

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

CAMBRIDGE STUDIES IN PHILOSOPHY

Realism and the progress of science

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

CAMBRIDGE STUDIES IN PHILOSOPHY

General editor D. H. MELLOR

Advisory editors J. E. J. ALTHAM, SIMON BLACKBURN,
DANIEL DENNETT, MARTIN HOLLIS, FRANK JACKSON,
JONATHAN LEAR, T. J. SMILEY, BARRY STROUD

JAMES CARGILE *Paradoxes: a study in form and predication*
PAUL M. CHURCHLAND *Scientific realism and the plasticity of mind*
N. M. L. NATHAN *Evidence and assurance*
WILLIAM LYONS *Emotion*

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

Realism and the progress of science

Peter Smith

Cambridge University Press

CAMBRIDGE

LONDON NEW YORK NEW ROCHELLE

MELBOURNE SYDNEY

Cambridge University Press
978-0-521-11034-1 - Realism and the Progress of Science
Peter Smith
Frontmatter
[More information](#)

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9780521110341

© Cambridge University Press 1981

This publication 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 1981
This digitally printed version 2009

A catalogue record for this publication is available from the British Library

Library of Congress Catalogue Card Number: 81-6151

ISBN 978-0-521-23937-0 hardback
ISBN 978-0-521-11034-1 paperback

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

Contents

Preface	vii
Introduction	1
1 A realist account of scientific progress	4
1 The challenge of relativism	4
2 Four questions for realism	10
2 The scrutability of reference	18
1 Two doctrines of Quine's	18
2 The inscrutability of reference of terms	21
3 Identity and predication	27
4 How to catch <i>gavagai</i>	33
3 A theory of interpretation	46
1 The indeterminacy of translation of sentences	46
2 Radical translation versus radical interpretation	51
3 How determinate is interpretation?	58
4 Cluster theories of reference	70
1 Natural kind predicates and proper names	70
2 Kripke's remarks on naming	80
3 A theory of reference for natural kind predicates	91
5 The account in perspective	104
1 The story so far	104
2 Atoms and molecules	106
3 Phlogiston	112
4 Mass	119
Conclusion	125
Bibliography	130
Index	133

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

Preface

This book is concerned with the philosophical foundations of a realist explanation of the progress of science. I shall maintain that central to this explanation is the claim that there are many cases where competing or successive scientific theories are about the same things. I believe such a claim to be intuitively plausible. My principal aim, however, is not so much to champion this belief as to set down in a methodical way what the realist's explanation entails. As the reader will presently see, it raises some of the main problems in contemporary philosophy of language. In particular, the realist has to reply to several powerful *a priori* arguments directed against his position. Whether he can do so, and whether, therefore, he can fully substantiate his explanation of how science progresses, is, I believe, one of the most interesting questions in modern philosophy.

My approach in writing this book has been to try to give some background to the arguments I discuss rather than to assume the reader is fully conversant with them. One reason for this is that any one person's understanding of a complex argument tends to be different from any other person's. The result is that what appears to some to be germane criticism is regarded by others as beside the point. Another reason harks back to my own early years of studying philosophy. I recall finding it difficult sometimes to relate the abstruse argument of the moment to more mundane problems. What did it matter if we could not fully determine the intentions of speakers? Why should we have a theory of what it is for a name to refer? This puzzlement does not happen quite so often now, but for my fellow journeyers the occasional signpost or map reference seemed in order. I have thus tried to explain precisely how the resolution of a real and, I hope, fairly tangible problem – that of explaining the progress of science – depends on a host of complex arguments.

The basis of this book was a Ph.D. thesis submitted to the University of St. Andrews in 1978. During the intervening period it has seen

Cambridge University Press

978-0-521-11034-1 - Realism and the Progress of Science

Peter Smith

Frontmatter

[More information](#)

substantial revision. I remain grateful, however, to St. Andrews for the assistance, financial and otherwise, which I earlier received. Perhaps like most authors I find it difficult in a preface to acknowledge fully the help and support of many teachers and friends. I hope that it is not invidious for me to take pleasure in mentioning in particular Leslie Stevenson and Nicholas Jardine; both gave most generously of their time. Between writing Chapter 5 of my thesis and the conclusion of this book, my wife Christine gave birth to two delightful children. In addition, she has even found time to encourage me and generally to make it possible for me to write. I shall always be thankful to her. As for Adam and Robert, they seem to concentrate more on making it *impossible* for me to write! But somehow they make me appreciate why I keep trying, and it is therefore to them that I dedicate this book.

P.J.S.

*Surrey
December 1980*