



## Joint Philosophy and Psychology Project on Consciousness and Self Consciousness

### Project Statement

#### CONTEXT

The problem of explaining consciousness and self consciousness is the central problem that any account of the relation between the brain and the mind must address. In recent years there have been a great number of books in the sciences and in philosophy claiming to have solved the mystery of consciousness and self consciousness by giving them a purely scientific explanation (a sample of which is: Crick, 1994; Damasio 1994; Penrose 1989,1994; Dennett, 1991; Dretske 1995; Rosenthal 1986), and an equal number of books and articles, mainly by philosophers, claiming that that consciousness and self consciousness necessarily elude purely scientific explanation (a sample of which is: Nagel 1986; McGinn 1991; Chalmers 1996; Block 1995; Jackson 1986; Levine, 1993). Progress beyond such claims and counter claims is severely hampered by the absence of any informed cross disciplinary understanding of what it is that is being explained and what conceptual and empirical constraints successful explanations should meet.

□□□ The project has been set up in the belief that what is needed for genuine understanding of the nature of consciousness and self consciousness is detailed work on issues that can serve to integrate work in philosophy on the subjective phenomenological and epistemological aspects of consciousness and self consciousness, with experimental and theoretical work in developmental psychology, cognitive psychology (including work on information processing models) and neuropsychology.

□□□ The central idea on which the project is built is this. Philosophy and psychology share a number of central concepts, which in philosophy point towards epistemology and phenomenology, and in psychology towards information processing accounts of brain mechanism. The project has identified those key concepts (see below), joint philosophical and psychological work on which is essential for, and will take us a long way forward in, understanding the nature of consciousness and self consciousness. What follows is a brief outline of what these concepts are and the kind of work on them to be carried out in the project.

## OBJECTIVES

### Summary of Project Aims

I. The two central general claims that inform the project are:

(a.) The key bridging concept for relating philosophical and psychological work on consciousness and self consciousness is the concept of a **point of view** or **perspective on the environment**.

(b.) The key general question which will yield most dividends in relating philosophical and psychological work on the nature of consciousness and self consciousness is: How do we distinguish what is involved in possessing a **merely conscious point of view on the environment** from what is required for possessing a **fully self conscious point of view**?

II. This key question will be approached by focusing on the following set of specific problems:

(a.) What are the **representational abilities** required for possessing a merely conscious point of view? And what are the representational abilities available only to fully self conscious perspectives? Specific focus here will be on ways of representing **space, time** and **minds** in perception, action, memory and thought. What kinds of representation of space, time and minds are required for a fully self conscious perspective on the environment? And what kind are required for a merely conscious perspective?

(b.) What are the **psychological mechanisms** required for sustaining a conscious perspective on the environment; and how are they to be distinguished from those required for sustaining a fully self conscious one? The two main mechanisms the project will focus on are varieties of **attention** (in perception, in action control and in sustained reasoning) and varieties of **monitoring** (in the integration of perception and action, in the execution of intentions, in autobiographical memory and in knowledge of occurrent mental states). The question is, then, how do we distinguish the kind of attention and monitoring required for fully self conscious perspectives, from the kind required for merely conscious perspectives?

(c.) How is an organism's **body** represented by it in mere consciousness of the environment, and what are the mechanisms involved in such representation? And how do these differ from the kind of representational abilities, and associated mechanisms required for a fully self conscious perspective on the environment? Specific focus here will be on representations and mechanisms involved in **sensation, action, external perception, joint attention** and **autobiographical memory**.

III. Addressing problems a-c respectively will serve to bring together work in distinct areas of psychology as well as relating psychological and philosophical work. Doing so is one aim of the project. But at least as important for the project is the bringing together of psychologists and philosophers working on all three

problems. **A central substantive and methodological claim that informs the project is that the answers we give to each set of questions are closely interdependent; the project will offer a unique, and essential opportunity for bringing them together.**

