entire scheme, which is all we can demand of it. But I can't help wondering: Since mathematics was entirely developed in the course of coping with classical phenomena, is it not astonishing that it should contain precisely the conceptual tools to bridge this unpicturable, unspeakable abyss? Apparently not. In any event the question never arises in these pages.

A friend, who has thought more about these things than I have, remarked to me that if anybody other than Bohr had written essays like these nobody would take them seriously. Just what is the man getting at? The major recurrent theme is that complementarity is to be found all about us. Position vs momentum (or the space–time vs the causal description) are joined by justice vs charity, contemplation vs volition, thoughts vs sentiments, and (perhaps) even humor vs seriousness. What is common to all these dichotomies is never made explicit, but I think the lesson Bohr wants us to learn is that we should always be wary of seeking a unified description of phenomena that are manifested only under mutually exclusive conditions (except, perhaps, in the form of a symbolic mathematical algorithm?). The answer to those really hard questions is that they should not be asked—what Einstein called "the Bohr–Heisenberg tranquilizing philosophy."

But against the sometimes maddening frustration brought about by a study of these ponderous essays is the indisputable fact that nobody has succeeded in saying anything manifestly better in the 60 years since Bohr started talking about complementarity. How he could have known that such attempts would fail, right from the start, is yet another puzzle. As a philosopher Bohr was either one of the great visionary figures of all time or merely the only person courageous enough to confront head on, whether or not successfully, the most imponderable mystery we have yet unearthed.

"What Do *You* Care What Other People Think?": Further Adventures of a Curious Character

Richard P. Feynman
(as told to Ralph Leighton)
Norton, New York, 1988.
255 pp. $17.95 hc
ISBN 0-393-02659-0

"What Do You *Care What Other People Think?"* by Richard Feynman (as told to Ralph Leighton) consists of two parts. The first is a set of reminiscences of some of Feynman's interesting adventures not recounted in his earlier book *"Surely You're Joking, Mr. Feynman!" Adventures of a Curious Character* (Norton, New York, 1985; reviewed in PHYSICS TODAY, September 1986, page 61). The second and longer section is his detailed account of his experiences as a member of the Presidential commission investigating the January 1986 explosion of the space shuttle Challenger. [This account is more detailed than Feynman's speech to the Caltech Management Club, an edited version of which appeared as an article in PHYSICS TODAY, February 1988, page 26.]

Following Feynman's death last year, Hans Bethe described him as "the most original physicist" since World War II—and it is sheer pleasure to meet his relentessly probing, sensitive mind in this small volume. Whether Feynman is describing his early introduction to science under his father's tutelage, his close and sensitive relationship with his first wife before and during their tragically brief marriage, or his travels, the reader encounters the same fascinating qualities in these reminiscences that so deeply inspired Feynman's physics colleagues for 40 years and that now have transformed him into an uncommonly worthy cult figure for a larger audience.

The story of how the young Feynman first learned science—and how his father introduced him to its wonders—should be read by everyone who practices, or aspires to, a career in science teaching. The brief ten-page essay, entitled "The Making of a Scientist," is a useful antidote to the "fact stuffing" approach that has contributed to making science teaching such a disaster area in the American school system. (Of course, raising the salaries and improving the status of public school teachers would also help a lot.)

Feynman showed the nation how science is actually done in his famous demonstration, as a member of the shuttle commission, of the loss of resiliency of the solid booster rockets' O-rings when he dipped a ring segment in ice-cold water. Although the commission's work is now well reported, this book gives a more detailed account of Feynman's encounters with bureaucracy in his self-proclaimed role as a "bull in the china shop." It also includes his controversial personal appendix to the report on shuttle reliability, with its important concluding sentence: "For a

successful technology, reality must take precedence over public relations, for Nature cannot be fooled." That no scientist, engineer or technical administrator should ever forget.

Feynman writes that when he was first invited to serve on the shuttle commission his "immediate reaction was not to do it: I have a principle of not going anywhere near Washington or having anything to do with government, so my immediate reaction was—how am I gonna get out of this?" Happily, he had second thoughts. I regret that I didn't have an opportunity to question Feynman about his experience after the commission had completed its report. Although he frequently challenged me through the years about my own government activities in Washington and insisted that he himself could never play such a role, I never really doubted that underneath his joking and cynical manner there was a deep respect for public service. He made that abundantly clear by his conscientious and determined service as a member of the commission—and we are deeply indebted to him for his important contributions to its work.

To those who want to catch a glimpse of the sensitive private Feynman that was largely under wraps in *Surely You're Joking*, I recommend his description of growing up and the story of his first wife, Arlene. To those who have occasionally pondered about the value of science, I recommend his thoughtful 1955 speech on this subject, included as an epilogue. These two chapters alone are more than worth the price of the book.

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