

Cambridge University Press  
0521781736 - Phenomenal Consciousness: A Naturalistic Theory  
Peter Carruthers  
Frontmatter  
[More information](#)

---

How can phenomenal consciousness exist as an integral part of a physical universe? How can the technicolour phenomenology of our inner lives be created out of the complex neural activities of our brains? Many have despaired of finding answers to these questions; and many have claimed that human consciousness is inherently mysterious. Peter Carruthers argues, on the contrary, that the subjective feel of our experience is fully explicable in naturalistic (scientifically acceptable) terms. Drawing on a variety of interdisciplinary resources, he develops and defends a novel account in terms of higher-order thought. He shows that this can explain away some of the more extravagant claims made about phenomenal consciousness, while substantively explaining the key subjectivity of our experience. Written with characteristic clarity and directness, and surveying a wide range of extant theories, *Phenomenal consciousness* will be essential reading for all those in philosophy and the cognitive sciences who are interested in the problem of consciousness.

PETER CARRUTHERS is Professor of Philosophy and Director of the Hang Seng Centre for Cognitive Studies at the University of Sheffield. His publications include *Language, thought and consciousness* (Cambridge University Press, 1996) and (with George Botterill) *The philosophy of psychology* (Cambridge University Press, 1999).

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

---

## Phenomenal consciousness

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

# Phenomenal consciousness

*A naturalistic theory*

---

Peter Carruthers

*Professor of Philosophy and Director, Hang Seng Centre for  
Cognitive Studies, University of Sheffield*



CAMBRIDGE  
UNIVERSITY PRESS

Cambridge University Press  
0521781736 - Phenomenal Consciousness: A Naturalistic Theory  
Peter Carruthers  
Frontmatter  
[More information](#)

---

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE  
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS  
The Edinburgh Building, Cambridge CB2 2RU, UK <http://www.cup.cam.ac.uk>  
40 West 20th Street, New York, NY 10011-4211, USA <http://www.cup.org>  
10 Stamford Road, Oakleigh, Melbourne 3166, Australia  
Ruiz de Alarcón 13, 28014 Madrid, Spain

© Peter Carruthers 2000

This book is in copyright. Subject to statutory exception  
and to the provisions of relevant collective licensing agreements,  
no reproduction of any part may take place without  
the written permission of Cambridge University Press.

First published 2000

Printed in the United Kingdom at the University Press, Cambridge

*Typeface* Monotype Plantin 10/12pt *System* QuarkXPress™ [SE]

*A catalogue record for this book is available from the British Library*

*Library of Congress cataloguing in publication data*

Carruthers, Peter, 1952–  
Phenomenal consciousness: a naturalistic theory / Peter Carruthers.  
p. cm.

Includes bibliographical references and indexes.

ISBN 0 521 78173 6 (hardback)

1. Consciousness. 2. Naturalism. I. Title.

B808.9 C37 2000

126 – dc21 99-086451

ISBN 0 521 78173 6 hardback

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

---

*Dedicated to the memory of my mother, Maureen Carruthers,  
who gave me consciousness, friendship, and a love of colour*

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

---

‘What we need is a theory of how the subjective qualities  
of sentience emerge out of mere information access.’

Steven Pinker, *How the Mind Works*

## Contents

---

<i>List of figures</i>	<i>page xi</i>
<i>Preface</i>	xiii
1 Assumptions, distinctions, and a map	I
1 Physicalism and naturalism	I
2 Functionalism and theory-theory	5
3 Some distinctions: kinds of consciousness	9
4 A route map: the tree of consciousness	22
2 Perspectival, subjective, and worldly facts	27
1 Perspectival and ‘myself’ facts	27
2 On facts and properties	32
3 Necessary identities	39
4 Logical supervenience	49
3 Explanatory gaps and qualia	59
1 Cognitive closure	59
2 The explanatory gap	64
3 The knowledge argument	71
4 Inverted and absent qualia arguments	76
4 Naturalisation and narrow content	88
1 Neural identities and consciousness boxes	88
2 Naturalisation by content	95
3 Wide <i>versus</i> narrow content	104
4 Phenomenal consciousness and narrow content	109
5 First-order representationalism	114
1 FOR theory: elucidation	114
2 FOR theory: defence	122
3 Non-conceptual content <i>versus</i> analog content	129
4 More varieties of FOR theory	136
6 Against first-order representationalism	147
1 Non-conscious experience: the case from common sense	147
2 Non-conscious experience: the scientific case	154
3 A trilemma for FOR theory	168
4 Non-conscious phenomenality?	175
	ix

