

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

---

## Schrödinger

life and thought

Erwin Schrödinger was a brilliant and charming Austrian, a great scientist, and a man with a passionate interest in people and ideas. In this, the first comprehensive biography of Schrödinger, Walter Moore draws upon recollections of Schrödinger's friends, family and colleagues, and on contemporary records, letters and diaries.

Schrödinger's life is portrayed against the background of Europe at a time of change and unrest. His best known scientific work was the discovery of wave mechanics, for which he was awarded the Nobel prize in 1933. However, Erwin was also an enthusiastic explorer of the ideas of Hindu mysticism, and in the mountains of his beloved Tirol he sought a philosophic unity of Mind and Nature. Although not Jewish, he left his prestigious position at Berlin University as soon as the Nazis seized power. After a short time in Oxford he moved to Graz, but barely escaped from Austria after the Anschluss. He then helped Eamon de Valera establish an Institute for Advanced Studies in Dublin. It was here that he spent the happiest years of his life, and also where he wrote his most famous and influential book *What is Life?*, which attracted some of the brightest minds of his generation into molecular biology. Schrödinger enjoyed a close friendship with Einstein, and the two maintained a prolific correspondence all their lives.

Schrödinger led a very intense life, both in his scientific research and in his personal life. Walter Moore has written a highly readable biography of this fascinating and complex man, which will appeal not only to scientists but to anyone interested in the history of our times, and in the life and thought of one of the great men of twentieth-century science.

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

---



*A portrait by Lotte Meitner-Graf, made in London (c. 1935).*

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

---

# Schrödinger

life and thought

Walter Moore



**CAMBRIDGE**  
UNIVERSITY PRESS

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

CAMBRIDGE  
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9781107569911](http://www.cambridge.org/9781107569911)

©Walter John Moore 1989, 2015

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 1989  
Reprinted 1990  
First paperback edition 1992  
Reprinted 1993, 1994, 1998  
Canto Classics edition 2015

Printed in the United Kingdom by Clays, St Ives plc

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

ISBN 978-1-107-56991-1 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. Information regarding prices, travel timetables, and other factual information given in this work is correct at the time of first printing but Cambridge University Press does not guarantee the accuracy of such information thereafter.

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

Contents

<i>Preface</i>	<i>page</i> vii
<i>Chronology</i>	x
<i>Introduction</i>	1
1 Family, childhood and youth	7
2 University of Vienna	32
3 Schrödinger at war	79
4 From Vienna to Zürich	111
5 Zürich	145
6 Discovery of wave mechanics	191
7 Berlin	230
8 Exile in Oxford	278
9 Graz	320
10 Wartime Dublin	352
11 Postwar Dublin	415
12 Home to Vienna	455
<i>References</i>	483
<i>Name index</i>	502
<i>Subject index</i>	510

Cambridge University Press

978-1-107-56991-1 - Schrödinger: Life and Thought

Walter Moore

Frontmatter

[More information](#)

---

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

---

## Preface

In this book I have tried to tell something of the life of Erwin Schrödinger in such a way that even those who are not scientists may be able to understand the greatness of his work, the range of his ideas, and the kind of person he was. Montaigne wrote that 'our life is divided betwixt folly and prudence: whoever will write of it only what is reverend and canonical will leave about the one-half behind'. In order to come closer to the whole of Schrödinger, I have included some account of his personal life. It is not thirty years since his death and thus many personal memories and sensitivities have not yet receded into history, a situation that is both a help and a hindrance for a biographer. It is possible to interview former friends and colleagues, but some important collections of letters and memoirs remain closed to research.

My book was made possible by the generosity with which Schrödinger's eldest daughter, Mrs Ruth Braunizer, made available many of the archives concerning her father's life.

Special thanks are due to Professor Ludvik Bass of the University of Queensland, Schrödinger's last postdoctoral student, who reviewed the entire manuscript; his scientific and historical comments have been invaluable.