## **BACKGROUND**

### General Theoretical Background

(a.) A claim that has its origin in Kant is the claim that an account of consciousness and of self consciousness will turn on the account we give of what it is for a subject's mental states to be related in such a way as to yield a unified perspective on the environment, at a time and over time. (Strawson, 1966). A substantive claim Kant made was that for mental states at a time and over time to constitute a perspective they must, at the very least, be connected in such a way as to yield a representation of a single connected space and a single connected temporal order. Commentators since Kant have added to this the claim that accounts of consciousness and self consciousness must also include an explanation of what is involved in subjects' representing the spatio-temporal order as one that contains, in addition to purely physical objects, minds (subjects or persons) in it. These claims provide the backdrop to the first general question of the project. How are **space, time** and **minds** represented in perceptions and other mental states when these states yield a unified perspective on the environment? One central background claim that informs the project is the claim that an understanding of consciousness and of self consciousness and the relation between them will turn critically on the question: how do we distinguish between the representations of space, time and minds involved in possessing a merely conscious perspective, from those involved in possessing a fully self conscious one.

(b.) For a psychological state to count as a constituent of a perspective on the environment it must belong to a causal nexus of some kind that relates current, past and future psychological states of various kinds in such a way as to yield a unified perspective. There must be some psychological mechanisms responsible for such integration. The second central problems to be addressed in the project is: what are these mechanisms? In the psychological literature **attention** and **self monitoring** have been given critical roles in this respect (James, 1890; Kahneman, 1973; Norman and Shallice, 1986; Shallice, 1992; Johnson-Laird, 1983; Frith, 1992; Perner, 1991; Johnson, 1993). Philosophical interest in the mechanisms involved has tended to focus instead on epistemological constraints that any account of such mechanisms must meet, and on the role of rationality here, whatever the actual mechanisms are (Burge, 1988,1996; Campbell, 1994; Cassam, 1997; Evans, 1982; McDowell, 1994; Peacocke, 1992, 1996; Shoemaker, 1996). A central claim of the project is that an understanding of the nature of consciousness and self consciousness requires integrating philosophical and psychological approaches here. And here too, the claim to be investigated by the project is that an important way of making headway with connecting phenomenological and epistemological concerns with information

processing models of attention and self monitoring is via the question: how do we distinguish between the kind of attention and self monitoring required for a merely conscious perspective of the environment from the kind of attention and self monitoring implicated in a fully self conscious perspective on the environment?

(c.) A non-Cartesian account of the perspectives of consciousness and self consciousness must give a central role to the way we represent and are aware of our own **bodies**. One place in which this often comes up in the philosophical literature on self consciousness is in the neo-Kantian claim that a critical ingredient in the connection between self consciousness and the capacity for objective thought is to be found in the connection between the capacity to represent oneself as one embodied entity among others in the space represented and objective spatial representation (Strawson 1976; Evans 1982, Cassam 1996). The □ body also comes up in discussions, mainly in the phenomenological tradition, of non self conscious perspectives on the world, where the capacity for action and the feeling of sensations is supposed to play a critical role in the anchoring of such perspectives to the body (Merleau-Ponty 1962, 1963; Dreyfus, 1991; Gallagher, 1995). Implicit here is the idea of a distinction between ways of representing the body in, for example, sensation and action that do not involve self consciousness, and ways of representing the body which do, and which are linked with objective ways of thinking about the world. While these ideas are highly suggestive they are, at present, not much more than that. It is arguable that they must be more than that if the general distinction between fully self conscious perspectives and merely conscious ones is to be made good. A central claim that informs the project is that what is needed here is a framework for integrating questions addressed under (a) and (b) with the vast and largely dispersed literature in various areas of psychology on different notions of the 'body image', and with work on attention and monitoring in thought, action, sensation, perception, and memory.

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## RESEARCH

### Specific Research Topics

**(a.) The distinction between the representational abilities involved in a merely conscious perspective contrasted with a fully self conscious perspective.**

1. □ In both philosophy and various areas in psychology there is considerable work on distinguishing different degrees of sophistication among ways of representing space, time and minds. A central idea that will be pursued in the project is that a vitally important way of classifying degrees of sophistication in all three domains is via the question: what kind of representations of space, time and minds go into the possession of a merely conscious perspective? And how do space, time and minds get represented when we have in play a fully self

conscious perspective?

