EINSTEIN ON EINSTEIN

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INTRODUCTION

Each of our previous books featured a canonical text by Albert Einstein around which we built a whole narrative, placing that text in its historical and scientific context. Likewise, the present book features his *Autobiographical Notes*, published in *Albert Einstein: Philosopher Scientist*, volume 7 of The Library of Living Philosophers, a series initiated and directed by Paul A. Schilpp.[1] We have accompanied Einstein's short autobiographical account with interpretative essays that investigate from different angles its genesis, impact, and contexts, and we have supplemented it with additional historical documents. With this book, we hope to contribute to the accessibility and appreciation of Einstein's *Notes* as a canonical text of modern science and philosophy.

Einstein's *Autobiographical Notes* represents a key document of twentieth-century thought—one that especially illuminates the role of science in making the modern world. Like a focal lens, it collects the various thought traditions brought together in giving rise to the new physical world picture that was the result of the intellectual revolution initiated by Einstein and his peers. The essay offers a unique, introspective view of how this upheaval came about and thus constitutes a hitherto neglected counterpart to the autobiographies of politicians, writers, artists, or other actors who have played such an important role in revealing the subjective side of the tumultuous history of the twentieth century. Einstein's *Autobiographical Notes* is indeed an artistic document itself, taking the reader on an imaginative journey from the childhood to the last questions of the aging scientist. Even readers without any scientific background will be engrossed by Einstein's account of his dramatic life story.

The book is organized in six major parts. Part I offers some general historical background to the genesis of the *Autobiographical Notes* with a special focus on the origin and scope of Schilpp's monumental enterprise, The Library of Living Philosophers, and on historical developments in the year 1946, the year of writing these notes. This year marked a historical turning point: after the end of World War II, after the Holocaust, after the bombs dropped on Hiroshima and Nagasaki, and at the beginning of the Cold War. These developments had a profound effect on Einstein, on his public activities, on his writings, and on his mood. Although none of it is explicitly reflected in the *Autobiographical Notes*, it is worth remembering in what environment the memoir was written. In this preliminary part, we also compare Einstein's *Notes* with the *Scientific Autobiography* of Max Planck. The latter is one of many similar essays written by scientists and philosophers describing their intellectual odyssey.

Part II, the main part of the book and perhaps our most original contribution, begins with an introductory essay on the quest for a unified scientific worldview, followed by twelve essays commenting on the major themes of Einstein's text. Their goal is to unravel Einstein's convoluted narrative and to highlight his autobiographical reminiscences in their biographical context. We compare them with his perception of the different stages and chapters in his scientific life, as illustrated by his writings and correspondence at the time of their development. Conversely, we take a fresh look at his biography from the perspective of his autobiographical account.

Schilpp's volume on Einstein contains, after the *Autobiographical Notes*, twenty-five descriptive and critical essays by other physicists and philosophers commenting on his work. In Part III, we describe Schilpp's selection process and provide biographical information on the selected contributors. We then summarize and analyze Einstein's responses to their remarks. The latter supplement the *Notes* by shedding additional light on Einstein's scientific-philosophical worldview. We also quote from unpublished versions of his responses.

Part IV reproduces another remarkable text, Einstein's "Autobiographical Sketch," written about a month before his death in 1955. It is the first time that this text has been published in English. Einstein wrote it as his contribution to the one hundredth anniversary volume of the ETH in Zurich. He agreed to do it because this would give him an opportunity to express gratitude to his personal friend and scientific collaborator Marcel Grossmann. We discuss the contents and the context of this unique document.

Einstein was the only scientist included in Schilpp's Library of Living Philosophers. In Part V, the concluding section of our commentary, we attempt to show why the title *Philosopher-Scientist* is so appropriate.

Part VI presents a reprint of the English translation of the *Autobiographical Notes*. The work was written in German and translated into English by Schilpp with the help of Peter Bergmann, and Einstein approved the translation. In Schilpp's volume, the German and English texts were reproduced side by side.

In addition to representative historical illustrations and scans of selected passages from Einstein's handwritten manuscripts, we have chosen to illustrate the text with drawings by the artist Laurent Taudin. They accompany Einstein's reminiscences of his intellectual journey with an artistic, poetic walk as a metaphor of this journey, adding a light, yet thought-provoking, flavor. We appreciate Laurent's imaginative grasping of the human essence of Einstein's effort.

ACKNOWLEDGMENTS

This project owes a special debt to two institutions, which were directly and indirectly involved. The Hebrew University allowed us unlimited access and use of archival material, and the Max Planck Institute for the History of Science became the venue where this project was created. We are therefore grateful for the support of both these institutions.

One of us (H. G.) is grateful to the Max Planck Institute for the History of Science for its hospitality during numerous visits in the course of this work.

We are grateful to Dr. Roni Gross, director of the Albert Einstein Archives (AEA) for his assistance. His deputy, Mrs. Chaya Becker, deserves special thanks for her invaluable help with archival material at the AEA and with other sources.

We would like to acknowledge Sabine Bertram for her professional and effective assistance with the bibliographical research.

We are grateful to Nicholas L. Guardiano, research specialist from the Special Collections Research Center, Morris Library at Southern Illinois University, and to Paula McNally, an independent researcher, for their guidance and search for relevant archival material in the Schilpp archival collection.

Finally, we acknowledge with appreciation and gratitude the invaluable editorial assistance and professional support of Lindy Divarci.