Dr Linda Wessels of Indiana University provided many helpful suggestions. Professor James McConnell of the Dublin Institute for Advanced Studies never failed to answer my seemingly endless questions about Schrödinger's Dublin years. Dr Anthony Bracken reviewed several theoretical sections; Professor David MacAdam clarified some of the difficulties of color theory. My friend and neighbor, Robert Halporn, assisted in the decipherment of Gothic script and in explaining life in Vienna and the Austrian educational system. Dr John Fletcher helped with the study of Schrödinger's poetry. Professor Sture Nordholm provided translations of the Nobel Archives, and Dr Kirsten Streib translated some of Niels Bohr's letters from the Danish. Professor Karl v. Meyenn of Barcelona made available unpublished material about Schrödinger in Spain, and Professor

Cambridge University Press  
 978-1-107-56991-1 - Schrödinger: Life and Thought  
 Walter Moore  
 Frontmatter  
[More information](#)

viii *Preface*

Kenji Sugimoto shared his collection of photographs. My family was enlisted in various ways: Professor Joseph Wiecha as consultant on German language and literature, my sister Mary Wiecha for comments on style and content, and my nephew Dr John Wiecha for one of the interviews.

So many others provided help with interviews and research material that I can only mention their names and the relevant section, even omitting their often distinguished titles.

*Dublin.* Charles Acton, Ronald Anderson, Otto Bergmann, Hermann Bruck, Basil Clancy, Ernesto Corinaldesi, Brigid Dolan, Eithne Dunne, Nuala Feric, Stephen Feric, Gerald Gardner, Herbert Green, Jim Hamilton, Vincent Hart, Margaret Holmes, Fred Hoyle, Ray Kavanagh, John Lewis, Alexander Lieven, A.J. McConnell, William McCrea, Lena McManus, Ernan McMullin, Des McNamara, Harry Messel, Lillian Murnane, Maire Cruise O'Brien, Sean O'Connell, H.W. Peng, Jim Pounder, John Ryan, Brendan Scaife, Alfred Schulhof, Neville Symonds, John Synge, Louis Werner, Nicole Whitney, Evelyn Wills.

*Austria.* Maria Bertel, Bruno Bertotti, Johanna Bianchi, Arnulf Braunizer, Manfred Breiteneker, Ferdinand Cap, Erika Cremer, Auguste Dick, Dieter Flamm, Wilhelm Frank, Leopold Halpern, Otto Hittmair, Berta Karlik, Wolfgang Kerber, Ernst Kohlrausch, Emmy Krafack, Kurt Mählberber, Hermann Mark, Rena Mayer-Rieckh, Suzanne Nemenz, Heinz Oberhammer, Gerhard Oberkaufler, Heinz Pelzer, Kurt Polzer, Mario Rella, Roman Sexl, Ulrike Smola, Walter Thirring, John Ullmann, Paul Urban.

*Britain.* D.J. Allen, Hansi Bauer-Böhm, Gustav Born, Duncan Davies, Margit Dirac, Patrick Dolan, Margaret Farley-Born, Charles Frank, Fanchon Fröhlich, Herbert Fröhlich, David ter Haar, Barry Hickman, Paul Hoch, Patrick Johnson, Nicholas Kemmer, Heinrich Kuhn, Nicholas Kurti, Catherine Macmillan, Penelope Hughes Minney, Karl Popper, Lucie Rie, N.H. Robinson, Robin Schlapp, Charlotte Simon, Geoffrey Stephenson, Leslie Sutton.

*Germany.* Ella Ewald, Armin Hermann, Dieter Hoffmann, Dieter Hummel, Theodor Laue, Walter Ledermann, Erika Regener, Fritz Schweighofer, Viktor Weisskopf, K. Wiecke, Eugene Wigner.

*Switzerland.* Valentine Bargmann, E. Peter Fischer, Beat Glaus, Hans Herwig, Hedwig Herwig, Itha Jennings, Res Jost, Miguel Jungen, Alexander v. Muralt, Gunter Rasche, Michael Weyl.

