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Book Reviews

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BOOK REVIEWS

“Subtle is the Lord” ... The Science and the Life of Albert Einstein

by Abraham Pais

Oxford University Press, 1982

A headline on page 12 of the London Times for November 7, 1919 announced: “Revolution in Science/New Theory of the Universe/Newtonian Ideas Overthrown.” The article described the announcement, at a joint meeting of the Royal and Astronomical Societies, of the results of measurements made by British observers during the total solar eclipse of May 29. These observations, they believed, were decisive in verifying the predictions of the physicist Albert Einstein. The president of the Royal Society described the announcement as “one of the most momentous, if not the most momentous pronouncement of human thought.” The already famous Dr. Einstein now became a legend.

The major contributions of Dr. Einstein began about fourteen years earlier. Volume 17 of the Annalen der Physik contains three papers submitted by Einstein in 1905. The first of these papers, entitled “Heuristic Viewpoint concerning the Generation and Transformation of Light,” suggested the particle nature of light. This work was an essential building block in the development of quantum theory. The second paper, “Motion of Particles Suspended in a Stationary Fluid, as Demanded by the Molecular Kinetic Theory of Heat,” was instrumental in proving that molecules exist. His third and most famous paper, “Electrodynamics of Moving Bodies,” introduced his Special Theory of Relativity. Any of these works alone would have assured him a secure place in the history of science.

The accomplishments of Dr. Einstein have been described in several biographies, including the most recent one by Abraham Pais, an accomplished physicist in his own right. What sets this book apart from any previous biography is its detailed, scholarly emphasis on Einstein’s scientific thoughts and theories. The mathematical sophistication of the book equals the mathematical sophistication of Einstein’s work. In addition, Pais has lucidly woven throughout the book a personal and non-scientific biography of Einstein. The reader need not, however, wade through a maze of mathematical details to find this biographical material, because Pais has identified the non-scientific material in the table of contents with italic type. About twenty percent of the book is biographical; the remainder is technical.

Pais raises perceptive and fascinating questions about Einstein’s views on the direction that the development of physics was taking.

Dr. Pais’ qualifications for writing this book are impressive. An accomplished physicist, he was an associate of Einstein at the Institute of Advanced Study in Princeton, New Jersey. His recollection of conversations with Einstein and his collaborators and his use of the many letters and manuscripts of the Einstein Archives are of great value.

“Subtle is the Lord” is divided into eight parts, five of which are devoted to the general areas of physics in which Einstein made major contributions: Statistical Mechanics, the Special Theory of Relativity, the General Theory of Relativity, the Unified Field Theory, and Quantum Theory. In each section Pais provides the background of Einstein’s ideas, the ideas themselves, and the contributions of other scientists. For example, in the section devoted to the special theory of relativity, Dr. Pais gives the reader the nineteenth century concept of the ether and the attempts to detect it. Special emphasis is placed on the Michelson-Morley experiment, with commentary on why Einstein was reluctant to acknowledge its influence on his thought. Pais also describes the ideas and theories of other contributors to relativity, in particular those of Lorentz and Poincare. Comparing the work of Lorentz and Poincare with that of Einstein, he explains why Einstein succeeded while others did not.

Throughout the book, Pais raises perceptive and fascinating questions about Einstein’s views on the direction that the development of physics was taking. For example, why did Einstein, who contributed substantially to both relativity and quantum theory, not combine the two theories into a relativistic quantum theory as was accomplished by Dirac? Einstein certainly had the ability to do this. Why did Einstein in his later years devote his time and energy to the unification of the electromagnetic and gravitational fields rather than contribute to the development of quantum field theory and particle physics? Pais’ detailed and lucid commentaries on many questions such as these provide the reader with a stimulating and informative experience.

Pais has a captivating style and the remarkable ability to present a technical subject within a charming and pleasant narrative. An example is his presentation of Einstein’s long and tortuous path from the special to the general theory of relativity. He quotes Einstein’s own description of his ‘happiest thought,’ an insight that allowed him to extend his theory of relativity to include gravitation during a lecture in Kyoto, Japan:

I was sitting in a chair in the patent office at Bern when all of a sudden a thought occurred to me: “If a person falls freely he will not feel his own weight.” I was startled. This simple thought made a deep impression on me. It impelled me toward a theory of gravitation.