NOTE

1. Paul Arthur Schilpp, ed., "Albert Einstein: Autobiographical Notes (in German, and in English Translation)," in *Albert Einstein: Philosopher-Scientist*, The Library of Living Philosophers, vol. 7 (Evanston, IL: Library of Living Philosophers, 1949), 1–96. The English translation from the separate bilingual edition of *Autobiographical Notes* is reproduced in this volume: *Albert Einstein: Autobiographical Notes*, ed. Paul Arthur Schilpp (La Salle, IL: Open Court, 1979).

1
THE GENESIS AND SCOPE OF THE *AUTOBIOGRAPHICAL NOTES*

The matter was of the utmost importance, at least to the sender of the letter. A turning point in world history seemed to be imminent. The message was to be heard all over America, by over 25 million listeners, and from there the message would surely spread across the globe. There was only one person who could authentically stress its urgency and lend it universal credibility, a man sixty-seven years of age, not a politician but a scientist. But given his fragile health, he needed to be convinced to take on the long journey from the East Coast to the Great Lakes, either by train or by plane and deliver a speech at a stadium in front of forty thousand people that would simultaneously be transmitted by radio.

The urgent issue was the establishment of a world government—in the aftermath of the most devastating war and the most horrific genocide the world had ever seen and on the eve of an even larger catastrophe casting its shadow on the fate of mankind as a whole. It was April 1946, about a year after the liberation of Auschwitz and the dropping of atomic bombs on Hiroshima and Nagasaki. While leading Nazi officials were sentenced in Nuremberg for their crimes against humanity, in March 1946 British Prime Minister Winston Churchill spoke for the first time of the Iron Curtain dividing Europe; later he would argue in favor of the United States of Europe. In the beginning of the year, the General Assembly of the United Nations had met for the first time; the first radar contact with the moon was established on the same day. The time seemed ripe for a planetary view on the future of mankind. Yet, as citizens turned their gaze from the horrors of the immediate past to the immediate future, a new abyss was opening, that of the Cold War, which would hover for much of the rest of the century at the brink of a hot war with the potential to destroy the entire planet.

That was one of the reasons why the establishment of a world government seemed to be so urgent to the sender of the letter: "What is absolutely necessary today—actually *sine qua non*—is world government! But of course it will not happen unless more and more people realize this, even if they are only driven to it through fear of the atomic bomb."[1] In May of the same year another letter insisted on the necessity to address the millions in favor of a world government "for the sake of humanity": "I am indeed absolutely certain

that you could not support the cause that is dear to all our hearts—namely to save the world from annihilation—any better, most honorable Mr. Einstein, than by accepting the present invitation."[2]

The sender of the letters was Paul Arthur Schilpp, a professor of philosophy, of German origin, who had taught after World War I at several American universities and was now deeply involved in the Brotherhood Banquet, a mass movement organized by the National Conference of Christians and Jews in Chicago. The recipient was none other than Albert Einstein, the iconic scientist who had since long associated his fame in science with the cause to save mankind from the perils of the Atomic Age he himself had inadvertently helped to bring about, if only as a theoretician concerned with detached questions concerning the universe. The two men also had other business together. During the time they exchanged letters about how best to save the world, Schilpp suggested that Albert Einstein write an intellectual autobiography. Schilpp had initiated and edited a series of volumes titled The Library of Living Philosophers and expressed the wish to devote one volume to *Albert Einstein: Philosopher-Scientist*.

It took some time and required Schilpp's persuasive skills before Einstein agreed, in a letter to Schilpp, to deliver a handwritten scientific autobiography and a response to critical essays by a selected group of physicists and philosophers that were to be included in that volume.[3] Thus, at the age of sixty-seven, Einstein did what he had refused to do in the past—he sat down to write his *Autobiographical Notes*. Once he agreed, he acknowledged that ". . . it is a good thing to show those who are striving alongside of us how our own striving and searching appears in retrospect." At the same time, he warned the reader, "Every reminiscence is colored by one's present state, hence by a deceptive point of view" (p. 3 [p. 157]). This did not deter him from undertaking this project, because only he had access to his conscious experience to share it with others.

How were the two enterprises that united Schilpp and Einstein connected? And how would Einstein describe his own striving? Would he refer to the global crisis of the world and take the occasion to write an account in the style of Mahatma Gandhi, whose life he considered one of the greatest testimonies of true human greatness? Gandhi's autobiography, *The Story of My Experiments with Truth*, focuses on the quest for a spiritual and moral life that, in the midst of the turmoil of the world, offered him the wisdom and strength for political protest. Gandhi's autobiography is not just the story of an inner journey but the realistic portrait of a troubled world. Which are the conflicts, temptations, and aspirations that would take center stage in Einstein's autobiography?

Schilpp's aspirations were, in any case, satisfied. When he received the manuscript of the *Notes*, he responded enthusiastically:

> Thus, honorable Professor Einstein: my best and most sincere thanks! And not just *my* thanks (because who am I?), but rather in this case I may already extend to you the most profound gratitude of innumerable readers and even of those as yet unborn people who in the coming decades—and yes, even centuries—will be grateful to you for this marvelous (and altogether Einsteinian) work and will owe a debt of gratitude. This you have done simply splendidly! If I, after having read your autobiography, think back to when I first asked you to contribute to the creation of such a volume, and you said "No!," and that the entire world could have been

deprived of and remained without this wonderful autobiography, I still shudder at the thought.[4]

Every autobiography is a time machine—of a kind that relativity theory has not accounted for and never will. It draws the reader into the world of another mind of another time, it draws the author into his or her own past, and it speaks to all those fellow travelers in time who have undertaken a similar journey—or will do so in the future. Einstein's autobiography carries our imagination to the world immediately after World War II, to the small university town of Princeton, New Jersey, to a modest house on Mercer Street where Einstein sat down, writing his own obituary as he mockingly began his text. His own thoughts quickly escaped from this world, however, to a time before the great wars, to the youth he spent in Germany, Switzerland, and Italy. These were troubled times as well, even if seemingly still infinitely far from the catastrophes of the twentieth century. But even the usual troubles of the world, the struggle to make a living, the political tensions, the foreshadowing of the future drama, all fade into the background of Einstein's account.

