



New Directions

in the Study of the Mind

Summary

In July 2015 a new research project will begin at the Faculty of Philosophy in Cambridge, supported by the John Templeton Foundation. The aim of this project is to investigate questions about intentionality and consciousness from a non-physicalist, non-reductive perspective.

The project will last for two years, from July 2015 to July 2017. There will be a weekly seminar in Cambridge, a number of workshops, and a major conference, among other activities. In addition, there will be a call for proposals for smaller projects to be funded by the project. The call for proposals will be announced in early July 2015.

The project team consists of:

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- Craig French (Postdoctoral Fellow)
- Alex Grzankowski (Lecturer)
- Raamy Majeed (Postdoctoral Fellow)
- Chris Meyns (Research Associate and Project Manager)

This booklet contains an outline of the project (§1), and will guide you through its historical background (§2), as well as its intellectual background and research questions (§3). It also includes a bibliography with sources that inform this research.

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New Directions

1 Project outline

A metaphysical account of the mind specifies the most general categories in terms of which we should understand mental phenomena.

Should we employ the category of substance, or event, or property in our most general theory of the mind? To what extent should we employ the categories of commonsense or 'folk' psychology in our theorizing about the mind? What are the fundamental ways of dividing and distinguishing mental phenomena? Should it be in terms of consciousness, intentionality (or mental representation), both or neither?

1.1 Physicalism

Contemporary metaphysics of mind tends to be physicalist and reductionist, and it tends to approach all the above questions in this light. Physicalism holds that the world is fundamentally physical. The fundamental reality of the world is the reality described by physics and physical science: the world of particles, spacetime, forces and fields. All other phenomena have their reality vindicated by being demonstrated to 'reduce' (in one or another sense) to physical phenomena.

So if the mind is real, then the mind must reduce to something physical, either by being shown to be identical with some physical thing, or to metaphysically depend on physical reality, or to be constituted by physical reality, or in some other way. Consciousness must be shown to be reducible to something physical, intentionality must be given a reductive explanation, and the metaphysical categories of substance, event and property must have their

credentials validated by showing how they can be incorporated by this physicalist worldview.

According to physicalism, if mental phenomena cannot be shown to be physical, then their reality must be called into question. This has been the dominant approach to the metaphysics of mind for the last sixty years or so.

1.2 Non-physicalist approaches

The overall aim of the *New Directions* project is to investigate some alternative ways of approaching the metaphysics of mind. In particular, the project will examine the viability of non-physicalist and non-reductive approaches to the study of the central mental phenomena of consciousness and intentionality.

While there has been a considerable debate about whether physicalism is true (see Robinson 1993, Gillett and Loewer 2001, Bealer and Koons 2010) less attention has been paid to working out the details of a non-physicalist picture. The debate over physicalism has taken the form of discussion of counterexamples to physicalism (see Chalmers 1996) and certain canonical arguments (e.g. the knowledge argument of Jackson 1982 and Robinson 1982).

The discussion has been largely about the truth of physicalism; there has been less discussion of the details of alternatives to physicalism, and what non-physicalist accounts of specific mental phenomena might look like.

While the project will not explicitly reject physicalism nor all forms of reductionism, it aims to open up the discussion and explore alternatives to physicalism and reductionism in various areas of the philosophical and scientific study of the mind. The project is conceived as exploratory rather than ideological.

1.3 The scientific study of the mind

Sometimes it is said that a scientific approach to the mind requires the truth of physicalism (Poland 1993), and many arguments for physicalism assume that it is the only metaphysical picture which

is properly harmonious with modern science.

The current project rejects this assumption. It will maintain that the scientific investigation of the mind—by psychology and neuroscience—does not require that physicalism is true.

One of the distinctive features of this project, then, is the combination of a skeptical attitude to physicalism with a fully scientific approach to the mind. In this sense, then, the project is consistent with naturalism, where that doctrine is understood in terms of the holistic continuity of philosophical and scientific knowledge. But it is not consistent with naturalism understood (as it by, e.g., Papineau 1992) as a form of physicalism.

