



# The Hope and Vision of **J. Robert Oppenheimer**

Michael A. Day

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*Published by*

World Scientific Publishing Co. Pte. Ltd.

5 Toh Tuck Link, Singapore 596224

USA office: 27 Warren Street, Suite 401-402, Hackensack, NJ 07601

UK office: 57 Shelton Street, Covent Garden, London WC2H 9HE

**Library of Congress Cataloging-in-Publication Data**

Day, Michael (Michael A.)

The hope and vision of J. Robert Oppenheimer / Michael Day.

pages cm

Includes bibliographical references and index.

ISBN 978-9814656733 (hardcover : alk. paper) -- ISBN 978-9814656740 (pbk. : alk. paper)

1. Oppenheimer, J. Robert, 1904–1967. 2. Philosophy, Modern--20th century. 3. Nuclear nonproliferation--International cooperation. 4. Physicists--United States--Biography. I. Title.

QC16.O62D38 2015

530.092--dc23

[B]

2015010840

**British Library Cataloguing-in-Publication Data**

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

The image on the cover comes from Los Alamos National Laboratory  
(<http://www.lanl.gov/misc/copyright.html>).

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Typeset by Stallion Press

Email: [enquiries@stallionpress.com](mailto:enquiries@stallionpress.com)

Printed in Singapore

The Hope and Vision of  
**J. Robert Oppenheimer**

To my wife Judy  
for her love, inspiration and encouragement

## Preface

The development and military use of atomic weapons at the end of World War II not only destroyed two cities and their populations, but also created revolutionary changes and crises for scientific activity and the world at large. Due to these earth-shattering changes, scientists were called upon to address issues related to science and society as well as the significance of the atomic revolution for the international order and even humanity itself.

The public clamored to hear from its leading atomic scientists, and the scientists were eager to respond. For the public, these scientists offered more than a glimpse at the secrets of the atom. They were seen as interpreters of science and its new relationships to society, and as offering hope for transcending the atomic crisis. Perhaps this role was no better exemplified than by the physicist J. Robert Oppenheimer (1904–1967).

With the atomic attacks against Japan in August of 1945, Oppenheimer became a public symbol and interpreter of modern science, embodying both science and the atomic crisis. Lecturing throughout North America as well as South America, Europe, and Japan, Oppenheimer continued in this dual role until shortly before his death in 1967. His views and opinions were widely covered in the press and he made several appearances on radio (e.g., BBC Reith Lectures in 1953) and television (e.g., a one-hour program with Edward R. Murrow on CBS in 1955).<sup>a</sup>

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<sup>a</sup>For an in-depth discussion of the Murrow interview of Oppenheimer, see Mark Wolverton, *A Life in Twilight: The Final Years of J. Robert Oppenheimer* (New York: St Martin's Press, 2008), Chapters 1 and 2.

Unfortunately, and in some ways understandably, Oppenheimer has now faded into insignificance and is seen primarily in symbolic roles — “Father of the Atomic Bomb,” the “Atomic Faust,” the guilt-ridden scientist who had “known sin,” and the most prominent victim of McCarthyism. Oppenheimer has become a subject for the TV docudrama and even the opera. However, the question remains whether he offers something of value beyond the symbolic. A significant feature of this book is the construction of an extended argument which answers this question with a definite yes. Though not easy to establish, such an answer is not unexpected for Oppenheimer was a person of remarkable talents and genius who was strategically placed as a scientist, government adviser, and public intellectual.

But Oppenheimer is a subject surrounded by controversy and presents historians and biographers with numerous challenges. In this book, like others before me, I take up this “Oppenheimer challenge” and attempt to remove some of the mystery surrounding him. However, my overall approach is not easily categorized, so let me first say what I am *not* doing. I am not doing history, or even intellectual history, or philosophy, or biography in the traditional sense.

Instead, what I am doing in an overall sense might be called “philosophical biography,” and it moves in two dimensions. First, I recover and reconstruct what Oppenheimer said during the 1940s, 50s, and 60s, which I identify as his hope and vision of 1957–59. With this in hand, Oppenheimer’s various views and outlook become more understandable and, I would contend, more noteworthy. Further, questions are explored concerning what might be of interest from a general philosophical perspective.