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

x	Contents	
7	Higher-order representationalism: a first defence	180
1	Overview and preliminaries	180
2	HOR theory and qualia irrealism	184
3	Of animals, infants, and the autistic	193
4	Moral consequences?	203
8	Dispositionalist higher-order thought theory (1): function	210
1	Higher-order experience (HOE) theory	210
2	Actualist HOT theory	219
3	Dispositionalist HOT theory	227
4	Dispositional theory and categorical experience	233
9	Dispositionalist higher-order thought theory (2): feel	236
1	HOE theory and feel	236
2	Actualist HOT theory and feel	239
3	Consumer semantics and feel	241
4	Elucidations and replies	259
10	Phenomenal consciousness and language	271
1	Reflexive thinking theory and language	271
2	Higher-order description (HOD) theory	278
3	The Joycean machine	282
4	The independence of structured HOTs from language	288
11	Fragmentary consciousness and the Cartesian theatre	297
1	Multiple drafts <i>versus</i> integrated contents	297
2	Fragmenting the Cartesian theatre	307
3	Time as represented <i>versus</i> time of representing	313
4	Objective <i>versus</i> subjective time	318
	Conclusion	325
	<i>References</i>	330
	<i>Author index</i>	341
	<i>Subject index</i>	344



## Figures

---

1.1.	<i>The tree of consciousness</i>	page 22
3.1.	<i>Classical reduction</i>	65
3.2.	<i>A case of inverted experience</i>	77
4.1.	<i>The Schacter model</i>	93
5.1.	<i>First-order representationalism</i>	115
5.2.	<i>Grouping phenomena</i>	118
5.3.	<i>The duck–rabbit</i>	131
6.1.	<i>The common-sense two-layered mind</i>	153
6.2.	<i>Some salient areas of the cortex</i>	155
6.3.	<i>The Titchener illusion of size</i>	163
6.4.	<i>A FOR account of two-level cognition</i>	172
7.1.	<i>Higher-order representationalism</i>	182
7.2.	<i>Higher-order representationalism (emended)</i>	197
8.1.	<i>Dispositionalist HOT theory</i>	228
10.1.	<i>Reflexive thinking theory</i>	273
10.2.	<i>Reflexive thinking theory and language</i>	276
10.3.	<i>Dennett (1978) – consciousness as public relations</i>	278
11.1.	<i>Practical reasoning and perception</i>	303

## Preface

---

Most contemporary philosophers of mind think that mental states are physical states of the brain, characterised in terms of their causal roles; and many hope that our common-sense conception of the mind can be incorporated smoothly into science. These are beliefs and hopes which I share. But philosophers such as Thomas Nagel (1986) and Colin McGinn (1991) have argued that consciousness – particularly phenomenal consciousness, or the sort of consciousness which is involved when one undergoes states with a distinctive subjective phenomenology, or ‘feel’ – is inherently, and perhaps irredeemably, mysterious. And many would at least agree with Roger Penrose (1994) and David Chalmers (1996) in characterising consciousness as the ‘hard problem’, which (like the question of the origin of the universe) forms one of the few remaining ‘final frontiers’ for science to conquer. Yet there have also been a plethora of attempts by philosophers and psychologists at explaining consciousness in natural terms. These debates have attracted a great deal of interest, both throughout the academic community and amongst the wider public.