The custodians of various scientific archives always responded generously and efficiently to requests for research documents and permissions to quote from them: Dr Wolfgang Kerber of the Zentralbibliothek für Physik in Wien; Professor Bengt Nagel for the Nobel Committee; Dr Volker Wahl of the University of Jena; Dr Christa



Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

---

*Preface* ix

Kirsten of the Academy of Sciences of the D.D.R.; Dr I. Stolzenberg of the Prussian State Library; Paul Schuchman of the Princeton Institute for Advanced Study; Dr Earle Coleman of Princeton University; Hofrat Dr Waissenberger of the City Museum of Vienna; the staffs of the Library of the American Philosophical Society in Philadelphia, the Bohr Library in New York, the Fisher Library in Sydney, the Deutsches Museum in Munich, and the Indiana University Library in Bloomington.

Special thanks are due to Mr Ehud Benamy of the Einstein Archives for his assistance, and to the Hebrew University of Jerusalem, Israel, for permission to quote from the letters of Albert Einstein.

Dr Simon Capelin, Senior Physics Editor of Cambridge University Press, provided not only valuable editorial comments and criticisms but also unerring judgment in matters of design and production.

The book could not have been written without the devoted assistance of my wife Patricia, who arranged and recorded the many interviews, managed an extensive correspondence, and suggested the most tactful pathways for research.

Cambridge University Press  
 978-1-107-56991-1 - Schrödinger: Life and Thought  
 Walter Moore  
 Frontmatter  
[More information](#)

## Chronology

- 1887.8.12 Erwin Schrödinger born in Vienna III, Erdberg
- 1898–1906 Student at Akademisches Gymnasium
- 1906–1910 Student at University of Vienna
- 1910.5.20 Award of degree Doctor of Philosophy
- 1910–1911 Military service as one-year volunteer in the Fortress Artillery
- 1914.1.9 Habilitation – *venia legendi* for Physics at University of Vienna (Privatdozent)
- 1914–1918 Military service
- 1919.12.24 Death of his father Rudolf in Vienna
- 1920.1.17 Faculty recommends associate professorship at Vienna
- 1920.3.24 Marriage with Annemarie Bertel
- 1920 Assistantship with Max Wien, University of Jena
- 1920.9.6 Associate Professor in Jena
- 1920–21 Winter semester: Associate Professor Technische Hochschule Stuttgart
- 1921 Summer semester: Professor for Theoretical Physics, Breslau
- 1921.9.12 Death of mother Georgine in Vienna
- 1921.10.12 Professor for Theoretical Physics, University of Zürich
- 1922 Seven-month rest cure for tuberculosis, Arosa
- 1926 Six major publications on wave mechanics in *Annalen der Physik*
- 1926–1927 December to March, travel in U.S.A.
- 1927.10.1 Professor of Theoretical Physics in Berlin, successor to Max Planck
- 1929 Elected to membership in Prussian Academy of Sciences
- 1933 Leaves Berlin at end of May in disgust for Nazi regime
- 1933.10.3 Elected Fellow Magdalen College, Oxford
- 1933.11.9 Nobel prize in Physics
- 1936.10.1 Professor at University of Graz
- 1938.9.1 Dismissal from Graz. Escape to Oxford
- 1938–1939 Guest professor, University of Gent

Cambridge University Press  
978-1-107-56991-1 - Schrödinger: Life and Thought  
Walter Moore  
Frontmatter  
[More information](#)

*Chronology* xi

1939.10.7	Arrival in Dublin
1940–1956	Senior Professor, School of Theoretical Physics, Dublin Institute for Advanced Studies
1956.3.28	Return to Vienna as Professor of Theoretical Physics (personal chair)
1958.9.30	Emeritus Professor, Vienna
1961.1.4	Death in Vienna
1961.1.10	Burial at Alpbach, Tirol