□□□ In both disciplines we also find the idea that, at least in spatial representation, there is a connection between more sophisticated ways of representing space, on the one hand, and the capacity for objective thought, on the other. Another Kantian idea is that there is, in turn, some kind of connection between the capacity for objective thought, on the one hand, and self consciousness, on the other (Cassam, 1997). One way of cashing the latter intuition is to say that a subject is capable of objective thought when she can occupy, mentally, perspectives other than her actual one, and that this brings with it, simultaneously, self consciousness (Campbell 1993; O'Keefe, 1993). Putting the two ideas together, we should expect to be able to map degrees of sophistication in spatial, temporal and psychological reasoning onto the capacity for occupying distinct spatial, temporal and psychological perspectives. While highly suggestive, this idea needs a great deal of conceptual and empirical unpacking if it is to yield genuine understanding of the nature of self consciousness and its relation to consciousness. Doing so will be one main concern of the project.

□□□ The capacity to occupy perspectives other than one's actual one is often referred to, in both the philosophical and psychological literature, as the capacity for 'decentring' (as we use the term there is no commitment to any specific Piagetian thesis). A set of specific questions the project will be addressing is: what exactly is involved in **spatial decentring** (for example, in imaging how objects are related to each other, egocentrically, from a spatial location other than the one one is occupying, Newcombe, 1989; Campbell 1995). What exactly is involved in **temporal decentring** (to the past, as in autobiographical memory of a past perceptual experience, and to the future, as in the reflective formation of intentions, Cromer, 1971; Smith, 1980; Weist, 1986; Campbell 1996). And what exactly is involved in **psychological decentring** (as in imagining 'from the inside' what someone else is feeling or thinking, Harris, 1992; Gopnik, 1993; Gordon, 1986; Heal, 1986).

□□□ One set of questions here is largely conceptual. What kind of objectivity exactly does the occupation of other perspectives give us? And what kind of self consciousness? □ What kind of classification of ways of representing space, time and minds does this yield, and how does it relate to other kinds of classifications? What are the epistemological dividends of being able to decentre? Are there conceptual interdependencies between the capacity to decentre in any of these domains? What are the structural analogies and disanalogies in the decentring in all three domains?

□□□ These conceptual issues should both guide and be guided by empirical work. One area of particular importance is developmental psychology. There is need for systematic working out of experiments designed to test the development of, and relation between, different kinds of decentring skills. Devising such experiments and addressing the conceptual issues just listed will be a central aim of the project. Another area of great importance is work on connectionist modelling of varieties of spatial and temporal representation.

2. Making good the distinction between merely conscious and fully self conscious perspectives, in the terms suggested above, requires making good, conceptually and empirically, an account of a level of representation of space,

time and minds which does not involve the capacity to occupy perspectives other than one's current one. The metaphors of 'immersion' and 'engagement' are widely used in philosophy and in some areas of psychology to describe non self conscious perspectives on the environment (Campbell, 1993; Dreyfus, 1991; Eilan, 1994). In recent years there has been some progress in connecting these metaphors with psychological and philosophical work on egocentric frames of reference with respect to spatial representation (where these are contrasted with frames of reference that are in some sense more objective, Brewer and Pears, 1993; Campbell, 1995; O'Keefe, 1993; Levinson, 1996). A full understanding of the distinction between merely conscious perspectives and fully self conscious ones requires extending and relating this work to a systematic investigation of how such metaphors might be explained with relation to various ways of representing time and minds that are, in some ways, more primitive than those involved in the capacity for decentering.

**(b.) Mechanisms of consciousness and self consciousness**

1. The past fifty years have seen a vast quantity of work on attention and monitoring in psychology, all of it geared to understanding central ingredients in the structuring of consciousness and self consciousness. While there has been a proliferation of excellent experimental work, and a proliferation of information processing models of both attention and monitoring, there is very little agreement about how each of these central concepts should be understood, and on how exactly they should be integrated into information processing accounts of the mind. A central claim informing the project is that if this work on attention and monitoring is to have the importance for understanding the mind that psychologists rightly attribute to it, it must be related to central philosophical work on epistemological and phenomenological ingredients in our concepts of consciousness and self consciousness. Conversely, philosophical interest in epistemology and phenomenology can only be fully developed in a way that will further our understanding of consciousness and self consciousness if it takes on the theoretical and experimental work on attention and monitoring, and explicitly addresses the question of how information processing and epistemology and phenomenology interact here.