Last but not least is a series of appendices, which include thumbnail biographies of many of Einstein’s collaborators and an Einstein Chronology, summarizing the major events of his life. Of special interest is the appendix containing the curious story behind the awarding of the Nobel Prize to Einstein. Dr. Pais has provided the reader with a stimulating and enjoyable excursion through the life and thought of this century’s greatest scientist. The detailed presentation of the development of the ideas of Einstein and his contemporaries makes this a valuable contribution to the history of science.

Richard F. Calusdian
Professor of Physics
ELENI

by

Nicholas Gage

Random House, 1983

Nicholas Gage is an American of Greek ancestry, born in the Epirotic village of Leia, in the district of Thesprotia. In the autumn of 1947 the village was occupied by the “Democratic Army” of the Greek communist guerilla movement. Rumors abounded that the children of the village would be taken to the socialist countries, away from the dangers of war. Concerned villagers began to look for avenues or rather paths of escape for their children. But Nicholas’ father was in America, and the decisions about the family had to be made by Nicholas’ mother, who did not wish to have her children carried into the Iron Curtain. After long deliberation, she contrived the escape of three of her girls and her boy Nicholas. Her plan succeeded, but she herself was betrayed, captured by the communists, tortured and finally executed.

Eleni was her first name and Eleni is the title of the book written about her by her son Nicholas, following six years of painstaking and exhaustive investigation. Nicholas had to leave his job as a N.Y. Times correspondent in order to fulfill his life’s ambition: to find the man responsible for his mother’s death. He wanted to explore the depth of his family’s tragedy — to write about the love of a mother for her children and to describe the village milieu in which he grew up.

Nicholas interviewed upwards of four hundred persons who might have known something about Eleni’s last days, traveling to the Eastern Block countries to gather whatever information he could from former guerrillas who had survived the civil war. Finally Nicholas located the “judge” who had sent Eleni to her death, in a small Epirotic town; by now he was old and toothless. Equipped with a gun, Nicholas walked into the judge’s house, determined to kill him. But faced with a miserable remnant of a human being, Nicholas suddenly remembered the love of his mother who had

P.S. for August

The cat left the carcass of a rabbit on the porch early this morning. Its bloodless hind-paws rigid as waxed leaves.

Forget-me-nots still glint bright blue at the ledge.
Once I stencilled the borders of our room, stippled paint until my knuckles bled — the color of your eyes impossible to replicate.

Through the overhang of chokecherry a spider’s wire down.

We don’t talk anymore.

I won’t forget the sound of a rabbit’s light bones sliding from my trowel, a quenched field, wordless ends.

by Nancy Donegan

A resident of Brockton, Nancy Donegan taught English at Brockton High School before enrolling in the graduate school at Brown University, where she received the Master of Fine Arts degree in writing in 1984. Her first volume of poems is ready for publication.
Book Reviews continued

sacrificed herself in order to save her children and his love of his own children; he stood before the judge for a few minutes, spat upon him, and left.

Leia is located on a rugged but beautiful mountain dominated by an ancient fortress, dated about 300 B.C. Beyond its natural beauty, the village has very little to offer its sturdy inhabitants. Consequently, many of them became immigrants; Nicholas’ father, Christos, emigrated to America in 1908 where he settled in Worcester, Mass., becoming a fruit peddler. He left Greece with a Turkish passport, since Leia was still under Turkish control in 1908. But he frequently returned to his native town after it became Greek again, if only to stay for a short time. During one of these trips he married Eleni.

As was customary for many emigrants at that time, Christos Gage left his wife behind in the village in the conviction that she would be safe there. He sent money regularly for her support, and every two to three years he returned to visit his bride and to father a child or two. Some day, he believed, he would amass enough money to go back to his village permanently. In the meantime, Christos Gage became the father of four girls, and a boy.