Central to Einstein's autobiography are the troubles, challenges, and tensions encountered along his quest for a scientific worldview. Throughout the entire text it is clear that what counts at the end is the striving and struggle and not the final formulation of successful breakthroughs, which brought Einstein universal fame. He does not even mention the groundbreaking papers of the "miraculous year" 1905, on light quanta, on Brownian motion, and on special relativity, which constitute his Copernican revolution and became the pillars of modern physics.[5] On the other hand, he explores the origins of those achievements, his thought process, and his search for new principles. Likewise, he does not mention his final formulation of the general theory of relativity in November 1915, which was celebrated as another great revolution one hundred years later. This theory became the basis of modern cosmology and, hence, of our understanding of the universe. His recollections on the emergence of the theory of general relativity rather focus on why it took seven more years from the seminal idea to its groundbreaking consequences.

Einstein's quest, as he describes it in his autobiography, was, at the same time, the search for the role and path of a young man curious about his own as well as humanity's place within the world. On this account, finding one's place in the world and comprehending its inner secrets become part of the same quest. Einstein is known for his often ironically distanced way of treating God as an interlocutor and counterpart of his scientific quest. Einstein did not believe in the monotheistic religions' conception of God's role in punishing and rewarding human beings. In this sense he objected to the concept of a "personal god." For him, God was an embodiment of the laws and harmony of nature, and it is with this god that he maintained a lifelong dialogue. On this we can quote a characteristic statement: "I believe in Spinoza's God who reveals himself in the harmony of all that exists, but not in a God who concerns himself with the fate and actions of human beings."[6] "Subtle is the Lord, but Malicious is He not" he would claim, or show himself certain that "God does not play dice."[7] Einstein's *Autobiographical Notes* sometimes addresses the reader, but it actually lets the reader participate in how his dialogue with God—that is, his struggle for an understanding of the physical world—evolved over time.[8]

In a word, Einstein's *Autobiographical Notes* is, in a sense, his confession, a secular counterpart to the famous *Confessions* of St. Augustine, a monument of Western thought. Augustine of Hippo also lived in a time of great changes, in the fourth and early fifth centuries, which also saw a division of East and West and the beginning of the decline of the western Roman Empire. As it turned out, Einstein had read the *Confessions* and was apparently fascinated by the way St. Augustine accounted for his inner journey within a troubled world. It is not an exaggeration to claim that this text of late antiquity acted at a distance of over a millennium and a half, shaping the way Einstein presented his own life to himself and his readership. It can be characterized as a striving for inner freedom and comfort within the larger community of those striving for an eternal truth that will always be in flux.

This is just one of the surprising insights Einstein's extraordinary book has to offer, which is indeed perhaps the most extraordinary of all books he wrote. Here we undertake the attempt of a new reading of this text. Based the background of decades of Einstein scholarship, we are now in a better position to place this text within his own biography and its manifold contexts, to understand the allusions he makes, to interpret the omissions, and to grasp the subtle hints he gives. Just like St. Augustine's text, Einstein's *Autobiographical Notes* is a message in a bottle, a time capsule coming from a specific place and historical situation, but conveying insights that by far transcend those specifics, insights that capture the essence of a lifetime of thinking about the universe and humanity's place within it.

Einstein's narrative is confined to the early and the late stages of his scientific career. There is hardly anything about his activities after his formative years as a scientist and before his later years in Princeton. The emphasis is on his work during the years preceding 1905 and on his road to the general theory of relativity. From there he jumps directly to his concerns about the status of quantum mechanics and the quest for a unified field theory at the time of writing these notes.

The main part of our book consists of thirteen commentary chapters. The first of these introduces the quest for a unified worldview as a theme on the agenda of the scientific community at the beginning of the twentieth century. The other twelve chapters essentially trace Einstein's text. The second chapter describes how his personality and his chosen life course evolved from his childhood years and social environment, mentioning specifically two biographical experiences—his brief religious episode at the age of twelve and his formal school education. In the third chapter we discuss Einstein's introspective account of his way of thinking, specifically, thinking that leads to scientific discovery. Einstein believed that scientific inquiry should be based on and guided by epistemological principles. This belief motivated him to formulate an "epistemological credo," which we discuss in our commentary. The next two chapters are devoted to an exposition of classical nineteenth-century physics and its drawbacks, leading to its final decline with Einstein's revolutionary discoveries.