2. Specific topics the project will be working on under the headings 'attention' and 'monitoring' include:

□□□ I. **Attention:** (i.) *Attention and perception-based thought and consciousness.* Of particular importance for understanding the nature of perceptual consciousness is the bringing together of phenomenological and epistemological interest in attention in perception (Brewer, 1996; Campbell 1997; Martin 1997; Eilan 1997) with empirical work on the relation between attention and spatial gestalt organisation, mainly in vision, but also in touch (Driver and Baylis, 1996; Kahneman and Henick, 1981; Klatsky and Lederman 1993; Davis and Driver, 1994; ; and attention and temporal gestalt organisation (mainly in audition, Bregman 1993; McAdams and Bigan, 1993; Jones and Yee, 1993; Kahneman 1981.) Equally important for understanding the role of attention in

sustaining a unified perceptual perspective is work on the spatial frames of reference used in attention across the modalities (Driver and Grossenbacher 1996, Spence and Driver, 1996; Marcel, 1997) including attention to the body; and work on pathologies of attention such as neglect of external and bodily space (Biziach & Gimiani, 1991).

□□□ (ii.) *The role of attention in the co-ordination of perceptual input and organisation, and control of action and reasoning* (Allport, 1993; Kahneman 1973, Posner and Snyder, 1975, Shallice and Burgess, 1993; Monsell, 1996; ). The idea that the capacity for co-ordinated action has a central role in explaining what unifies a perspective at a time and over time, has long philosophical and psychological roots. The role of attention here offers to throw new light on the question of how much exactly can be extracted from appeal to action in explaining unity of consciousness, and how exactly we should distinguish between action explanations in conscious and fully self-conscious subjects. (Stout, 1997) Of particular importance here is empirical work, with normal and pathological subjects, on the control of action and reasoning over time and the mechanisms needed for sustaining such control (Luria, 1966; Shallice, 1982; Shallice and Burgess, 1993; Duncan, 1986), mechanisms that fail, for example, in cases of 'lapsed attention'. (Reason, 1990).

□□□□. **Monitoring:** (i.) *Monitoring and awareness of current mental and physical states.* It is natural to say that where there is self-awareness there are some information processing mechanisms of self-monitoring implicated. The central issue here is: what kind of account should we give of the relation between such information processing accounts and the epistemology and phenomenology of current awareness? Of particular interest here is recent work on pathologies such as schizophrenia and developmental work on the acquisition of mental concepts, and various monitoring mechanisms postulated for the use of such concepts. (Bentall, Baker & Havers, 1991; Frith & Done, 1989; Mlakar, Jensterle & Frith, 1994; Baron-Cohen, 1994; Perner, 1991).

□□□ (ii.) *Monitoring and autobiographical memory.* Remembering past experiences, locations and actions requires some kinds of monitoring of these properties. But there are deep puzzles, in both philosophy and psychology, about the relations between what was initially monitored and what remembering itself contributes. Of particular interest here are cognitive models of monitoring in normal subjects (Johnson, Hashtroudi & Lindsay, 1993; Johnson & Raye, 1981; Conway & Dewhurst, 1995), and their testing on pathological phenomena such as varieties of amnesia and confabulation. (Schacter, Harbluk, & McLachlan, 1984; Shimamura & Squire, 1987; Schacter, Verfaellie, Pradere, 1996); and, work, yet to be done in systematic way, in developmental psychology on the development of autobiographical memory. (Foley & Johnson, 1985; Lindsay, Johnson, & Kwon, 1991; Welchross, 1995 (a); Welchcross, 1995 (b)).

iii. *Monitoring and self-conscious action:* monitoring is invoked to explaining both actions we are aware of and those we are not aware of. (Fehrar & Raab, 1962; Neumann & Klotz, 1994; Marcel, 1993). What is the difference between these kinds of monitoring? Work on normal and pathological subjects on failures to formulate and execute intentions is of particular importance here. (Reason, 1990; Duncan; 1986; Shallice & Burgess, 1993).

