

A Unified Theory of Consciousness

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Preface

Our title, *A Unified Theory of Consciousness*, alludes to three ideas central to this book.

1. A theory of consciousness should if possible give us a unified account of all the kinds of consciousness.
2. A theory of consciousness should if possible unify consciousness with (other aspects of) cognition.¹
3. Unity of various kinds, especially the kind of unity that Kant singled out under the name ‘unity of consciousness’, is central to at least the human kind of consciousness.

Satisfying (1.) and (2.) and making the case for (3.) is the core of our project.²

Our account of consciousness is a cognitive account. It treats consciousness as simply a feature of cognitive (i.e., information processing) systems of certain kinds. Many theorists deny this, especially philosophers. These theorists urge that consciousness is not a representational or cognitive property of any kind, and use zombie, inverted spectrum, and other thought experiments to argue that, for any representational or cognitive property that one can think of, that property could be present without consciousness. In our view, mounting a critique of such anti-cognitivism is an essential precursor to constructing a cognitive model. If anti-cognitivist arguments are left unanswered, it can easily appear as though cognitivists are simply not talking about consciousness, have changed the topic. It can easily appear that they are merely talking about correlates of consciousness, not the real McCoy, consciousness itself.

For this reason, before we launch the positive project, which takes up the final six chapters, we first mount what we hope is a root-and-branch critique of current anti-representational, anti-cognitivist views of consciousness (chapters 3 to 5).

This book will strike some people as eccentric. It does not obsess about ‘qualia’ and other putative properties of individual psychological states, so it will strike many philosophers as eccentric (though we do say something about qualia). But it does not obsess about attention either, so it will strike many experimental psychologists and neuroscientists as eccentric (though eventually we do talk about attention). Well, you can’t please everybody! In our view, neither qualia nor attention captures what is distinctive about consciousness, qualia as usually understood at any rate.³

1. The brackets are because, as we will see, whether consciousness even is a part of cognition has been seriously questioned by some philosophers. This will strike non-philosophical students of consciousness as remarkable but there it is.

2. Owen Flanagan has been discussing the idea of a unified theory of consciousness for over a decade now (1992, 1996). His ambitions are smaller than ours. He would be happy with a theory giving a single yet not superficial account of consciousness. We are hoping in addition to unify consciousness with (the rest of) cognition and to provide an account of the unity/ies distinctive to consciousness. That the jury is still out on even Flanagan’s project is a measure of the ambitious of ours. Can we pull it off? The proof of the pudding is in the eating.

3. Owen Flanagan has been discussing the idea of a unified theory of consciousness for over a decade now (1992, 1996). His ambitions are smaller than ours. He would be happy with a theory giving a ‘single yet not superficial’ account of consciousness. We are hoping in addition to unify consciousness with (the rest of) cognition and to provide an account of the unity/ies distinctive to consciousness. That the jury is still out on even Flanagan’s project is a measure of

Now is an interesting time to be working on consciousness. From the advent of cognitive science in the 1950s and 1960s up until well into the 1980s, most philosophers and other cognitive researchers ignored it. Twenty-five years ago, the philosopher Daniel Dennett summed up the situation this way:

Consciousness appears to be the last bastion of occult properties, epiphenomena, immeasurable subjective states – in short, the one area of mind best left to the philosophers. Let them make fools of themselves trying to corral the quicksilver of “phenomenology” into a respectable theory. [1978, p.149]

He could have added that this was pretty much the attitude of most philosophers, too, especially philosophers who viewed themselves as part of cognitive science. A few philosophers (Dennett himself, Nagel, Armstrong, Shoemaker) and psychologists (Mandler, Baddeley, Hilgard, Shallice, Sperry, Posner) worked on consciousness throughout but the temper of the time was nicely expressed by contrast in the title of George Mandler’s well-known paper: ‘Consciousness: respectable, useful and probably necessary’ (1975). That he actually felt the need to argue this says all that needs to be said about the context at the time. Up until about 1985, one could easily have concluded that in the view of most cognitive and neuroscientific researchers, cognition can proceed perfectly well without consciousness. Indeed, some of them took that view explicitly.

It was not always so. What makes the phobia about consciousness felt by so many 20th-century researchers so striking is that until about 1910, consciousness was a central interest of virtually every philosopher and psychologist: James, Wundt, Stumpf, Kant, Locke, Descartes, ... the list could go on. Then along came John Watson and behaviourism; except in the hands of a few diehard philosophers, consciousness largely disappeared from English-language research on the mind for most of the 20th century.