The following chapters deal with Einstein's work leading to the *annus mirabilis* 1905. The discussion of this period in the *Notes* is brief, narrated in an entangled style and sometimes confined to mere hints. We begin with his reaction to the groundbreaking work of Max Planck on black-body radiation. We then discuss Einstein's own derivation of statistical mechanics and explore his motivation to undertake this endeavor, comparing his formulation with the classical kinetic theory of thermodynamics developed by

Ludwig Boltzmann. The next chapter is devoted to Einstein's interest in thermodynamic fluctuations, which led to the understanding of Brownian motion and, eventually, to convincing evidence for the reality of atoms. We then discuss Einstein's thought experiment on a reflecting mirror suspended in the radiation field enclosed in a cavity. The analysis of this setup provided compelling arguments for the corpuscular nature of light. Another chapter, related to Einstein's work in the period preceding the "miraculous year," is devoted to the origins of the special theory of relativity, which emerged from the same framework of considerations that led to his other achievements in the year 1905.

Not much is known about this period from contemporary documents, beyond the papers published in those years. There are sporadic references to Einstein's ideas and interests during these years in the love letters he exchanged with his student companion and wife-to-be, Mileva Marić.[9] We shall quote them whenever appropriate. The *Autobiographical Notes* and these love letters provide two complementary perspectives: one from the vista point of old age and one from the midst of the struggles.

We then comment on Einstein's account of his road to general relativity and on the difficulties he encountered as he struggled toward this goal. We have written an entire book on this subject.[10] Here we compare Einstein's recollections of this process with the perception based on extensive contemporary documents and correspondence. Einstein's answer to his question "Why were another seven years required?" (actually it took eight years) is not the full story. We can wonder if this is how he remembered it, or if this is how he wished it to be remembered.

Further chapters are devoted to Einstein's views on the status and future of quantum mechanics and to his search for a unified field theory and his opinion on the preferred approach to this goal. Here it is not a question of reminiscences of the past. Surprisingly, he does not at all refer to his famous debates with Niels Bohr on quantum mechanics in the 1920s nor to the different approaches toward a unified field theory that he explored in the 1920s and 1930s. He focuses exclusively on his views on these two topics at the time of writing his *Autobiographical Notes*, evidently using this work as a conduit for documenting what he considered an important part of his scientific legacy. His attempt to formulate a unified field theory begins with the quest for a new and broader symmetry. This reflects Einstein's enduring legacy about the role of symmetry in physics. Symmetry comes first, and it determines the laws of physics and the corresponding equations. He had applied this principle, previously, in his discussion of prerelativity physics, of special relativity, and of general relativity, and he now applies it in his search for a unified field theory.[11]

At this stage in his life, Einstein believed that the most promising path toward a unified theory was based on the assumption of nonsymmetric fields, and the last part of the *Notes* presents a brief description of this approach. He had devoted the last ten years of his life, exclusively, to the exploration of this option. With Einstein, we conclude our commentaries, pointing out how his lifelong odyssey led him to the conclusion that the future of physics lies in a generalization of his theory of gravity, still based on the classical notion of continuous fields even though he was open to considering alternative foundations of physics.

The inclusion of Einstein in The Library of Living Philosophers and the meaningful title of the specific volume—*Albert Einstein: Philosopher-Scientist*—shed a focused light on the philosophical and epistemological thinking that accompanied his scientific journey in search of a unified worldview. This is clearly demonstrated in his own account of

In line with the primary goal of LLP, each volume contains the following four parts:

- an intellectual autobiography of the philosopher, whenever this can be secured,
- a series of expository and critical articles written by the leading exponents and opponents of the philosopher's thought,
- a reply to the critics and commentators by the philosopher,
- a bibliography of the writings of the philosopher to provide a ready instrument to give access to his or her publications.

In a seminar offered to graduate students at the philosophy department of Southern Illinois University in 1967, Schilpp described how the LLP came into existence.[1] He recalled that in 1933, as chairman of the philosophy department at the University of the Pacific in Stockton, California, he attended a lecture by the German-British philosopher and proponent of American pragmatism, Ferdinand Canning Scott Schiller. The title of the lecture was "Must Philosophers Disagree?" A few quotations from that lecture indicate how something akin to what later became The Library of Living Philosophers was born, at least as an idea in Schilpp's mind:

> The philosophic public is not inquisitive enough. By a sedate (or professional) convention it does not ask philosophers what they mean, or why on earth they have written as they have, while they are alive. It waits till they are dead, and can no longer explain themselves, and then it starts guessing their riddles. Thereby it makes hay of them; it turns them into desiccated lecture-fodder, which provides innocuous sustenance for ruminant professors. . . . [T]hese can now speculate, safely, endlessly, and fruitlessly, about what a philosopher may have meant, nay must have meant; they are no longer in danger of being upset by his telling them what he *did* mean. . . . A further bar to fruitful discussion in philosophy is the curious etiquette which apparently taboos the asking of questions about a philosopher's meaning while he is still alive. . . . [T]his has certainly preserved the vitality of many insoluble questions and interminable controversies which fill the histories of philosophy, and which could have been ended at once by asking the living philosophers a few searching questions. . . . [T]heoretically, they *could* be discussed, openly, profitably and effectively, and settled to a large extent.[2]

Schilpp had no doubt about the truth of Schiller's remarks. He could not understand why nothing had ever been done about it by anyone. He was inspired to remedy this situation. The idea itself was clear enough: give a great philosopher an opportunity to explain himself or herself further and to reply to both disciples and critics while he or she is still alive.