1.4 Consciousness and intentionality

The two central mental categories to be explored in this project are consciousness and intentionality.

Consciousness, the awareness of the world in experience and thought, has been one of the stumbling blocks for physicalist theories of the mind (Nagel 1970, Chalmers 1996, Levine 2001). The project will look at the investigation of consciousness in another way. Rather than looking for a reductive physicalist account, the project will attempt to chart the elements of the ontology of consciousness from a non-reductive perspective.

It will address questions such as: what are the categories to which conscious phenomena belong? Is the consciousness involved in sensory experience of a different kind from the consciousness involved in thought? How should the various forms of consciousness be investigated from a non-reductionist perspective?

Similarly with intentionality. The central questions about intentionality can be asked independently of the truth of physicalism: are all mental phenomena intentional? Is intentionality a relation? How can intentional states represent things that do not exist? What is the relationship between intentionality and consciousness? What roles do the central notions of the theory of intentionality (e.g. object, content, mode) play in the empirical sci-

ences of the mind?

The guiding assumption of this project is that these questions can be addressed by the philosophy and science of the mind without necessarily adopting a physicalist or reductionist approach.

2 Historical background

Discussions of materialism and its alternatives in the philosophy of mind go back to the seventeenth century (see Yolton 1984). Materialism was widely debated in the nineteenth century, in continental Europe (especially Germany) and Great Britain, and by the early twentieth century there was little consensus on this metaphysical question. Early twentieth century philosophers also adopted forms of 'emergentism' (McLaughlin 1992) and 'neutral monism' (James 1899, Russell 1921) as well as more traditional forms of dualism and materialism.

Physicalism developed first as a doctrine in the philosophy of science of the Vienna Circle (Carnap 1932, 1955). As such, it was a doctrine about the correct language for science, rather than ontology as such, a topic which was looked on with suspicion by the logical empiricists. Quine (1948) was largely responsible for the reintroduction of ontological questions within this kind of empiricist framework, and physicalism soon became an ontological doctrine and the dominant ontology of naturalistic philosophy in the postwar period.

Quine's naturalism set the agenda in the metaphysics of mind in the second part of the century. The 'identity theories' of Smart (1956), Armstrong (1968) and Lewis (1966) became for a while the dominant form of scientific realist, non-positivist physicalism, and they still have their defenders today (Jackson 1998, Hill and Gozzano 2012).

Identity theories were criticized because they could not accommodate what Hilary Putnam (1975) called 'the diversity of organisms'. If pain were identical to a certain kind of brain property

in humans, then organisms with very different brains could not be in pain—or so it was argued—and this is implausible because surely many physically different kinds of creature could be in pain. This ‘variable’ or ‘multiple’ realization argument was very influential, and gave rise to a number of non-reductive theories of mind such as Putnam’s functionalism, which identifies mental states with a distinctive causal/dispositional profile, rather than a specific neural type (see Putnam 1975, Shoemaker 1980).

However, these ‘non-reductive’ theories were still forms of physicalism, because they still treated mental phenomena as grounded in physical phenomena. They did this either by distinguishing between a ‘type’ and a ‘token’ form of the identity theory (McGinn 1982) or by affirming a general thesis of the supervenience of the mental on the physical (Kim 1994).

The now standard ‘global’ form of supervenience physicalism is one we owe to Lewis (1986) and Jackson (1998). This says that physicalism is true of the actual world just in case any minimal physical duplicate of the actual world is a duplicate in every respect (a duplicate ‘simpliciter’). This thesis we shall take as essential to physicalism, whether or not the view also is committed to an identity theory of mental and physical properties or events.