### **(c.) The Body: Representations and Mechanisms**

1. Parallel to the work mentioned above, in philosophy and psychology, on various degrees of sophistication and complexity in ways of representing space, time, and minds, there is also a great deal of work in both disciplines, on distinctions among more and less sophisticated ways of representing one's own body. Some progress in bring philosophical and psychological work together has been made. (Bermudez, Marcel, Eilan, 1995). What is lacking is any systematic attempt to relate the distinctions among ways of representing the body to different ways of representing space, time and minds. Such systematic linking is necessary both for understanding the distinction between conscious and self conscious perspectives, and for introducing some order into the multitude of different conceptions of 'body image' and 'body schema' used by philosophers and psychologists in talking about bodily awareness. (Gallagher, 1986; O'Shaughnessy, 1980). A critical ingredient in providing this link between ways of representing the body and ways of representing space, time and minds, will be detailed work on the relation between kinds of representations, on the one hand, and, on the other, mechanisms of attention and monitoring as they are used in perception of, and attention to, the environment, sensation, action, joint attention and autobiographical memory.

2. Specific topics of research here will include:

(i.) Representations of the body, and their relation to mechanisms of monitoring and attention in the performance of actions of varying degrees of complexity and self consciousness. (Monsell, 1996; Brewer, 1993; Kelso, 1982; O'Shaughnessy, 1980; Gallagher, 1995). (ii.) Representations of the body implicated in attention to the environment, across the modalities. (Merleau-Ponty, 1962; Marcel, 1997; Driver & Grossenbacher, 1996) (iii.) The representations involved in the locating of sensations in the body, and the place of attention in an account of bodily sensation. (Martin, 1995; Cole & Paillard, 1995; Vallar, et al, 1993; Lackner, 1988). (iv.) Representations of the body implicated in the capacity for decentring with respect to space, time and minds (Campbell, 1995; Cassam, 1997).

Areas of research which will be particularly important input here in include: work on the rich assortment on pathologies with respect to bodily awareness (Head & Holmes, 1911; Semenza & Goodglass, 1985; Melzak, 1992; Moscovitch & Behrman, 1994; Bisiach & Gimiani 1991); work in developmental psychology on joint attention and imitation (Moore & Dunham, eds, 1995; Meltzoff & Gopnik, 1993; Meltzoff, 1995); on primitive perception-action integration (Prinz, 1990; Turvey, 1977).

### **SIGNIFICANCE**

(a) Problems in explaining consciousness and self consciousness are taking centre stage in the research of many of the most influential philosophers and psychologists currently working in the UK and abroad. However, there is, at present, no forum in the UK for bringing together researchers in the many distinct areas of philosophy and psychology working on these problems. Progress in this



hugely complex and central area urgently requires such a forum. One aim of the project is to provide it.

(b) The project is led by an inter-institutional steering committee comprising leading researchers in the UK in the areas we will be working on. Other leading researchers, in the UK and abroad, have already expressed great interest in the project. Their combined guidance and involvement will be critical. But experience with the Spatial Representation project suggests that genuine progress in the difficult job of establishing serious cross disciplinary connections requires the full-time dedication of researchers who jointly take it upon themselves to work thorough the hard details required for such connections to make a lasting impact on how research across the disciplines is conducted. The central aim of the project is to provide this core research.

## **METHOD AND PLAN OF WORK**

The main collaborative aim of the project will be to provide:

(a) A framework for integrating the results of work on each one of the three central topics of the project, and, especially generating joint philosophical and psychological work on particular topics. The choice of philosophers and psychologists on whose behalf the application is being made is designed to ensure that for each central topic of the project there is at least one philosopher and one psychologist whose chief research interest it is;

(b) A framework for integrating work on the three major questions that inform the project. Current members of the project and the steering committee all have a deep interest in pursuing such interdependencies, and anyone appointed will be expected to have one as well.

The main formal forum for collaborative work will be weekly seminars on the topics central to the project, to which leading researchers in the areas we will be focusing on will be invited. We plan each year of the project to be divided into two sets of such seminars, each one held at a different one of the four institutions of members of the steering committee, London, Oxford, Cambridge and Warwick. Each year will end with a plenary session, held on a rotating basis in one of the four institutions. A key role for the core members of the project will be to be actively involved in all of these seminars, spending time in all four institutions, and thus being in a position to organise the plenary sessions and, more generally, be a locus for bringing together the research in all four institutions.

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