This book reviews and contributes to these debates, with the overall objective of defending a particular kind of naturalistic (scientifically acceptable) explanation of phenomenal consciousness – namely, dispositionalist higher-order thought theory. My view is that phenomenal consciousness consists in a certain sort of intentional content (‘analog’, or fine-grained), held in a special-purpose short-term memory store in such a way as to be available to higher-order thoughts about the occurrence and nature of those contents; and that in virtue of such availability (given the truth of some or other form of ‘consumer semantics’) all of those contents are at the same time higher-order ones, acquiring a dimension of *seeming* or *subjectivity*. While the problem of phenomenal consciousness may indeed be hard, it is by no means insuperable; indeed, I claim to have provided a solution to it within the pages of this book.

I am not very optimistic about the prospects for winning wide acceptance of this claim, however (quite apart from any weaknesses that there may be in my arguments). For there are many who have a vested interest

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

xiv Preface

in maintaining areas of mystery in the face of the advancement of science. It is a somewhat depressing fact about human beings, indeed, that claims which are cloaked in an aura of mystery have a natural and powerful attraction for us. (It may be that this attraction is not only natural, but naturally explicable – see Boyer, 1994.) It is therefore predictable that the present book may well suffer the fate of books debunking the mystery of the ‘Bermuda triangle’, or exposing the fraudulence of spoon-bending by psychokinesis – most people won’t want to know.

Just five years ago I completed a book which also had ‘consciousness’ in the title (*Language, Thought and Consciousness*, 1996a) three chapters of which were devoted, *inter alia*, to explaining and defending a rather similar – although somewhat more complex – theory of mental-state consciousness (including some discussion of phenomenal consciousness). How is it that I am now publishing a further book on the subject so soon afterwards? There are four interlinked strands in my reply: (a) major differences of focus between the 1996a book and the present project, (b) some changes of mind, (c) a lack of comprehensiveness in my earlier treatment, and (d) new developments in the field. I shall say a little about each in turn.

(a) *Differences of focus.* My 1996a was devoted to arguing that natural language sentences may be directly implicated in some forms of human thinking, specifically conscious propositional thinking (see also my 1998b and 1998c). In so far as that book happened to focus on phenomenal consciousness, therefore (and more particularly on conscious experience), this was because I felt that it would be a distinct advantage to be able to offer a unitary account of mental-state consciousness, whether those states are thoughts or experiences. In consequence, my sort of dispositionalist higher-order thought account of phenomenal consciousness was never really developed and defended in its own right. The present book is intended to make good that deficiency.

(b) *Changes of mind.* Partly because of its focus on conscious thinking – and more particularly on the cognitive architecture which was proposed as underpinning *human* conscious thinking – I was led, in that earlier book, to put forward an account of phenomenal consciousness which is more elaborate than is either necessary or appropriate. In my 1996a I defended what I called ‘reflexive thinking theory’, maintaining that a conscious state is one which is made available to higher-order thinking which is in turn made available – ‘reflexively’ – to such thinking. This had the effect of requiring that a perceptual state had to be available to *conscious* higher-order thought in order to be phenomenally conscious. In the present book that requirement is dropped.

I now claim that phenomenally conscious states consist of analog (as opposed to ‘digital’, or conceptually chunked) representations, held in a memory store which makes them available to higher-order thought *simpliciter* – there is now no requirement that those thoughts, should they occur, must themselves be conscious ones. These differences will be discussed much more fully in chapter 10, where I also argue for the independence of phenomenal consciousness from language.

(c) *Lack of comprehensiveness.* Because of its different focus, my 1996a made no attempt to explain and rebut the various ‘mysterian’ arguments purporting to show that phenomenal consciousness is incapable of naturalistic explanation. Yet the virtues of the sort of naturalistic account of phenomenal consciousness which I favour can only really be appreciated when seen against the background of, and in contrast with, the arguments of the mysterians. The present book remedies that deficiency, with chapters 2 and 3 (and parts of chapter 4) devoted to systematic exposition and rebuttal of the main mysterian arguments. It turns out that many of those arguments commit fallacies of ambiguity, trading on different notions of ‘fact’ and ‘property’, in particular.