Looking back at his experience after having edited the first twelve volumes of LLP, Schilpp realized that Schiller was too optimistic and that it was impossible to end "the interminable controversies which fill the histories of philosophy . . . by asking the living philosophers a few searching questions." His experience with LLP had demonstrated to him this impossibility beyond any question. Philipp Frank, one of the first to be invited to contribute to the Einstein volume, warned him on this point: "Your general idea to ask a living philosopher bluntly what he meant to say seems to me an excellent one. There is, however, a flaw in it. For it supposes that the 'living philosophers' are able to

say clearly what they have meant. Unfortunately, the language of the living philosophers is not easier to understand than the books of deceased philosophers. However, you give to the living a last opportunity to be clear which he may take advantage of as long as it is time."[3] Schilpp confessed that he was not sure if the series of LLP volumes would ever have come into existence if he had known in the 1930s what he knew when he delivered his 1967 seminar.

Schilpp began to implement his dream four years after the Schiller lecture, when he moved to Northwestern University. In his "Glimpses of a Personal History," Schilpp describes his attempts to secure funding for this project.[4] The president of the university showed interest in the project, though in a less ambitious format. He instructed his director of development to explore funding options. After a year of unsuccessful attempts, Schilpp was told that it was ". . . easier to get five million dollars for cancer research than fifty cents for philosophy." Schilpp approached different foundations and received minimal grants for planning but not for publication. The publication of the first volumes was enabled by a personal loan from the university administration. It was not until the Einstein volume (no. 7) was on sale that Schilpp was able to pay off the publication costs of the books to the university. The printing of this volume was doubled to five thousand copies, all of which were sold within ten months of publication. This success was a turning point in the publication history of the LLP, which turned into a legal entity in the autumn of 1950.

Schilpp served as the chief editor of LLP between 1939 and 1981. The series continued after that with a new editorial board. Thirty-five volumes have been published so far (see box). Albert Einstein remains the only author who is not predominantly a philosopher.

THE LIBRARY OF LIVING PHILOSOPHERS (35 VOLUMES)

John Dewey (1939)
George Santayana (1940)
Alfred North Whitehead (1941)
G. E. Moore (1942)
Bertrand Russell (1944)
Ernst Cassirer (1949)
Albert Einstein (1949)
Sarvepalli Radhakrishnan (1952)
Karl Jaspers (1957)
C. D. Broad (1959)
Rudolf Carnap (1963)
Martin Buber (1967)
C. I. Lewis (1968)
Karl Popper (1974)
Brand Blanshard (1980)
Jean-Paul Sartre (1981)
Gabriel Marcel (1984)
W. V. Quine (1986)
Georg Henrik von Wright (1989)
Charles Hartshorne (1991)
A. J. Ayer (1992)
Paul Ricoeur (1995)
Paul Weiss (1995)
Hans-Georg Gadamer (1996)
Robert Chisholm (1998)
P. F. Strawson (1998)
Donald Davidson (1999)
Seyyed Hossein Nasr (2001)
Marjorie Grene (2002)
Jaakko Hintikka (2006)
Michael Dummett (2007)
Richard Rorty (2009)
Arthur C. Danto (2013)
Hilary Putnam (2015)
Umberto Eco (2017)

NOTES

1. Paul A. Schilpp, "Glimpses of a Personal History," Paul Arthur Schilpp papers, Special Collections Research Center, Morris Library, Southern Illinois University Carbondale, box 21, folder 2.
2. F.S.C. Schiller, *Must Philosophers Disagree? and Other Essays in Popular Philosophy* (London: Macmillan, 1934), 11, 13, 14.
3. Philipp Frank to Schilpp, 10 February 1946, Paul Arthur Schilpp papers, Special Collections Research Center, Morris Library, Southern Illinois University Carbondale, box 12, folder 18.
4. Schilpp, "Glimpses of a Personal History."

3
HISTORICAL BACKGROUND

THE YEAR 1946

Stormy weather—1946, a year of *vita activa*.

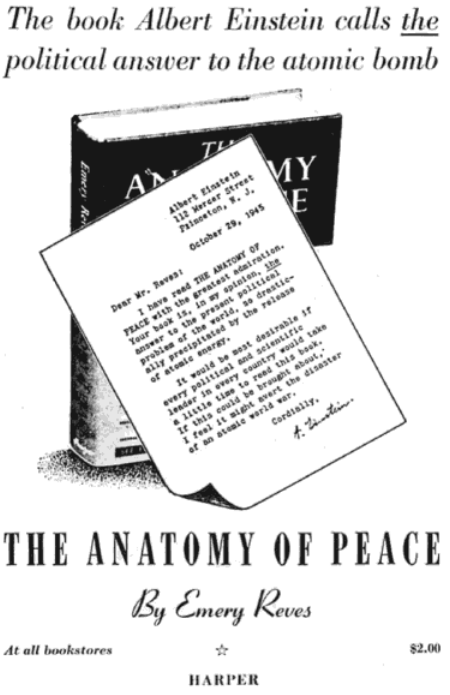
Einstein confirmed his agreement to write the *Autobiographical Notes* for the planned volume devoted to his work at the end of May 1946.[1] Six months later, Schilpp acknowledged the message from Einstein's secretary, Helen Dukas, that Einstein's scientific autobiography was ready.[2] Thus, the *Autobiographical Notes* were conceived and completed throughout 1946. The year 1946 was one of the most active years in Einstein's public life and political activities. Our brief account of these activities is based on the material and commentaries in Nathan and Norden's *Einstein on Peace* (1960), Rowe and Schulmann's *Einstein on Politics* (2007), Jerome and Taylor's *Einstein on Race and Racism* (2005, chap. 8), as well as on the Einstein-Schilpp correspondence.