Second, and just as important, I consider not only Oppenheimer’s thought but also his life using philosophical ideas developed by contemporary philosophers, in particular, ideas developed by the British philosopher Bernard Williams (1929–2003) and the American philosopher Richard Rorty (1931–2007). Interestingly, connections arise between these two complementary dimensions that serve to illuminate and assess Oppenheimer and his thought. The key question, of course, is whether this overall approach is biographically, historically,

and philosophically grounded, and provides insight into Oppenheimer and his thought. I believe it does.

Central to any discussion of Oppenheimer and his thought, of course, is the atomic or nuclear revolution, and the possibility of transcending the resulting crisis. In order to deepen and broaden the discussion of Oppenheimer's vision as well as to further demonstrate its relevance for today, his thought is also analyzed using contemporary international relations theory with special emphasis on nuclear nonproliferation and disarmament. This inquiry, which is taken up in the last chapters of this book, proves instructive as well as illuminating, and resonates well with recent calls for "a world without nuclear weapons," such as the one made by US President Obama in Prague in 2009. This overall examination using contemporary international relations reveals a realism underlying Oppenheimer's thought that in many ways is prescient of the work being done today to control, and possibly transcend, the nuclear revolution.

In Chapter 1, I present a biographical sketch of Oppenheimer, and then turn to a discussion of recent scholarship and the so-called "Oppenheimer challenge." In Chapter 2, the development of Oppenheimer's views on science and society commences with his hope and vision of 1957–59. This hope and vision serves as a "vital center" both temporally and conceptually in developing Oppenheimer's thought. Chapters 3 and 4 focus on exchanges between Oppenheimer and the Pulitzer Prize-winning poet Archibald MacLeish in 1949 and the Nobel Prize-winning physicist I. I. Rabi in 1962, respectively. These exchanges furnish means, both temporally and conceptually, for a fuller and richer account of Oppenheimer's thought and its development.

Along with some historical background concerning attempts at the international control of atomic energy (e.g., Acheson–Lilienthal proposal), later chapters then place Oppenheimer's thought in a broad, and perhaps more revealing, philosophical light. In particular, moral ramifications for Oppenheimer of the failure of international control are explored. Connections are then made between Oppenheimer's thought and American pragmatism as well as what

philosophers and other social theorists have called “modernity” and its various crises. After this, an examination of his thought as well as Oppenheimer himself is undertaken using philosophical ideas and themes from Williams and Rorty. Finally, Oppenheimer’s hope and vision as related to the nuclear revolution is placed within the context of contemporary international relations theory.

Before turning to the biographical sketch of Oppenheimer, I would like to say something about the journey behind this book. In 1997, with my training in physics and philosophy, I became interested in American Cold War physicists and their views on the nature of science and society. With Oppenheimer as “Father of the Atomic Bomb” and his papers nearby at the Library of Congress, I decided to focus my research on his views on the nature of science. I found the task fascinating, demanding, and at times frustrating.

After making some progress, I was fortunate in 1999 to meet and spend time with David Hawkins, who was a friend of Oppenheimer. Hawkins was trained as a philosopher and knew Oppenheimer at Berkeley during the 1930s and 40s. Further, Hawkins was an administrative assistant to Oppenheimer at Los Alamos and wrote the official technical history of the Los Alamos atomic bomb project. While discussing my work with Hawkins and, more important, listening to him, I began to realize that my approach to Oppenheimer and his thought had to be broadened.

In addition, Hawkins introduced me to Priscilla McMillan, who was then researching and writing her biography of Oppenheimer that was published in 2005. With encouragement and insights from Hawkins and McMillan, I was able to bring this first task, namely Oppenheimer’s views on the nature of science, to completion. Clearly, I learned much about Oppenheimer from both Hawkins and McMillan. But more important, when I now look back, what I sensed in both of them was a definite sympathetic, though not uncritical, understanding of Oppenheimer based on reflection and firsthand experience or research. I must confess that my personal reactions to Oppenheimer at this time were for the most part ambivalent.

