftersom det är med kroppen som objekten intenderas. Att jag primordialt intenderar ett objekt, innebär med nödvändighet att jag har en handlingsberedskap att agera i relation till objektet med min kropp så som den är beskaffad här och nu.

Poängen är nu att teorin om en transfer av kroppsschemat undkommer Strawsons invändning mot analogiteorin, eftersom den inte behöver acceptera hans utgångspunkt – att mentala tillstånd är kontingent relaterade till specifika kroppar. Som vi såg, så har huvudinvändningen mot analogiska teorier hela tiden gått ut på att de tvingas hävda att identifierade mentala tillstånd alltid kommer att uppfattas som jagets egna mentala tillstånd, även när de är relaterade till "andras" kroppar. Men om fokus flyttas till primordiala intentionala tillstånd, så kan den här invändningen undvikas. Ty det är i sådana fall inte längre fråga om att identifiera mentala tillstånd som är kontingent relaterade till en specifik kropp, utan om tillstånd som med nödvändighet är relaterade till en specifik kropp.

Avhandlingens slutsats är därför att en teori om en transfer av kroppsschemat presenterar en bättre lösning än konkurrerande teorier på problemet om hur vi habituellt attribuerar (primordiala) mentala tillstånd till andra individer, och att den, trots att den är en variant av analogiteorin för vår kunskap om det annanpsykiska, kan lösa det begreppsliga problemet.

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