THE IDEAL OF A WORLD GOVERNMENT

In January 1946, the magazine *Survey Graphic* organized a symposium under the title "Year 1: Atomic Age." It featured Einstein's statement: "The weapons of modern warfare have developed to such a degree that, in another world war, the victor would probably

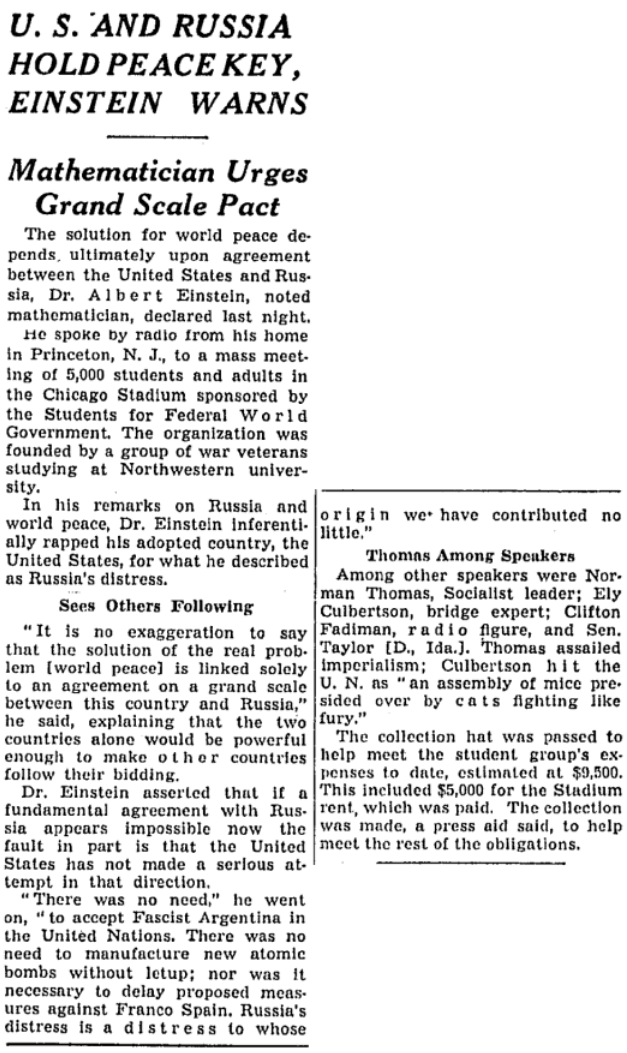
suffer not much less than the vanquished. . . . I firmly believe that the majority of peoples in the world would prefer to live in peace and security rather than have their particular nation pursue a policy of unrestricted national sovereignty. Mankind's desire for peace can be realized only by the creation of world government."[3]

Thus, when Einstein received the two letters from Schilpp, cited in the introduction, urging him to convey to the general public his conviction about the necessity of a world government, he had already been deeply involved in promoting this idea. About a year earlier, he received from the writer and publisher of Hungarian origin, Emery Reves, a copy of the latter's recently published book *The Anatomy of Peace* (1945). The author argued that the United Nations Security Council was not adequate to secure peace because it was an instrument of power. The only way to prevent war would be world federalism, namely, a world government and a world law. Einstein embraced these ideas, and the next edition of *The Anatomy of Peace* appeared with his endorsement.



Advertisement for *The Anatomy of Peace* by Emery Reves, with Einstein's endorsement.

Einstein contributed to the broad popularity of these ideas and of Reves's book on many platforms and occasions. A widely read article was published in the November 1947 issue of *The Atlantic*, "Atomic War or Peace," based on a radio interview with Raymond Swing, himself an advocate of world government.



U. S. AND RUSSIA HOLD PEACE KEY, EINSTEIN WARNS

Mathematician Urges Grand Scale Pact

The solution for world peace depends, ultimately upon agreement between the United States and Russia, Dr. Albert Einstein, noted mathematician, declared last night.

He spoke by radio from his home in Princeton, N. J., to a mass meeting of 5,000 students and adults in the Chicago Stadium sponsored by the Students for Federal World Government. The organization was founded by a group of war veterans studying at Northwestern university.

In his remarks on Russia and world peace, Dr. Einstein inferentially rapped his adopted country, the United States, for what he described as Russia's distress.

Sees Others Following

"It is no exaggeration to say that the solution of the real problem [world peace] is linked solely to an agreement on a grand scale between this country and Russia," he said, explaining that the two countries alone would be powerful enough to make other countries follow their bidding.

Dr. Einstein asserted that if a fundamental agreement with Russia appears impossible now the fault in part is that the United States has not made a serious attempt in that direction.

"There was no need," he went on, "to accept Fascist Argentina in the United Nations. There was no need to manufacture new atomic bombs without letup; nor was it necessary to delay proposed measures against Franco Spain. Russia's distress is a distress to whose origin we have contributed no little."

Thomas Among Speakers

Among other speakers were Norman Thomas, Socialist leader; Ely Culbertson, bridge expert; Clifton Fadiman, radio figure, and Sen. Taylor [D., Ida.]. Thomas assailed imperialism; Culbertson hit the U. N. as "an assembly of mice presided over by cats fighting like fury."

The collection hat was passed to help meet the student group's expenses to date, estimated at $9,500. This included $5,000 for the Stadium rent, which was paid. The collection was made, a press aid said, to help meet the rest of the obligations.