In 1940 the village contained twelve hundred inhabitants. After Greece was occupied by Germany in 1941, Leia became a center of resistance activities, sometimes carried out by the pro-Western group EDES and at other times by the pro-communist EAM. One day in 1944 the Germans marched into the village and set it on fire, thereby taking revenge for the insurgents’ activities. This burning was among the last German actions in Greece, for soon thereafter the Germans were forced to evacuate. But this was not the end of the suffering for the inhabitants of the Greek villages; the departure of the Germans was followed by an internecine war, in many ways costlier and more brutal than the German occupation.

In 1947 the inhabitants of Leia heard that communist guerrillas were about to occupy their area. To avoid conscription by the communists many of the men left their homes. The village was indeed occupied by the 8th Battalion of the “Democratic Army.” All sorts of whispers fluttered about the village regarding communist plans; one such rumor was that the guerrillas intended to move the children into the Iron Curtain countries. This possibility worried Elieni most, and she organized her children’s flight before it was too late. Luckily, under the protection of night, the children managed to get past the communist guards.

Though she was away from the village, working in the fields at the time of her children’s escape, Elieni was condemned to death not only because she had arranged their escape, but because she was the “American” and as such was disliked by some of the communist sympathizers in the village. Many villagers stood up on her behalf at her trial, and, defying the communist danger, told the “judge” that Elieni had done nothing reprehensible, but their defense was to no avail: Elieni was condemned to death. Sixteen days after her execution, the guerrillas were disbanded by the national army, and those who survived fled to the communist countries.

Nicholas, nine years old, heard the news of his mother’s death in the area of Igoumenitsa, a town on the Ionian coast where there was a camp for refugees. From there Nicholas, along with three of his sisters, traveled to Worcester, Mass., to join their father. Nicholas grew up in Worcester, attended high school there, and went on to Boston University and Columbia School of Journalism. After working for the Associated Press, he joined the New York Times as an investigative reporter, a job he eventually resigned in order to search for his mother’s murderers and write about her tragic death.

Peter Karavites
Associate Professor of History

Woman and the Demon: 
The Life of a Victorian Myth
by
Nina Auerbach
Harvard University Press: 1982

Woman and the Demon serves as a bold alternative to the conventional feminist thinking regarding the damage that Victorianism had done to women. Feminists argue that the Victorians were the principal architects of modern sexism, and that women are still struggling to liberate themselves from a set of repressive prescriptions that the Victorians inflicted upon them. The ideal Victorian woman, as defined by modern feminists, was a poor excuse for a human being: she was desexed, denied the power of reason and judgement, and consigned to the home, where she became “the angel in the house,” having no identity beyond the roles of daughter, wife and mother.

Nina Auerbach ingeniously counts this traditional reading of Victorianism as she develops her thesis that “the taboos that encased the Victorian woman contained buried tributes to her disruptive power.” The Victorian cultural imagination envisoned women in the popular stereotypes of victim, angel, old maid and fallen woman. Auerbach suggests that the awful truth which the Victorians tried to repress was that these images actually embodied the power to become their opposite:

As angel, she is militant rather than nurturing, displacing the God she pretends to serve. As angelic demon, she becomes the source of all shaping and creative power, dropping the mask of humility as she forecasts apocalyptic new orders. As old maid, she simulates meekness while proclaiming that the world is all before her new dispensation. As fallen woman, she spurs meekness for the glory of her own apotheosis.

In other words, woman is demonic, polymorphous, vital, dangerous, and transcendent, and has the superhuman power to transform herself and to dominate the life that supposedly confines her. The book devotes a chapter to each of these “subversive paradigms.” Admitting that her selection of examples is “representative, not exhaustive,” Auerbach cogently pursues her theme in detailed analyses of popular and serious fiction, painting, poetry, biographies, essays and psychological studies in her attempt to show that the true Victorian myth of womanhood was the exact opposite of the woman represented in official Victorian ideology. At the heart of the Victorian experience, Auerbach says, is “a myth crowning a disobedient woman in her many guises as heir of the ages and demonic savior of the race.”

