1950's and 1960's. He is so much the rationalist, in fact, that one wonders how fully he understood the psychological need among blacks to adopt aggressive stances toward whites and to free themselves of all semblances of white control. This is the need that undermined Martin Luther King's "beloved community" and pointed to wars of national liberation as a model for black America. "Whatever separatist impulses exist among American Negroes," Rustin declared, "cannot find appropriate models in the colonial world."

Bayard Rustin wrote in 1970 that, like his own career, the pendulum of the history of the black revolution had begun to swing downward. The assassination of Martin Luther King was the real turning point, but even before that tragic day in 1968, Rustin's and King's messages were awaking little response. Whether or not the old Civil Rights Movement, like a sleeping giant, ever stirs again, and whatever one's orientation to black liberation, everyone who shares Rustin's perception that we are all citizens of a world in crisis will learn much from these observations set down during three decades of thoughtful activism by a faithful visionary.

—SHELDON HACKNEY

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Ehrenfest as Man and Mind

MARTIN J. KLEIN, *Paul Ehrenfest*, North-Holland Publishing Co., 1970, $9.50.

"I HAVE a constant desire to show up suddenly at your home." So wrote Albert Einstein from Berlin to his intense, adoring friend, Paul Ehrenfest, in April, 1916. Ehrenfest, Professor of Physics at the University of Leyden, Holland, was Einstein's soulmate—in Einstein's words "one of the few theoreticians who have not been deprived of their native intelligence by the mathematical epidemic," and "the best teacher in our profession whom I have ever known." Born less than a year apart (Einstein in 1879, Ehrenfest in 1880), both men were drawn to the deepest, most difficult problems of physics, and both were Wandering Jews, moving back and forth across Europe in their early careers, always needing documents to satisfy one bureaucracy or another. Martin Klein, in the most engaging intellectual biography I have ever read, fixes the European academic world of the first decades of this century in our minds by introducing us to a passionate, moody, sardonic, and totally lovable antihero, who had superb taste in people and problems, and just enough success in physics to be intensely bothered by his own inadequacy.

Klein writes with reverence for that Golden Age, in which heroic labors brought forth most of the results of modern physics. Many a writer has turned such reverence into maudlin sentimentality, and thereby reinforced the impression, unfortunately widespread among nonscientists, that physics is done by supermen uninvolved with their surroundings. Klein knows both science and the times too well to err in this fashion. Consider just one intricacy: Ehrenfest married (and later collaborated with) Tatiana Afanassjewa, a Russian Orthodox colleague at Gottingen three years his senior. For the marriage to be recognized in the Austro-Hungarian empire, both had to declare themselves "unchurched" and to foreswear all religious affiliation. Five years later, Ehrenfest could have succeeded Einstein as Professor at Prague, but for a rule that "no one could be appointed to a professorship anywhere in the Austro-Hungarian Empire who had no formal religious affiliation" and his own obstinate consistency.

This biography is like a telescope: Klein is one lens and Ehrenfest the other. Our impressions of the successful physicists of the period are formed, almost exclusively, from a double selection: choices by Klein from a correspondence elicited by Ehrenfest. What emerges is characterization of remarkable economy and precision. Only Einstein appears beyond our reach, and I confess I found it reassuring to find Einstein admitting to "enormous efforts" and "superhuman exertions" in unraveling "the problem of gravitation."

The two lenses are admirably matched. Klein admires Ehrenfest in much the same way that Ehrenfest admired the most creative men around him—and we are left admiring Klein in a similar fashion. In each stage, one is aware of a mind more supple than the stage before: Klein more graceful and more dedicated than we are (he labored fifteen years on this volume, first collecting and editing Ehrenfest's scientific papers); Ehrenfest more driven and more nimble than Klein; and Lorentz, Planck, Boltzmann, and Einstein more inventive and more self-controlled than Ehrenfest. Both Ehrenfest and Klein are self-effacing; had either been egotistical this could easily have clouded our view. The result, in Virginia Woolf's metaphor, is that we, who can ordinarily see only from A to N, are taken by Klein as far as P, who shows us Ehrenfest seeing to S, so that we can fathom how the men he envied might have seen to W.

Klein has interspersed five technical chapters among seven devoted to narrative. There is extremely lucid and meticulous intellectual history in the technical chapters, which describe Ehrenfest's published papers. The reader who has studied some physics will appreciate that the problems he has found too subtle for himself (such as irreversibility) proved just as puzzling for nearly everyone, and thus preoccupied the most serious scientists for entire lifetimes. He will also confront a period of dissatisfaction with *ad hoc* procedures—the "old quantum mechanics"— similar in many ways to the current period in high energy physics.

Ehrenfest made progress through this muddle, inventing the "adiabatic principle" that helped point the way to the "new" quantum theory of the 1920's. "I know that I have never discovered anything—and quite surely never will discover anything—that I can love so fervently as this train of thought which I found with so much joy," he wrote to Nils Bohr, who built so successfully on Ehrenfest's work.

All of the social history is in the seven narrative chapters. Based in large part on Ehrenfest's own diaries, these take the reader from his childhood in Vienna through his student years in Gottingen and Petersburg and up to 1920, when Ehrenfest had completed 8 years at Leyden. Ehrenfest remained at Leyden until his death in 1933, and the final years are to be the subject of a second volume. Volume I closes with a description of

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the personal campaign against Einstein by the Anti-Einstein League, an early post-war excrescence of German anti-semitism and nationalism. Einstein, defending his decision to respond to this attack, wrote Ehrenfest, "If one is a democrat, one also has to acknowledge the claims of publicity."