(d) *New developments.* In the months after my 1996a went to press, a number of seminal works on the subject of phenomenal consciousness appeared in print. Of these, a target-paper by Ned Block in *Behavioural and Brain Sciences* (1995), and the books by Fred Dretske (1995), Michael Tye (1995), and David Chalmers (1996) were particularly influential in making me believe that a book-length treatment defending my naturalistic, higher-order, approach to phenomenal consciousness would be well worth undertaking.

Dretske and Tye made me see that the virtues of first-order representational theories of consciousness were greater than I had previously supposed, and that such theories accordingly needed to be taken very seriously (as I now do in chapters 5 and 6). My attack on their views turns ultimately on the reality of the distinction between conscious and non-conscious experience, which I defend at some length in chapter 6 (partly using old arguments, partly drawing on recent psychological and neuropsychological data). Block and Chalmers made me see that the case for a naturalistic explanation of phenomenal consciousness of the sort that I favour still had to be made good, and that the arguments had to be presented in their own right on a wider stage to stand any chance of securing conviction.

Dretske and Tye each helped me to see, too, that issues surrounding the nature of intentional content are much more closely connected with the problem of phenomenal consciousness than I had previously supposed.

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

xvi Preface

For both first-order theories of the sort that they defend, and higher-order theories of the kind that I endorse, propose a reduction of phenomenal consciousness to some combination of intentional content and causal role. And I began to see that it is important for these purposes that the notion of content in question should be individuated ‘narrowly’, in abstraction from the actual worldly environment of the thinker, rather than ‘widely’ in such a way as to embrace worldly objects and properties. (I had already long-since been convinced of the need for narrow content in psychological explanation generally. See my 1987 and 1989a.)

Reflection on parallel issues in the philosophy of science made me think, as well, that it is neither needful nor appropriate to seek for a fully reductive account of intentional content in its turn. These issues begin to surface in chapter 3, are discussed more extensively in chapters 4 and 5, and return again in force in chapter 9, where I argue that a dose of ‘consumer semantics’ is just what is needed to explain how analog states which are available to higher-order thought will take on a subjective aspect, becoming for the first time phenomenally conscious.

The remainder of the book compares, and contrasts with my own, a number of different higher-order approaches to phenomenal consciousness. Following some initial defence of higher-order approaches in general in chapter 7, chapters 8 and 9 contrast my dispositionalist higher-order thought theory favourably with higher-order *experience* (or ‘inner sense’) theory, as defended by Bill Lycan (1996) and others; and also with the sort of higher-order thought theory developed and defended over the years by David Rosenthal (1986, 1993, 1998), which requires the *actual* presence of a higher-order thought targeted on a perceptual state in order for the latter to be rendered phenomenally conscious.

Both of these approaches have in common that they explain the phenomenally conscious status of a mental state in terms of the subject’s consciousness, or awareness, *of* that state. So both explain phenomenal consciousness in terms of the kind of transitive consciousness or awareness which is distinctive of perception (in the case of Lycan) or of intentional thought (in the case of Rosenthal) – only targeted, in each case, on another mental state, which is thereby rendered conscious. (The various different notions of consciousness – phenomenal consciousness, state-consciousness, transitive and intransitive creature-consciousness, and so on – will be discussed and explained in chapter 1:3.) My dispositionalist account is somewhat different. For me, in contrast, it is the *availability* of a perceptual state to higher-order thought which is said to transform the intentional content of the former, conferring on it a dimension of *seeming* or *subjectivity*, and so rendering it phenomenally conscious.

Finally, chapters 10 and 11 are about different aspects of the higher-

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

Preface

xvii

order descriptivism espoused by Daniel Dennett (1978, 1991). Chapter 10 argues, *contra* Dennett, that phenomenal consciousness is independent of, and prior to, natural language. (It also serves to exorcise my own earlier temptation to connect this form of consciousness with language via commitment to reflexive thinking theory.) And chapter 11 then defends my account against the charge that it is committed to a ‘Cartesian theatre’ model of consciousness, of the sort so vigorously attacked by Dennett. Here I adopt a policy of ‘divide and conquer’: I plead guilty to some aspects of this charge, but argue that the relevant strands in Dennett’s attack are not good ones; and plead innocent of others, where the attacks are more successful.