Traditionally, the alternative to physicalism was thought to be some sort of dualism. Substance (or ‘Cartesian’) dualism treats mind and matter as distinct substances, where a substance is thought of in the Cartesian way as something capable of independent existence (Descartes 1985). Few philosophers employ the Cartesian notion of substance these days, so the more normal form of dualism is what is known as property dualism: there are two fundamental kinds of property, the mental and the physical.

Of course, any theory which denies the identity of mental and physical properties will be a dualist theory in some sense, since it holds they are two rather than one. But ‘property dualism’ is normally used for those theories which reject the physicalist global supervenience thesis (see Chalmers 1996). The term ‘emergence’ is also used for these theories, but the term has been used in different ways, and some forms of emergence are compatible with phys-

icalism (see McLaughlin 1992, Macdonald and Macdonald 2010).

As things currently stand, the metaphysics of mind is dominated by the debate over the truth of physicalism, with property dualism considered as the main alternative (see Stoljar 2005, Howy and Kallestrup 2008). Standard introductions to the subject (see e.g. Churchland 1984, Kim 2009) present the central problem of the philosophy of mind as the mind-body problem. The presentation typically begins with a description of dualism and its difficulties, then following on with accounts of behaviourism, physicalism (the identity theory, type and token) and various forms of functionalism.

This kind of presentation can give the impression not only that the mind-body question is the most important question in philosophy, but also that some form of reductionism—whether physicalist or functionalist—is the only viable approach to this question, despite significant dissenting voices (Chalmers 2010, Nagel 2013). However, these approaches face at least three significant problems.

First, some of the terms of the debate are insufficiently clear: what is the physical? What is reduction? What kind of relationship between the mental and the physical counts as a physicalist relationship? Supervenience is essential, but is it really sufficient for a physicalist account of the mind? (See Crane and Mellor 1990, Jackson and Chalmers 2001; Block and Stalnaker 1999; Levine 2000).

Second, it is not clear how much progress would be made in understanding mental phenomena even if the physicalist thesis were established. Suppose we could demonstrate that everything globally supervenes on the physical. This would tell us that states of consciousness and intentional states are determined by something physical; it would not tell us what this is, it would not tell us how these states work, how they fit into the mind as a whole. Searches for the 'neural correlate of consciousness' (e.g. Koch 2004) attempt to do this, but often such projects are often hampered by an excessively simplistic model of what consciousness is supposed to be (see Crane 2001).

Third, attempts to give concrete physicalist accounts of consciousness and intentionality have not been conspicuously successful. Physicalist theories of consciousness have often taken the form of attempts to close the 'explanatory gap' (Jackson 1998; Levine 2000) or to explain in physicalist terms why there is such a conceptual gap, if there is no metaphysical gap between mind and brain (Papineau 2002). Whether physicalism requires that the 'gap' be closed is still open to dispute.

Similar fundamental obstacles stand in the way of physicalist theories of intentionality. Such theories started to be developed in the 1980s, and tended to look for the physical basis of intentionality in the causal relationships between mental states and things in the environment (Dretske 1981, Fodor 1987). The theories foundered on the problem of misrepresentation: essentially, since any state of mind will have some cause or other, what is to prevent the theory from counting that as what the state represents? A number of responses were offered over the subsequent decades (see Papineau 1992, Millikan 1995, Fodor 1990) but it is fair to say that progress has been slow, and new ideas have not recently been forthcoming.

Of course, philosophy is a subject which by its nature is full with controversy, and we do not, or should not, expect consensus or agreement. But when research ideas have stagnated, it is worth looking at some of the fundamental assumptions which may have generated the stagnation. This is what the current project aims to do.

3 Intellectual background and research questions

The *New Directions* in the Study of the Mind Project will explore alternative ways of thinking about the metaphysics of mind. The project will pay particular attention to the ways of thinking about consciousness and intentionality which are neither physicalist nor reductionist, and yet do not reject or stand opposed to the sci-

entific investigation of mental phenomena.

The project is committed to exploring the potential of nonreductive and nonphysicalist approaches to the mind. Nonphysicalist theories of mind reject the central thesis of physicalism: that the mind is metaphysically determined by, or identical with physical things (in the sense of the entities distinguished by physical science).