In her chapter on the myth of woman as victim (“prone womanhood”), Auerbach examines two popular romances, Bram Stoker’s Dracula and George du Maurier’s Trilby, and “the romantic beginnings of modern science,” Freud’s Studies on Hysteria. All three works are usually read as accounts of the male master mesmerizer in total control of the paralyzed female. Auerbach, however, convincingly demonstrates the powers that are actually granted to the women, magical powers of regeneration that empower them to turn on their supposed masters and paralyze them instead. She calls this “the self-transforming power surging beneath apparent victimization,” and maintains that the
subjection of women is a defensive response to this power on the part of Victorian men.

Victorian efforts to convert women into angels similarly reflect this need to counteract the perceived danger of women's demonic and superhuman powers. Through the use of numerous examples, Auerbach convincingly shows how Victorian iconography abounds with tributes to woman's demonic essence. Her argument is especially persuasive in her reading of the Pre-Raphaelite paintings of Ford Madox Brown, Dante Gabriel Rossetti and Holman Hunt. She beautifully illuminates the contradiction between the actual force of the images and their official messages. An example of this kind of illumination is her brief comment on Edward Burne-Jones' "Head of a Mermaid" (the cover illustration). We of the twentieth century might patronizingly view the mermaid as merely pretty and romantic; but Auerbach shows how the mermaid's face is dangerously alive and seductive, and explains how the motif of the mermaid, or serpent-woman, is a powerful recurring Victorian motif.

Auerbach proposes that the Victorian perception of the old maid as a grotesque figure of ridicule was due to two central cultural fears: fear of the female hero, and "the starker, still less rapidly confronted spectacle of the defeat of the family and the mutation of the race ..." She demonstrates how the fearsome idea of a new race of old maids assuming power over the future seeps into some of the best-loved Victorian fiction. To counter this perception of the old maid, Auerbach offers much evidence from little-known sources of Victorian women's biography, autobiography, and fiction that gives us glimpses of the myth that worked beneath the surface of the Victorian age, in which the old maid is an authentic hero, an audacious woman of independence and self-realization. She is often pictured as being superior in both heart and soul to her married sisters, an exalted figure, set apart from the mass of common, married humanity. Wilkie Collins' The Woman in White is credited by Auerbach as being the most explicit exaltation of the old maid as a criticism of traditional wifehood. Among the many sources drawn upon that share this iconoclastic vision of woman alone and in command, are Charlotte Bonte's autobiographical novel Villette and her letters to her spinster friend Mary Taylor, and the lives of Christina Rossetti, George Eliot, Queen Victoria, and Florence Nightingale.

Like the old maid, the fallen woman is really a magically empowered creature whose fall transfigures her and gives her the freedom to grow. Her will to rise carries her beyond the bonds that confine her married sisters, and transforms her into a dangerous and potent force. With characteristic skills, Auerbach scours many sources from art and literature to support her thesis, among which are certain paintings of Dante Gabriel Rossetti, George Eliot's Adam Bede, Thomas Hardy's Tess of the D'Urbervilles, Nathaniel Hawthorne's Scarlet Letter, and Lewis Carroll's Alice In Wonderland.

Auerbach never suggests in her book that Victorian women literally had the power that her myth figuratively expresses. What she does suggest is a fullness of life for Victorian women, a fullness often ignored. Although the reader at times may quarrel with occasional interpretations, the total effect of her impressive accumulation of sources (and her interpretation of them) convinces the reader of the veracity of her thesis of Victorian man's apprehension of the awesome powers of woman. Woman and The Demon is intellectually stimulating and complex, often outrageous, and certainly worthy of being considered a major contribution to feminist criticism.

Mary Myers
Periodicals Librarian

Pictographs

Snow fell for days,
the long white albs of trees,
and saplings ice locked to earth.

Some of us took axes,
shovels, to chink our way through,
assuring ourselves
the road was as far as we would go.
After we cleared the barn
the old ones called us back.
We waved our arms and smiled.
There were fans of light
beyond the snow blocked woods.

When we look behind,
nightfires belong to strangers . . .

We don't talk of home,
snow blind and bitten
we keep digging.
No one remembers
when the words ran out.

by Nancy Donegan