

## Dissertation Abstract

Understanding the biological basis of consciousness is one of the most important challenges for modern science. Is a mature scientific explanation of consciousness really possible, and if so, how should consciousness science be organised so as to achieve this? My doctoral thesis develops a new answer to this question known as ‘the natural kind approach’ to consciousness. In opposition to orthodox scientific approaches which treat consciousness as a ‘special’ phenomenon to be studied using new and non-standard methods and paradigms, I argue that consciousness science ought to be modelled on previous scientific explanations of other natural phenomena. The central idea is that the history and philosophy of science tells us that all natural phenomena or ‘kinds’ in the biological sciences have certain structural properties in common - they are typically characterised, for example, by the occurrence of a *cluster of functional and informational properties* which are underwritten by a neural or evolutionary mechanism - and consciousness science ought to be organised around the search for the cluster of properties which characterise consciousness.

The thesis is split into three parts. Part I is foundational. I outline an epistemic theory of natural kinds from recent philosophy of science, and use this to ground a new methodology for consciousness science based on the ideas above (Chapter 1). A salient objection to this approach holds that this methodological framework for the scientific study of consciousness fails on *a priori* grounds, because at least some of our concepts of consciousness - namely, phenomenal concepts - are not natural kind concepts. In **“Ameliorating the Phenomenal: Phenomenal Concepts for a Science of Consciousness”** (Chapter 2) I argue that the best response to this objection is to situate and ground the natural kind approach to consciousness in the meta-philosophical programme of conceptual engineering. In this vein, I defend the explication and *de novo* engineering of a new concept of consciousness, that of a *conscious kind*, which is best placed to help the science of consciousness progress.

Part II details the epistemology of consciousness that this new concept of consciousness makes possible. In **“Natural Kinds and the Problem of Other Minds”** (Chapter 3) I argue that a view of the conscious mind as being comprised of natural kinds helps dissolve the problem of other minds as this is understood in contemporary philosophy. This makes way for a pluralistic, naturalistic epistemology of mind which is modelled on the epistemology of scientific categories. In **“Conscious Kinds in Animal Minds”** (Chapter 4) I apply this epistemological framework to recent foundational disputes in animal sentience research. I defend the claim that the natural kind approach provides a way out of the growing pessimism in this research programme about the prospects for knowing whether consciousness is multiply realisable.

Part III examines the metaphysical implications of the natural kind approach to consciousness when applied to *global conscious kinds* - global states of consciousness such as dreaming, wakefulness and psychedelic states. In **“Dream Science and the Search for Natural Kinds”** (Chapter 5) I examine a neglected question in dream science: is there a single conscious state individuals surface to while they sleep, or several states of different neurobiological kinds? I argue that this latter view - that dreaming fails to refer to a natural kind - ought to be an open and increasingly plausible possibility for dream science. This has the potential to radically alter the way in which scientific research on dreaming is conducted, and I outline a new methodological framework to replace existing paradigms in dream science. Finally in **“Depression as a Disorder of Consciousness”** (Chapter 6) I extend these ideas on global states of consciousness to

psychiatric research, and develop a bold new hypothesis according to which Major Depressive Disorder is a global conscious kind, centrally involving an altered “depressive state” of consciousness. This should constitute a fundamental shift in the way that clinicians and patients think about depression which departs from orthodox conceptions.