Chicago Tribune, 30 May 1946.

facing a newly hostile American population who resented these soldiers in uniform for having the audacity to consider themselves equal. Racial segregation was the rule in most of the United States, with separate and unequal public schools, buses, and beaches. This was the situation throughout the South, but also in New Jersey, where Einstein lived.

A wave of anti-black violence began in 1946, resulting in the death of fifty-six African Americans nationwide, mostly veterans. One of the most publicized instances of white resistance to black notions of equality forged in World War II occurred in February 1946, when five hundred Tennessee state troopers with submachine guns surrounded the African American community of Columbia, Tennessee. More than one hundred black men were arrested. Twenty-seven were charged with rioting and attempted murder, and two were shot awaiting bail in the local jail. The riot made national headlines. Einstein publicly joined the National Committee for Justice in Columbia, Tennessee, which was

Einstein addressing students at Lincoln University in Pennsylvania, 3 May 1946. John W. Mosley Photograph Collection, Temple University Libraries, Philadelphia.

headed by Eleanor Roosevelt. A few weeks later, on 3 May, he went to Lincoln University in Pennsylvania to speak to students and to receive an honorary degree. At this stage in his life he avoided public appearances at universities, but in this case made an exception. In his commencement speech, he said: "My trip to this institution was on behalf of a worthwhile cause. There is separation of colored people from white people in the United States. That separation is not a disease of colored people. It is a disease of white people. I do not intend to be quiet about it."[7]

Actually, Einstein began his civil rights activism earlier that year when he published in *Pageant* magazine "A Message to My Adopted Country," where he unequivocally states: "There is, however, a somber point in the social outlook of Americans. Their sense of equality and human dignity is mainly limited to men of white skins. Even among these there are prejudices of which I as a Jew am dearly conscious; but they are unimportant in comparison with the attitude of 'Whites' toward their fellow-citizens of darker complexion, particularly toward Negroes. . . . The more I feel an American, the more this situation pains me. I can escape the feeling of complicity in it only by speaking out."[8]

THE PALESTINE PROBLEM

In the aftermath of World War II and the Holocaust, the Zionist demand for the free entry of Jews into Palestine became an issue that attracted broad international attention. The British policy, yielding to Arab pressures, imposed severe restrictions on such immigration.

Albert Einstein surrounded by friends—Meyer Weisgal (*holding his arm*), Helen Dukas, and others—on the way to the hearing on Palestine of the Anglo-American Committee of Inquiry, Washington, DC, 11 January 1946. Photo by Alexander Archer.

In order to involve the United States in its—apparently unsolvable—Palestinian problem, Britain joined with the Americans to form the Anglo-American Committee of Inquiry to investigate European Jewish immigration and settlement in Palestine. Einstein was invited to testify before the committee in January 1946.[9] He used this opportunity to launch an attack on British colonial policy, which in his opinion made that nation unfit for further administration of its mandate over Palestine. He argued that the great majority of Jewish refugees in Europe should be settled in Palestine and expressed strong support for unlimited Jewish immigration into Palestine. But, to the dismay of his fellow Zionists, he dismissed the goal of a Jewish state. The final remark in his testimony reads: "The state idea is not according to my heart. I cannot understand why it is needed. It is connected with many difficulties and a narrow-mindedness. I believe it is bad." The Palestine issue was on Einstein's mind and is reflected in his correspondence throughout 1946 and beyond.

EINSTEIN'S PUBLIC ACTIVITIES VERSUS CONTEMPLATIVE WRITING

There is a stark contrast between the content and style of the *Autobiographical Notes* and Einstein's public life, evidenced by his multifarious activities in 1946. He was leading an intense *vita activa* and yet, at the same time praising a *vita contemplativa* in the *Notes*. There he did not mention his political activism at all. Even in private communication, as in the letter to Besso quoted above, he tended to downplay this aspect of his life. He writes in the *Notes*, "For the essential in the being of a man of my type lies precisely in *what* he

thinks and *how* he thinks, not in what he does or suffers" (p. 31 [p. 165]). Yet, his political views and activities are not just add-ons to a life for science. They are evidently driven by the same inner urge as his quest for scientific knowledge. On numerous occasions, Einstein admits that he cannot help engaging himself—for example, in support of a world government or the cause of black people.

How are these two quests related? At first glance, one might think that their common root is the search for unity in a worldview, be it the unity of science on the basis of a unified field theory or the unity of mankind held together by a world government. But this may just be a superficial parallelism and too simple a reconciliation that hides a deeper tension at the root of his personality. Einstein himself was aware of this deeper tension. In 1931, he wrote an essay, "The World as I See It," in which he refers to a broad array of themes, ranging from science to art, religion, the ideal political order, and the meaning of life, which is presented in greater detail on p. 29.[10] In fact, this text may be considered as an earlier version of his "confessions." But in contrast to the *Autobiographical Notes*, there he explicitly addresses both his *vita contemplativa* and his *vita activa*. In all of these spheres of human life, Einstein held on to some basic principles that provided him with guidance in his life. Yet he realized that he himself was fundamentally torn between his inner life and sense of independence and his passion for human affairs, as expressed in his well-known statement: "My passionate sense of social justice and social responsibility has always contrasted oddly with my pronounced freedom from the need for direct contact with other human beings and human communities."[11]

It may have been a coincidence that the request to write his scientific autobiography came specifically in that particularly active year, 1946. But once it happened, it symbolizes, together with everything else that occurred in that year, some of the inner dynamics driving him in all the realms of human endeavor.