What is the *status* of the theory of consciousness which I defend? Is it philosophy, or is it cognitive science? Somewhere between the two, I would guess (although I am inclined, in any case, to deny the existence of any sharp distinction). Certainly I make no claim that the theory should be seen as an explication of views implicit in our common-sense mentalising. Rather, that theory has been constructed by reflection on a variety of data, including not only common-sense intuitions, but also recent discoveries in psychology and cognitive neuroscience. And its goal is substantive *truth*, not analysis of our folk-psychological concepts, nor mere preservation of our common-sense intuitions.

Moreover, the methods employed in this enquiry have rather more in common with theoretical science than with much (though by no means all, and by no means the best) of philosophy. There are no attempted demonstrative arguments or proofs, and hardly any of the claims made is intended to be *a priori*. Rather, the goal is to construct a theory which can explain a range of different forms of data, and which can mesh successfully with surrounding scientific beliefs. And the overall argument-structure of the book takes the form of an inference to the best explanation.

Although the theory of phenomenal consciousness which I defend is intended as a contribution to science, and draws partly on recent results in cognitive neuroscience, I shall argue that all of the *resources* which are needed to construct a successful theory are available to common sense. We do not need to go to neuroscience to provide an explanation of phenomenal consciousness. Rather, we can (and should) remain within the circle of common-sense psychological notions of *thought*, *perception*, and so on.

Many believe, on the contrary, that the solution to the problem of consciousness lies somewhere in the neurosciences, if only we could discover it. One vigorous promoter of this view has been John Searle (1992, 1997). But it is no accident that Searle should also believe that the very

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

xviii Preface

idea of ‘mind’ or ‘mentality’ implicates phenomenal consciousness; and that he is famous for maintaining, in addition, that the whole computationalist research programme in cognitive science is based on a mistake (Searle, 1980). Given these views, there is then simply *no other place to look* for a scientific explanation of consciousness, except within neuroscience.

Fortunately for the project of this book, both of Searle’s assumptions are false, and are now almost universally rejected. The view that we have, or can have, notions of mentality which do not presuppose consciousness is now widely accepted, and will be defended in chapters 4, 5 and 6 of this book. Moreover, Searle’s famous ‘Chinese room argument’ against computationalism has been successfully attacked by a number of different authors (see Copeland, 1993, for example). I have nothing to add to their critiques.

I agree that cognitive neuroscience is *relevant* to the explanation of phenomenal consciousness, because it will be important for understanding the nature and detailed profile of our first-order perceptual contents. But since such contents can and do occur in the absence of phenomenal consciousness (as I argue at some length in chapter 6), we may need to move beyond cognitive neuroscience in giving an account of the subjective feel of experience. Our task is to explain how it is that some perceptual contents, but not others, come to possess a subjective phenomenology, or ‘feel’. And for this purpose it turns out that familiar folk-psychological notions are sufficient.

On matters of style, my main goal – as always – has been to write as clearly and accessibly as I can, with my arguments and conclusions laid out as explicitly as possible, without rhetoric or embellishment. I have always believed that philosophy should be written and presented in such a way as to be accessible to a wider audience (wherever practicable). But in the present case that demand is all the more pressing, since the problem of phenomenal consciousness is not an exclusively philosophical one, but has also been discussed and tackled by psychologists, neuroscientists and others. While accessibility is important, it does have its drawbacks, however – since the virtues of *accessibility* and *succinctness* are in some considerable tension with one another, this book is a good deal longer than I would have liked. It also means that the argument, especially in the early chapters, will seem to move rather too briskly for many philosophers. This is because the virtues of *accessibility* and *water-tight argument* are also in some tension. Where appropriate I have included footnotes indicating how the arguments might be developed and continued.

