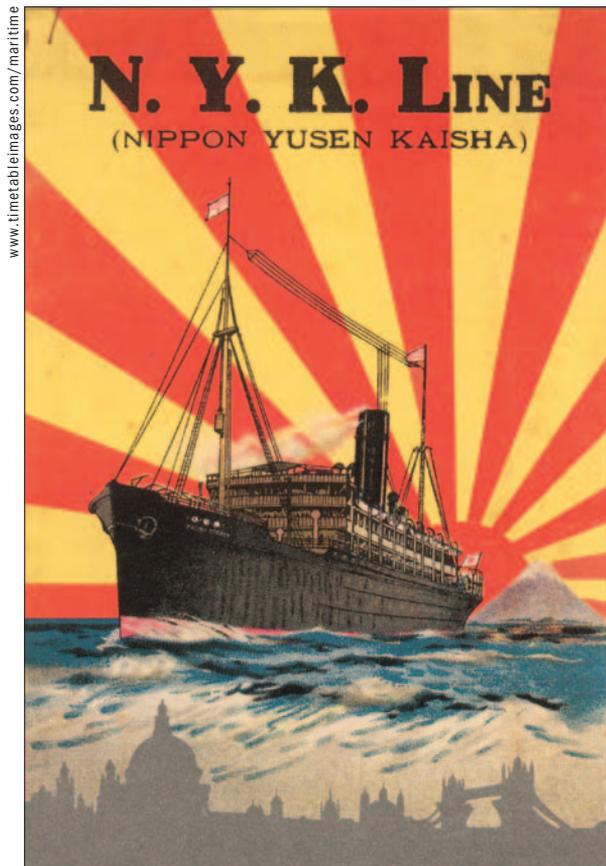


Alberto A Martínez

# Einstein, the travelling physicist



**Escape from it all**  
Einstein travelled on the NYK Line's *Kitano Maru* cruise ship.

## Einstein on the Road

Josef Eisinger  
2011 Prometheus  
Books £21.95/  
\$25.00hb 219pp

Albert Einstein did not normally keep a diary, but he often wrote in travel notebooks. From 1921 to 1933 his itinerary included trips to New York, Hong Kong, Singapore, Malacca, Penang, Palestine, Rio de Janeiro, Buenos Aires, Havana, Palm Springs, Oxford, Panama, Honduras, Salvador and beyond. Josef Eisinger's *Einstein on the Road* tells the story of these journeys, drawing mostly from Einstein's unpublished notebooks.

After newspapers trumpeted the eclipse observations that supported Einstein's theory of gravity, turning him into an international celebrity in 1919, people around the world clamoured to see him. The worsening political situation back home in Germany also led him to travel. At first, Einstein had appreciated the Weimar Republic as his political dreams come true, but growing hostilities there – including the 1922 assassination of his Jewish friend Walther Rathenau, the republic's foreign minister – meant that he soon found reasons to travel outside “woeful Europe”.

The title *Einstein on the Road* is something of a misnomer, since most of Einstein's journeys took place aboard cruise ships. Einstein did not want to give guest lectures anywhere. He despised photograph sessions, tiresome receptions and the barrage of journalists' inane questions: “Define the fourth dimension in one word”, “Define relativity in one sentence”. But travel on board ship was different. Away from reporters and fans, he had some leisure time to think about physics, and to pay attention to little things. He noticed, for example, that younger people are more prone to being seasick than old people, and women more susceptible than men. Once, when his ship was in a storm, he stood on a bathroom scale and noted with interest that his weight oscillated between heaviest and lightest in the ratio of 3:2. From this, he computed the ship's acceleration as it dropped into the trough between waves.

Einstein's notes contain some clever moments, but also biases. I was particularly amused by the way he seemed to subscribe to the old theory that regional climates determine native behaviours. While travelling through the Strait of Messina, towards the Mediterranean, Einstein reacted to the heat and “severity” of the landscapes by speculating that the climate must have been different in antiquity, such that the Greeks and Jews inhabited a temperate zone more suitable for intellectual work. He also thought that the people of the island of Ceylon (Sri Lanka) and China were primitive and miserable because of their tropical climates. Tepid water in the equator, he argued, spread serenity and drowsiness.

On land, Einstein's experiences and impressions were varied. In person, he was gracious, patient and clever. But in his travel books he recorded snippy thoughts too. He was delighted by the enthusiasm and friendliness of the people of Japan, but he disliked their music and inferred that the Japanese were more artistic than intellectual by nature. He was deeply affected by visiting Palestine, yet when he saw many Jews praying at the Wailing Wall he thought “the dull-witted

fellow-members of the tribe” made a deplorable scene. Einstein thought that the Chinese, though modest and gentle, were the most unfortunate people on Earth: listless, cruelly abused and treated worse than cattle. Meanwhile, in Pasadena, California, people seemed to him like scentless flowers.

Thousands of admirers swarmed around Einstein, on docks, in the streets, in lecture halls. They bought expensive tickets to see him. Most did not understand what he said, in German or in French, yet they were fascinated. Einstein complained that he did not know why people were so interested in his theories. He made few public pronouncements at events and receptions, and told his wife, Elsa, that he felt like a con artist who did not give people what they expected. Unlike the work of Copernicus, he said, his theories of relativity did not effect any radical change of perspective on humanity's place in the universe. Although he accepted honorary degrees, he did not wear the medals. He tolerated countless handshakes and journalists as a slow form of torture, recalling the German proverb “Anyone can get used to being hanged”.

Eisinger's book records such amusing complaints, but it also gradually demolishes the old impression that Einstein wanted to be a recluse. He said that he did, but his actions give a different impression. He met scores of individuals and carried out a voluminous correspondence with them. He socialized until it made him physically ill. Though he claimed to be indifferent to social standing, he took especial care to befriend people who were wealthy and successful. He hobnobbed with presidents and royalty. He was accessible to famous musicians. With them, many times, Einstein played Mozart on his violin, to the extent that Mozart could have been a secondary character in the book.