NOTES

1. Einstein to Schilpp, 29 May 1946, AEA 42-513.
2. Schilpp to Einstein, 7 December 1946, AEA 80-511.
3. Cited in Otto Nathan and Heinz Norden, eds., *Einstein on Peace* (New York: Avenel Books, 1960), chap. 12.
4. Reprinted in David E. Rowe and Robert Schulmann, *Einstein on Politics: His Private Thoughts and Public Stands on Nationalism, Zionism, War, Peace, and the Bomb* (Princeton, NJ: Princeton University Press, 2007), 383–388, here 383.
5. Einstein to Besso, 21 April 1946, AEA 7-381; cited in Rowe and Schulmann, *Einstein on Politics*, 345.
6. The full text of this interview is "Proceedings. Memorial Eve Rally, The Master Reporting Company Inc.," 29 May 1946, AEA 90-570.
7. *New York Times*, 4 May 1946, 7.
8. January 1946; reprinted in Rowe and Schulmann, *Einstein on Politics*, 474.
9. Einstein's testimony is reprinted in Rowe and Schulmann, *Einstein on Politics*, 340–344.
10. Albert Einstein, *Ideas and Opinions: Based on "Mein Weltbild,"* ed. Carl Seelig (New York: Bonanza Books, 1954), 8–11. See Part II, chapter 1, p. 28–29.
11. Albert Einstein, *The World as I See It*, trans. Alan Harris (New York: Citadel Press 2000), 2–3.

4
EINSTEIN'S *AUTOBIOGRAPHICAL NOTES* AND PLANCK'S *SCIENTIFIC AUTOBIOGRAPHY*

People complain that our generation has no philosophers. Quite unjustly: it is merely that today's philosophers sit in another department, their names are Planck and Einstein.

—Adolf von Harnack, quoted by Arnold Sommerfeld in Schilpp, *Albert Einstein: Philosopher-Scientist,* p. 99

The genre of intellectual autobiography has a long tradition. There is, however, perhaps no more striking parallel to Einstein's memoir than Planck's autobiography.[1] Einstein and Planck were both the uncontested heroes in the transition from classical to modern physics. In many respects they were as different as two people, born and raised in similar environments, can be—separated not only by a deep chasm in political matters but also very dissimilar in every aspect of their private lives. Their relationship was rather complex, yet, over the years (they were together in Berlin between 1914 and the beginning of the Nazi regime), they developed mutual respect, collegiality, and friendship, which were stronger than the differences in their personalities and their diametrically opposed outlooks and actions in the social, national, and political arena. Their scientific worldviews were strikingly similar. They both foregrounded their intellectual efforts rather than their personal life histories. They both conceived physics as part of an intellectual quest for a comprehensive worldview. In short, they were both philosopher-scientists. In addition, their mutual esteem survived the hardships of their times.

In August 1944, Emil Abderhalden, president of the German Academy for Natural Science, Leopoldina, appealed to prominent members of the academy, urging them to write autobiographies, contributing by that to the history of the development of natural

that he presupposed as the "absolute"; and it is this absolute that he tried to establish in physics—in the absolute value of concepts, such as energy or entropy, or even of the space-time metric.

Planck concludes his *Scientific Autobiography* thus:

> I have satisfied my inner need for bearing witness, as fully as possible, both to the results of my scientific labors and to my gradually crystallized attitude to general questions—such as the meaning of exact science, its relationship to religion, the connection between causality and free will—by always complying willingly with the ever increasing number of invitations to deliver lectures before Academies, Universities, learned societies, and before the general public, and these lectures have been the source of many a valuable personal stimulation which I shall gratefully cherish in loving memory for the rest of my life.[6]

Planck's attitude to the general questions, cited above, is described in the "other papers" accompanying his autobiography. The last sentence shows Planck not only as the champion of science, but also as its committed missionary. Einstein had also undertaken, throughout his life, the role of a "missionary of science," both as a duty and as a source of inspiration.[7]

By the time Einstein and Planck wrote their autobiographies, the quest for a unified worldview (to be discussed in the next chapter) was no longer on the agenda of scientists and philosophers, as it had been in the 1920s and 1930s. Einstein and Planck remained essentially alone in pursuing this goal. With their deaths, the attempt to develop a unified worldview based on scientific inquiry accompanied by epistemological reflection was marginalized. Of course, it is true that just a decade later the quest for a grand unified theory of physics and also the search for a quantum theory of gravity were again at the forefront of research. But these pursuits were the concern of an expert community of physicists and no longer served as a reference frame for a comprehensive scientific, philosophical, and cultural worldview relevant to a wider audience. Maybe it is time to reconsider this common legacy of Einstein and Planck.

NOTES

1. See Hanoch Gutfreund, "Zwei der Glänzendsten Gestirne: Max Planck und Albert Einstein, " in *Berlins wilde Energien: Porträts aus der Geschichte der Leibnizschen Wissenschaftsakademie*, ed. S. Leibried, C. Markschies, E. Osterkamp, G. Stock (Berlin: De Gruyter Akademie Forschung, 2015), 310–343.
2. The English translation was published in 1949.
3. Max Planck, *Scientific Autobiography and Other Papers* (New York: Philosophical Library, 1949), 13.
4. Ibid.
5. Ibid., 46–47.
6. Ibid., 51.
7. Jürgen Renn, "Einstein as a Missionary of Science," *Science & Education* 22 (2013): 2569–2591.