My efforts then turned to the physicist I. I. Rabi, whose papers were also at the Library of Congress, and the focus was on his views

on science and society. Rabi was a very close friend of Oppenheimer and a senior adviser to the atomic bomb project at Los Alamos. Again, I was fortunate. I met and interacted with the physicist and historian of science John Rigden, who knew Rabi and had written the definitive biography of Rabi. With Rigden's insights and encouragement, I was able to complete my work on Rabi.

With Oppenheimer's and Rabi's views along with some documentation of their interactions in hand, I noticed additional coherence and richness in Oppenheimer's thought. Then, in 2007, I began working with Gary Grieve-Carlson, a friend and colleague who specializes in American poetry. Our focus was the poet Archibald MacLeish and Oppenheimer, who were friends and exchanged ideas on Cold War America. From these investigations, again more coherence over time as well as in content appeared in Oppenheimer's thought and philosophical outlook.

During these years, I also had the opportunity to meet and talk with several Oppenheimer scholars — in particular David Cassidy, Charles Thorpe, Kai Bird, and Martin Sherwin. These interactions and the scholarly works of these individuals have proved invaluable in promoting a fuller and richer understanding of Oppenheimer. Furthermore, over the last few years, I have come to realize that Oppenheimer's thought and outlook touched on many of the themes and issues found in contemporary international relations theory — debates over realism/liberalism/constructivism, the role of epistemic communities, and issues concerning nuclear policy and nuclear disarmament.

Finally, by making connections to standard philosophical thought, like American pragmatism, and, in particular, the moral thought of the philosopher Bernard Williams, I came to conclusion that a convincing case could be made for a sympathetic, though not uncritical, understanding of both Oppenheimer and his thought. In other words, Hawkins and McMillan were insightful and justified in their overall assessments and reactions to Oppenheimer.

In this book, the reader will not only encounter Oppenheimer and his thought, but will also be taken on a journey with elements of history, science, philosophy, and international relations theory. Such is to be expected for Oppenheimer was a man of many dimensions as

well as a person of remarkable talents and genius who was strategically placed. The general thesis of this book is that Oppenheimer's thought is important, engaging, relevant, and more coherent than normally assumed, and hence his voice needs to be brought back into the public forum. Hopefully, this effort may contribute to a fuller, and perhaps more sympathetic, understanding of Robert Oppenheimer.

## Acknowledgments

During the years of research and writing that underlie this book, I have accumulated a number of debts both professional and personal.

First, I am indebted to the late David Hawkins of the University of Colorado. David was and remains a paragon of inspiration, and was instrumental early on in pointing me in the right direction and shaping my interpretation of Oppenheimer and his thought. Second, Priscilla McMillan, Oppenheimer scholar and friend, has played a formative role in my understanding of Oppenheimer. Her enthusiasm and encouragement along with her research and scholarly work have proved invaluable.

John Rigden through his scholarly work, especially on the physicist I. I. Rabi, and his support over the years, has furnished me both understanding and opportunity. His commitment to a public understanding of science, as illustrated through his long-term editorship of *Physics in Perspective* along with Roger Stuewer, serves as a model of social and academic responsibility. In addition, for conversations and their scholarly works on Oppenheimer, I am grateful to David Cassidy, Charles Thorpe, Martin Sherwin, Kai Bird, and Mary Palevsky.

Several colleagues at Lebanon Valley College (LVC) have provided support over the years. Most important, Gary Grieve-Carlson and Jeffrey Robbins have read various versions of the manuscript and provided insightful comments and advice as well as inspiration and encouragement. Gary and Jeff represent the best of the teacher-scholar in conjunction with a dedication to the college, which at times has required both academic and philosophical courage. In addition, I am grateful to Stephen MacDonald, Christopher Dolan, John Norton, Michael Pittari,

Robert Carey, Rick Chamberlin and Stephen Williams as well as my physics colleagues Scott Walck and Barry Hurst for their comments, support, and encouragement. I must also call attention to my indebtedness to my friend Robert Hardy of the University of Nebraska–Lincoln, who was my physics mentor, for his insight, encouragement, and guidance over the years.