*Einstein on the Road* is easy to read, and Eisinger, an emeritus professor who has worked on nuclear physics and molecular biology, makes a pleasant narrator. At its best, his book is an interesting travelogue. But at its worst, it illustrates a little too well the tedium Einstein suffered

by constantly meeting boring strangers. The book is thin on scientific content, with just faint glimpses of Einstein's work on physics, though perhaps more relating to astronomy and cosmology, such as his support of Richard Tolman's model of a pulsating universe. Similarly, most of Einstein's more intriguing encounters are mentioned much too briefly. Passing descriptions of meetings with Clarence Darrow, Winston Churchill and many others are gone in a blink. Eisinger also mentions books that Einstein read at sea – on Chinese wisdom, Jewish history and so on – but lacks discussion of

their substance. It would have been better to select fewer anecdotes and develop them more.

*Einstein on the Road* includes 42 photographs but unfortunately most are already well known: Einstein as a child; at the patent office; with his first wife Mileva Marić; with Charlie Chaplin. Photographs of Einstein in the many countries he visited would have been much better. The book also suffers from minor mistakes, mostly in the background material. For example, Eisinger states that Einstein was recognized as a child prodigy entering the Zürich Polytechnic (he was not), that his daughter

was “quietly given up for adoption” (we do not know what happened to her) and that his first paper of 1905 showed the equivalence of mass and energy (it was on the photoelectric effect). Nonetheless, *Einstein on the Road* is a welcome contribution to the literature as it illuminates how Einstein gradually departed from the isolated individual he once was.

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## Between the lines



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### Bubble fun

*Fizzics* looks at bubbles in all their many guises.

### The joy of bubbles

Most of us spent several happy hours of our childhood blowing soap bubbles. Some of us, however, never grew out of it and, judging by his new book *Fizzics: the Science of Bubbles, Droplets, and Foams*, F Ronald Young is clearly one of them. A retired lecturer at London's Watford College, Young has spent his career studying various bubble-related phenomena and he has previously written textbooks on cavitation and sonoluminescence. *Fizzics*, however, is an entirely different beast. Thanks to Young's amiable prose, reading it is almost as relaxing as a bubble bath, and at just over 100 pages, it is almost as light and airy as its subject matter. The downside to such brevity, of course, is that each topic – from the cloud chambers used in early particle-physics experiments to the frothy head on a pint of beer – is only explored to the depth of a soap film.

● 2011 Johns Hopkins University Press £13.00/\$25.00pb 136pp

### Quantum exiles

In May 1933, shortly after the Nazis came to power in Germany, the cathode-ray pioneer Philipp Lenard penned an article for the party newspaper *Völkischer Beobachter*. In it, Lenard – who had won the Nobel Prize for Physics in 1905, Einstein's “miracle year” – lamented “the massive infiltration of the Jews into important posts in universities and academies”. Einstein, he added, was only “the most obvious example of this damaging influence”. Eight decades have not dulled the ugliness of Lenard's antisemitism,

but it is true that many of the leading lights of 20th-century physics were indeed Jewish. As Gordon Fraser's book *Quantum Exodus: Jewish Fugitives, the Atomic Bomb, and the Holocaust* shows, the list of Jewish or part-Jewish physicists in pre-war continental Europe was long and illustrious, with the likes of Bethe, Bohr, Frisch, Meitner, Pauli, Teller, Wigner and Von Neumann joining Einstein in the top flight. Fraser deals competently with these luminaries' relatively familiar stories, while also incorporating the experiences of many lesser-known exiles. The latter group includes the likes of Gertrude Scharff, a PhD student who fled to London in 1935 after finishing her dissertation at the University of Munich; Franz (later Francis) Simon, a Berlin-based cryogenics expert who moved to Oxford in 1933; and the massive one-quarter of all German university physics teachers who left in 1933 alone. The mass departure of these ordinary physicists cut deep into Germany's scientific establishment, and probably did more damage on aggregate than the absence of a few superstars. As Fraser points out, Germany's loss would prove to be the Allies' gain, since émigré physicists great and small went on to play vital roles in the US atomic-bomb programme. There is, however, a downside to packing the stories of so many different people into a single book. Parts of *Quantum Exodus* have a distinctly “laundry list” flavour, while frequent hops between the book's component stories (and time periods) can be hard to follow. Still, the constituent parts of Fraser's

book make for fascinating reading, even if they never quite gel into a single cohesive narrative.

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### Accelerator photography

Particle accelerators are amazing examples of human ingenuity. They are also rather beautiful. Both of these qualities are highlighted in *Time Machines*, a new book of black-and-white photographs by Stanley Greenberg, whose previous work includes photos of New York City's water system. For this book, Greenberg has drawn his inspiration from accelerator and detector facilities around the world, capturing images of the Cockcroft–Walton accelerator at Japan's KEK facility, dipole magnets at CERN's Large Hadron Collider and calorimeters at DESY in Germany, among many others. Several of the photos have an intimate, behind-the-scenes feel, including a close-up view of a detector at the Sudbury Neutrino Observatory in Canada, which Greenberg obtained by strapping himself into a harness and being lowered into a 200 m cavity. A photo of the “horn” on Fermilab's MiniBooNE neutrino experiment is also nicely composed, with the horn's curvature and central void echoing illustrations of black holes. However, not every photo in the collection is so successful, and artistically minded readers might query Greenberg's decision to use brooding monochrome to depict these often brightly coloured machines.

● 2011 Hirmer £39.95/\$59.95hb 176pp