As for the demand for clarity and explicitness, this has a moral dimension to it (or an epistemic–normative one, at least). Another somewhat

Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

Preface

xix

depressing fact about human beings is that many of us are more attracted by important-sounding obscurity than by clarity, and that for many people a good joke or an effectively contrived piece of rhetoric are almost as likely to secure conviction as is a good argument or the provision of relevant evidence. These are tendencies which continually need to be battled against. Despite being in some sense ‘unnatural’ ones, the virtues of clarity and explicitness in argument are central, both to science and the pursuit of knowledge generally, and to liberal culture. If we lose them, we may lose everything. But clarity requires courage. For what is expressed clearly can more easily be seen to be wrong, if it is. (And if this is understood as levelling an accusation of cowardice against a considerable number of contemporary philosophers, then so be it.)

On the vexed issue of the use of masculine pronouns, I have gone for a mixed strategy. I use the colloquial plural pronouns ‘they’ and ‘their’ whenever these seem to read naturally enough in the context. Otherwise I use the feminine pronouns ‘she’ and ‘her’ where they seem unlikely to be distracting, resorting to the masculine pronouns ‘he’ and ‘his’ in the remaining cases.

Early drafts of this book were tried out on two final-year/MA classes at the University of Sheffield during the calendar-year 1998. I am grateful to all those students whose discussion and criticism – whether oral or written – helped to make the book better; mentioning especially: Francis Barton, Anna Bolitho, Peter Booker, Esther Clarke, Clare Heyward, Liza Jeffery, Rowan Lovett, Abigail Myers, Tim Ogden, Tom Simpson, George Slater, Laura Tennant, and Gordon Thomas.

Thanks, too, to a variety of academic friends, colleagues and opponents for comment and advice, at various stages in the preparation of the book; mentioning especially: Colin Allen, José Bermúdez, George Botterill, David Chalmers, Daniel Dennett, Fred Dretske, Keith Frankish, Richard Holton, Christopher Hookway, Dudley Knowles, Rae Langton, Stephen Laurence, Robert Lurz, David Papineau, Josef Perner, Tim Schroeder, Peter Smith, Dan Sperber, and Josh Weisberg.

I am grateful, too, to all those who have participated in the *Hang Seng Centre* workshops and conferences, held regularly here in Sheffield since 1992, for enriching my understanding of this and surrounding issues. In addition, material from this book has been delivered in the form of talks at the universities of Århus, Bolton, Cambridge, Edinburgh, Glasgow, Hamburg, Nottingham, Sheffield, Oxford, and Wageningen. I am grateful to all those who took part in the resulting discussions.

Various portions of this book draw on previous publications of mine, and I am grateful to the editors and publishers for permission to make use



Cambridge University Press

0521781736 - Phenomenal Consciousness: A Naturalistic Theory

Peter Carruthers

Frontmatter

[More information](#)

xx Preface

of that material here. (Sometimes I have taken a few paragraphs *verbatim*, but more often I have engaged in substantive rewriting, occasionally needing to make judicious insertions of the negation-sign.) Chapters 6, 7 and 11 make some use of material from my 1996a, and chapters 2, 3, 4, and 10 include some material from Botterill and Carruthers, 1999 – with thanks to Cambridge University Press in each case, and to my co-author in connection with the latter. Chapters 5 and 6 use some material from my 1998a – with thanks to Mark Sacks, the Editor of the *European Journal of Philosophy*, and Blackwell publishers. (I also learned a good deal from the ten published commentaries on this article, which appeared together with my reply in the on-line journal *Psyche* in 1999.) The final section of chapter 7 draws on and compresses some material from my 1999b, with thanks to the editors of the *Australasian Journal of Philosophy* and Oxford University Press. In addition, I am grateful to Alex Botterill for the artwork reproduced here as figure 6.2.

Finally, I am indebted to my current Head of Department, David Bell, for providing me with a semester of study leave; and to the Arts and Humanities Research Board for providing a matching period of leave, which together enabled me to complete this book.