3.1 Nonphysicalism

There are two routes to the rejection of this thesis. One is the route of providing counterexamples to it: for example, the counterexamples put forward by the arguments from 'qualia' and consciousness (e.g. the conceivability arguments of Chalmers 1996).

The other way to reject this thesis is simply to withhold belief. The physicalist thesis involves a strong metaphysical commitment (see Pettit 1993). Physicalism entails that the whole of reality is determined with metaphysical necessity by the fundamental physical nature of the world—e.g. the distribution of physical particles and their properties in spacetime.

But it is arguable that we do not know enough at the present time to know whether this physicalist thesis is true; and maybe we could never know enough. However, perhaps we do not need to know whether this physicalist thesis is true in order to embark on a substantive philosophical investigation of the mind which is consistent with the findings of psychology and neuroscience.

3.2 Nonreductionism

Another theme is nonreductionism. Reduction has been a central theme in the philosophy of science since the 1950s (see Nagel 1961). Broadly speaking, a reduction relates 'higher-level' or less fundamental things to more 'basic' or fundamental things. But what kinds of things are supposed to be related by reduction?

Discussions of reduction have involved two distinct ideas: one metaphysical, and one broadly epistemological (Crane 2001). The

metaphysical idea is that reduction relates entities: for example, when someone says that temperature in a gas is mean molecular kinetic energy, this is an identity claim. It says that these are not two things, but one. The epistemological idea, however, concerns the relationship between theories, not the entities talked about by the theories. For example, when someone says that thermodynamics reduces to statistical mechanics, they are not identifying the theories; rather they are saying that you can explain the truth of one theory in terms of the truth of another.

We will call the metaphysical idea ‘ontological reduction’ and the epistemological idea ‘explanatory reduction’. The two kinds of reduction are independent. Some forms of physicalism (Lewis 1966) adopt both forms; others adopt only the ontological reduction (Davidson 1970) while others reject ontological reduction while defending an explanatory reduction (Fodor 1974).

Non-reductive physicalism could therefore be one of two things: either a rejection of ontological reduction, or a rejection of explanatory reduction. There are important questions about how explanatory reduction should be conceived, whether in terms of traditional hypothetical deductive methods (Jackson 1998, Levine 2000) or in terms of mechanisms (Machamer et al 2000, Craver 2008).

3.3 Nonreductive, nonphysicalist views

The main focus of this project, however, will be views that are non-reductivist and nonphysicalist. Such views might reject ontological reduction, or might reject the thesis that explanatory reduction is a necessary condition for the explanation of the mind. However, the project will not be concerned to recapitulate the familiar recent debate about qualia, ‘zombies’ and the explanatory gap. Rather, it will attempt to examine and develop positive accounts of the phenomena from a nonreductionist perspective. There are three directions in which the positive aspects of the proposal will be developed.

3.4 Metaphysics

The first concerns the metaphysical background. Physicalism has tended to work within a neo-Humean metaphysics of states and properties, in a way that derives from modern physics. Objects are thought of as bundles of properties, or as things of the same category as events: instantiations of properties across a region of four-dimensional spacetime (see Lewis 1986 for a canonical and lucid statement). Within this context, the relationship between the mental and the physical is conceived in terms of the relationship between properties (Lewis 1994; Jackson 1998).

In recent years, there has been something of a return to what is sometimes known as Aristotelian or neo-Aristotelian metaphysics (see Tahko 2012; Groff and Greco 2013). This kind of metaphysics employs a richer set of fundamental concepts from the Humean orthodoxy: in particular, the concept of substance (Lowe 2009) and the concept of a capacity or power (Molnar 2003).

This part of the *New Directions* project will investigate the use of neo-Aristotelian metaphysics in the philosophy of mind, within a nonreductionist, nonphysicalist framework. Thinking in terms of the living organism (a substance, in an Aristotelian sense) and its capacities is an approach that can be nonphysicalist and non reductionist.