But I would like to close with another of Einstein's letters to Ehrenfest, from 1917: "You are complaining about yourself again, and are dissatisfied with yourself. Just think how little difference it will make in twenty years how one has loitered about on this earth, just so long as one has done nothing base. Whether you write this or that article yourself, or whether someone else writes it, makes very little difference. Stupid you certainly are not, except insofar as you keep thinking about whether or not you are stupid. So away with the hypochondria! Rejoice with your family in the beautiful land of life!"

I personally can only hope that there are still people who will read a book when some of it is not accessible to them, if the rest—even by itself—has the qualities of a modern rhapsody.

—Robert H. Socolow

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Transatlantic Social History

John Malcolm Brinnin, *The Sway of the Grand Saloon: A Social History of the North Atlantic*, New York, Delacorte, 1972, $15.00.

Steamships and their histories have been John Brinnin's compulsive interest since the days of his youth in Halifax—"just by noting which of the regular liners from Liverpool or Boston was berthed at Pier Nine I could tell what day of the week it was"—and now that he lives in Boston and Duxbury he continues to exult in "the sounds and smells of the Atlantic Ocean." When I first heard this book was in preparation, about five years ago, a New York editor described it as a history of the Cunard Line, but clearly Brinnin had something more ambitious in mind. He has delivered a portmanteau of a book, not just the story of Samuel Cunard, a fellow Nova Scotian, and his discovery of the profits to be made in the Great Circle route but a social history of transatlantic traffic from the sailing of the *James Monroe* in 1818 (424 tons, three masts, eight passengers, a 28-day crossing) to the launching of the *Queen Elizabeth 2* in 1968 (65,683 tons, 110,000 shaft horsepower, cabins for 1700, a 5-day crossing).

Determined to avoid dull economic and engineering details, he concentrated his research on two aspects of "the human element—the day-to-day experience of the millions of people who had crossed the ocean, along with the idea that the passenger ship . . . was a kind of traveling metaphor reflecting society and indicating the nature of social change." Since Brinnin is a biographer and a poet as well as historian, he knows how to blend the close-up and the long-shot. His intimate graphic details contrast 19th-century hazards (live-stock on the decks of primitive packet steamers, casket-sized cabins, passengers comatose with sea-sickness, steerage a dungeon of fetid odors) with 20th-century luxuries (gourmet chefs, tapestried lounges, air-conditioned cabins, dramamine and stabilizers, one-class ships). Rather than tell us, he shows us what made a ship famous in its day. The *Great Western*, launched in 1837, sported not only a 75-foot grand saloon opulent with art but "a newly invented system of bells allowing for communication between every cabin and the stewards' rooms." The Blue Riband *Mauretania*, sister-ship of the ill-fated *Lusitania*, was "a grand hotel with engines"—French walnut staircase, Louis XVI library, Old English Verandah Cafe, François I dining room. The beloved *Queen Mary* charmed its passengers in spite of an interior design that suggested early Leicester Square—"miles of linoleum that glistened like a low-grade fever, acres of laminated surfaces," panels of "carefully split wood that put huge Rorschach blots on every wall." The sleek *United States*, "a kind of eagle among birds of paradise" whom Brinnin still mourns, had the "functional grace and minimal trappings of a clipper; huge tear-shaped funnels sampan-topped; a cleanness of line and cool shine of surface that set her apart."

The long-shot in Brinnin's history is equally impressive. As he charts the growth of passenger ships from paddle-wheelers-cumsails to iron hulls to turbine engines to screw propellers, he draws parallels in the social, economic, and esthetic changes in American and English life. The immigrants' steerage and the crew's cramped quarters, "rank enough to turn the stomach of a camel," eventually gave way, as society became more democratic, to "tourist third" and hygienic amenities. Steampower meant competition, and competition meant more money. The Cunard Line was challenged by the White Star Line, the Norddeutscher Lloyd Company, the Compagnie Générale Transatlantique. The clamor for speed was replaced by such a concentration on comfort and size that Willard Francis Gibbs, designer of the *United States*, defined a superliner as "the equivalent of a large cantilever bridge covered with steel plates, containing a power plant that could light any of our large cities, with a first-class luxury hotel on top." And then came the cruise ships—"the triumph of the abominable." One must read Brinnin whole to get the beauty of his scorn.

Few books please all men, but here there is so much intriguing data, such control of material, and especially so keen a sense of humor, even whimsy, that this history in addition to all else becomes a volume to wander in. We can refresh our memory of the fate of the *Titanic*, the torpedoing of the *Lusitania*, the first appearance of the *Berengaria*, the collision of the *Stockholm* and the *Andrea Doria*. We can hear about Sarah Bernhardt's saving the life of a passenger aboard the battered old *L'Amérique* only to discover, to her dismay, it was the widow of President Lincoln. Or better yet, we can remember for all time the American lady who, on her way back to the cruise ship from an excursion to Baalbek, was heard to say, "*How* does American Express *find* these places?" A delicious book.

—Richard M. Ludwig

Professor of English, Mr. Ludwig teaches courses in American literature. Although known to get sea-sick in damp grass, he has long been an enthusiast of ocean travel.