The situation began to change back in the mid-1980s. The cognitive scientist Bernard Baars (especially 1988) developed the methodology that he called contrastive analysis (compare the difference made by performing a task consciously and without consciousness). At about the same time, the capacity to image the activity of the brain, especially functional magnetic resonance imaging (fMRI), was developed, which allowed scientists to ‘watch’ people’s brains as they did various cognitive tasks. Now that researchers had techniques better than introspection, centres of consciousness studies began to spring up very quickly in a number of universities. Consciousness email lists such as Psyche began. The Association for the Scientific Study of Consciousness was founded; it will hold its ninth international conference in 2005. Two interdisciplinary journals devoted to research on consciousness were created, *Journal of Consciousness Studies* and *Consciousness and Cognition*. And so on. From being relegated to scattered voices in the wilderness for most of the 20th century, consciousness was back.

Since then, there has been a veritable explosion of new work, with hundreds of important articles and books by researchers as diverse as genetic biologists, behavioural experimentalists, quantum physicists, linguists, brain imaging specialists, computational model-builders – and by philosophers. The diversity is remarkable.

consciousness has been said to be so many things: a global workspace, an intermediate level of representation, 40Hz phaselocked spiking frequency, attention, attention feeding working memory, a result of multiple constraint satisfaction, a property emergent on brain/world interactions, an order parameter, a form of self-organization in a dynamic system, a result of a

the ambitionsness of ours.

certain tensor phase-space processing, a quantum phenomenon, something generated by microtubules in cells.

There has also been an explosion of new terminology and new theories – just what one would expect in a field where the subject is intensely difficult and serious multidisciplinary work is being done for the very first time. Here is some of the burgeoning terminology: access consciousness, phenomenal consciousness, self-consciousness, simple consciousness, creature consciousness, state consciousness, monitoring consciousness, fringe consciousness, reflexive and prereflexive consciousness, background consciousness, focal consciousness, peripheral consciousness, conscious awareness (!! – what is unconscious awareness supposed to be like?). qualia, transparency, consciousness as higher order thought, higher order experience, displaced perception ... and on and on. Except when discussing views specifically associated with one of these terms, we will for the most part ignore them and develop our own terminology as we need it, connecting it to existing terms only when more light than heat would be generated by doing so. As to the explosion of new work, we will introduce it when we need to do so.

There is not even agreement on something as basic as what the term ‘consciousness’ should be used to refer to. Many theorists take it to be about a special kind of access to self, whereas others use the term more broadly and include consciousness of the world. Yet other researchers just muddle the two together. Some even invent their own special terminology.

Not just philosophers but also some researchers doing empirical work on consciousness view this lack of basic agreement as a very serious matter:

Despite ... impressive advances in the neurosciences over the past two decades, there is no consensus [about the neuroscience of consciousness] in view and little prospect of a comprehensive theory. ... I think that the main factor limiting advances in the neurobiology of consciousness is ... the lack of a comprehensive *description* of consciousness. For want of this ..., the neurobiology of consciousness might well consist only of linking some phenomena, arbitrarily called consciousness, to the latest fashionable neurobiological device. [Delacour 1997, p. 127, our emphasis]

One result of the conceptual chaos is that there is currently an enormous amount of talking past one another in contemporary consciousness research. Theorists think they have a disagreement when they are really just talking about different things. For research on consciousness to progress well, it would be a substantial step forward if people could even agreed on what the research is about.

There is a story about how this book came to be. One of us (Brook) has been working on consciousness for a long time and relied unreflectively throughout on a rather atomistic view of representation (see Chapter 1). A few years ago, the other author, Paul Raymont, come to work with him as a post-doc. To use a famous phrase, Raymont awoke Brook from some dogmatic slumbers. Since Raymont carried the analysis into new and productive areas on many issues, it became apparent after a year or so of working together that the natural thing to do was to join forces. Which we did.⁴

The book bears a relationship to many earlier publications by the authors. However,

4. Raymont was funded by SSHRC (Social Science and Humanities Research Council of Canada). He reserves judgment on some aspects of Chapter 3. That chapter was pretty much done when he joined the project. Nothing in the positive analysis of the later chapters depends on the destructive work of Chapter 3 being completely successful.

everything has been recast, nothing has been taken over unchanged, so we will not list the individual publications. Some material derived from Chapters 1 and 3 appears in Brook's contribution to Brook and Akins (2005). Some material related to Chapters 6 and 7 appears in [details of Raymont's publications to be added when settled].

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