3.5 Intentionality

The second direction concerns intentionality, the representational power of mental states, their 'aboutness'. What is intentionality? How should it be conceived, in the most abstract way? Following Crane's (2013) account of intentionality, we can distinguish the intentional content of a mental state (how it represents its object) from the intentional mode (the psychological category into which the state falls). Many philosophers believe that intentionality is essential to mental phenomena; but how should this be incorporated into what psychologists and neuroscientists say about the mental?

Thinking in terms of mental capacities of organisms helps to

address this question about intentionality. Take for example the category of memory. This is a capacity or power of a person or organism. The exercises of the capacity are acts (events) of remembering. Every act or event of remembering has an object and a content—what it is about. The intentional mode is the remembering itself.

But psychologists distinguish different types of this mode—episodic memory and ‘semantic’ memory, for example. Mode and content have a clear application to the way psychologists think about mental capacities. Treating the analysis of memory in terms of the categories of intentionality allows us to see more clearly both how it should be conceived abstractly and philosophically, and how this conception is related to the psychologists’ conception.

3.6 Consciousness

The third direction concerns consciousness. In the contemporary debate it is sometimes assumed that it is obvious to us what consciousness is; but the only question is how it is embodied in the brain. But many participants now recognise that it is not clear what consciousness is (Block 1994; 2006). Different uses of the concept seem to pick out different kinds of mental state (indeed, some recent studies identify many kinds of consciousness: Hill 2009). Is there something common to these uses, or is consciousness a mongrel concept without any underlying unity?

The question of the relationship between cognitive and sensory phenomenology (Bayne and Montague 2012) the relationship between the intentional and the phenomenal in general (Kriegel 2013) and the way in which these things can be identified independently of reductionist assumptions—all these questions need answers before any search for the embodiment of consciousness can begin.

3.7 Some research questions

Against this background, the project will address the following research questions:

- What kind of ontological categories do we need in order to make sense of mental phenomena from a nonreductive, nonphysicalist point of view, consistent with the results of psychology and neuroscience? For example: should we be thinking of mental states as the basic category, or is there a need for an ineliminable reference to events, processes or mental actions?
- Can a nonreductive philosophy of mind benefit from adopting the framework of so-called 'neo-Aristotelian' metaphysics? For example, can a nonreductive, nonphysicalist account of the mind benefit by employing the ideas of disposition, power or capacity? Or is there room for something like the idea of substance, understood in the neo-Aristotelian sense?
- How should the different varieties of consciousness (sensory, cognitive, affective) be understood within a nonreductionist, nonphysicalist framework? For example, does Ned Block's well-known distinction between phenomenal and access consciousness imply any particular reductive approach to consciousness, or is it independent of such approaches?
- What is the status of functionalist theories of consciousness with respect to questions about reduction? Are functionalist theories necessarily physicalist and reductionist?
- Can the central concepts in the theory of intentionality (e.g. intentional content, intentional mode) be usefully incorporated within a correct account of the methodology of cognitive psychology? For example, can we illuminate the different kinds of memory by reference to the metaphysics of intentionality?

- Or can the theory of intentionality help in the individuation of sensory modalities? Can cognitive psychology or neuroscience employ the notions of intentional content or intentional object within a nonreductionist framework?
- Within a nonphysicalist, nonreductionist framework, what is the role of neuroscience in answering the 'Big Questions' about consciousness and intentionality?
- How can neuroscience contribute positively to an account of the place of consciousness and/or intentionality in the rest of the natural world, if a physicalist framework is not assumed? How does the abandonment (or suspension of belief in) physicalism affect the content of the problem of consciousness? Should we abandon the idea of a search for a 'neural correlate' of consciousness?

These are some examples of questions that will be addressed by the project. Other questions will be addressed in the individual research of the project members, and in the research in the individual proposals which the project selects to support.

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