

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

A. S. Eddington and the unity of knowledge:  
scientist, Quaker & philosopher

Sir Arthur Stanley Eddington (1882–1944) was a key figure in the development of modern astrophysics, who also made important contributions to the philosophy of science and popular science writing. The Arthur Eddington Memorial Trust was set up after his death in order to hold annual lectures on the relationship between scientific thought and aspects of philosophy, religion or ethics. This 2013 collection gathers together six of these lectures, together with Eddington's 1929 Swarthmore Lecture on *Science and the Unseen World*. A preface written by the Astronomer Royal, Lord Martin Rees, is also included. This is a fascinating book that will be of value to anyone with an interest in the philosophy of science and Eddington's legacy.

VOLKER HEINE was born in 1930 in Hamburg, Germany but moved to New Zealand at age 9 where he grew up mostly under the care of the Veitch family. He gained BSc and MSc degrees from the University of Otago and in 1954 came to Cambridge to study for a PhD under Professor Sir Nevill Mott. In 1955 he married Daphne and their three children were born in Cambridge.

In Cambridge Volker helped to develop what is now an eminent and substantial research group on Theory of Condensed Matter. His research focused on the behaviour of various kinds of material at the basic atomic and quantum level, particularly metals, alloys, silicon, magnets, glass and rocks, with an emphasis on computer simulation and calculation to relate the theory to actual observation. He became a Fellow of Clare College in 1960, and was elected a Fellow of the Royal Society in 1974. As an undergraduate Volker joined the Quakers and he remains involved with them today. He is Chairman of the Arthur Stanley Eddington Memorial Trust under whose auspices this new volume is being published.

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

A. S. Eddington  
and the unity of knowledge:  
scientist, Quaker & philosopher

---

*A Selection of the  
Eddington Memorial Lectures*

EDITED BY

Volker Heine FRS

PREFACE BY

Lord Martin Rees FRS  
ASTRONOMER ROYAL



CAMBRIDGE  
UNIVERSITY PRESS

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

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

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](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9781107692121](http://www.cambridge.org/9781107692121)

Preface, appendix and compilation © Cambridge University Press 2012  
*Science and the Unseen World* by A. S. Eddington © Trinity College, University of Cambridge 2012  
*The Value of Life* © Mary Warnock 1989

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 2013

*Typeface* Monotype Fournier 11 / 13 pt

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

ISBN 978-1-107-03737-3 Hardback  
ISBN 978-1-107-69212-1 Paperback

Cambridge University Press has no responsibility for the persistence or  
accuracy of URLs for external or third-party internet websites referred to in  
this publication, and does not guarantee that any content on such websites is,  
or will remain, accurate or appropriate.

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

PREFACE

Lord Martin Rees

vii

*Science and the Unseen World*

1929 SWARTHMORE LECTURE

Arthur S. Eddington

3

*Eddington's Principle in the Philosophy of Science*

1951 MEMORIAL LECTURE

Sir Edmund Whittaker

35

*The Sources of Eddington's Philosophy*

1954 MEMORIAL LECTURE

Herbert Dingle

59

v

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

*An Empiricist's View of Religious Belief*

1955 MEMORIAL LECTURE

Richard B. Braithwaite

101

*The Brain and the Unity of Conscious Experience*

1965 MEMORIAL LECTURE

Sir John C. Eccles

129

*I Believe...*

1964 MEMORIAL LECTURE

Dame Kathleen Lonsdale

161

*The Value of Life*

1989 MEMORIAL LECTURE

Baroness Mary Warnock

195

Appendix: a list of the Memorial Lectures

211

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

## Preface by Martin Rees

EMERITUS PLUMIAN PROFESSOR

ARTHUR STANLEY EDDINGTON (it seems that he used both forenames in different communities) (1882 – 1944) was Plumian Professor of Astronomy and Experimental Philosophy, and Fellow of Trinity College, at Cambridge University. He was a versatile theorist and one of the fathers of modern astrophysics, best remembered for his key ideas on the nature of stars. He led the way in propounding Einstein's theory of relativity to the English speaking world, and directed the famous expeditions to test this theory by observing stars during the 1919 solar eclipse. His highly successful popular books brought these findings to the attention of a general readership. In a fine memoir entitled *The Greatest Astrophysicist of his Time* (published by CUP) S. Chandrasekhar gives a fuller assessment of his scientific achievements and influence.

The present volume relates to another side of Eddington. He was a lifelong Quaker, and the resonances between scientific, philosophical and religious ways of seeking truth were very important to him. Three series of lectures that he gave on this theme have recently been reprinted by Cambridge University Press: the Gifford Lectures *The Nature of the Physical World* 1928, the Messenger Lectures *New Pathways in Science* 1935, and the Tarner Lectures *The Philosophy of Physical Science* 1939.

Eddington saw early on, and explained very clearly, the philosophical implication of relativity and the new quantum mechanics of the 1920s for the conceptual basis of physics and of science more widely, and for his philosophical beliefs. The connections between these strands of his thinking are eloquently expounded in his 1929 Swarthmore Lecture to the Society of Friends (Quakers) in Britain, which is the first item included in the present volume.

Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

After his death in 1944, some money was collected and the Arthur Stanley Eddington Memorial Trust was set up in order to hold a series of annual lectures on:

“some aspect of contemporary scientific thought considered in its bearing on the philosophy of religion or on ethics. It is hoped that they will thus help to maintain and further Eddington’s concern for relating the scientific, the philosophical and the religious methods of seeking truth and will be a means of developing that insight into the unity underlying these different methods which was his characteristic aim.”

The most influential of these Memorial Lectures was *An Empiricist’s View of Religious Belief* given by the philosopher Richard Braithwaite. This lecture is reprinted in the present volume, along with five others. For various reasons, the series became non-viable after the 1980s. However Eddington continues to be commemorated by a special annual lecture on astronomy at the Cambridge Institute of Astronomy, the successor institution to the Cambridge Observatory which he directed for 30 years.



Cambridge University Press  
978-1-107-69212-1 - Science and the Unseen World  
A. S. Eddington  
Frontmatter  
[More information](#)

---