I am indebted to LVC for providing support through sabbaticals and faculty travel grants. Especially important has been the continual assistance I have received from the library staff at LVC. Most notable has been the assistance of Donna Miller, Becky Chanas, Julia Harvey, Maureen Bentz, Lori Nyce, Scott Conrad, Stacie Allison, Susan Aungst, Susan Krall, and the late Frank Mols. Also, I am grateful to Barbara West of the physics department, Todd Gamble of Information Technology Services, and summer interns Shane Jacobeen and Mary Terese Sweitzer for their assistance.

I am deeply appreciative to World Scientific Publishing, and in particular its Chairman and Editor-in-Chief Phua Kok Khoo, for their commitment to making this book a reality. I thank Jessica Barrows, Commissioning Editor in New Jersey, and Elizabeth Lie, Production Editor in Singapore, for their support and much needed assistance during the publishing process and manuscript preparation. Also, I thank editor Low Lerh Feng for his assistance at the closing stages of the publishing process.

A special thank you goes to my stepson, Ian Hansen, for his encouragement and assistance. Most important has been the support, encouragement, and understanding of my wonderful wife, Judy Pehrson. Her astute advice and assistance played a significant role in bringing this project to fruition. This book is dedicated to her.

Parts of this book borrow from previous publications. Material in Chapters 2 and 6 appeared previously in “Oppenheimer on the Nature of Science,” *Centaurus* **43** (2001). Material in Chapter 3 appeared previously in “MacLeish, Oppenheimer, and ‘The Conquest of America’” (coauthored with Gary Grieve-Carlson), *Soundings: An Interdisciplinary Journal* **93** (Fall/Winter 2010). Material in Chapter 4 appeared previously in “I. I. Rabi: The Two Cultures and the Universal Culture of Science,” *Physics in Perspective* **6** (2004), and

in “Oppenheimer and Rabi: American Cold War Physicists as Public Intellectuals” in *The Atomic Bomb and American Society: New Perspectives* (Knoxville, TN: University of Tennessee Press, 2009). Material in Chapter 7 appeared previously in a book review of Jay A. Labinger and Harry Collins (editors) *The One Culture? A Conversation about Science* in *Physics in Perspective* 4 (2002).

Also, I thank Nancy Rabi Lichtenstein for permission to quote from the I. I. Rabi Papers at the Library of Congress.

Finally, any errors or omissions as well as deficiencies in this book are my responsibility.

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# Chapter 1

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## Introduction

### Biographical Sketch<sup>1</sup>

Robert Oppenheimer, the son of Julius and Ella (Friedman) Oppenheimer, was born in New York City on April 22, 1904. His father emigrated from Germany to the United States in 1888 at the age of 17, and became a very successful textile importer. His mother, born in Baltimore, had studied art in Europe and was an accomplished painter and teacher of art. Robert was raised in an atmosphere of culture and wealth — a spacious apartment on Riverside Drive overlooking the Hudson River with maids and a chauffeur, a summer home on Long Island, family trips to Europe, and a 28-foot sloop for Robert about a year before his high school graduation. His younger brother Frank, who would also become a physicist, was born in 1912.

The Oppenheims were an emancipated Jewish family who belonged to the Ethical Culture Society founded by Felix Adler in 1876. The Society was nonsectarian and emphasized moral dialogue and instruction with a commitment to charitable work and progressive social reform; that is, “Deed, not Creed.” Robert’s parents had been married by Adler and his father was a member of the board of trustees of the Society for a number of years.

From 1911 to 1921, Robert attended the Society’s private school called the Ethical Culture School, located next to Central Park. Young Robert, delicate and physically awkward, excelled even relative to his gifted and motivated peers. Taken as distant and sometimes difficult by fellow students, he was precocious — an “adolescent