







tionships between science and other human concerns. In collaboration with Fletcher Watson and F. James Rutherford, Holton developed the *Project Physics Course*, which took a substantially different approach to secondary school physics than PSSC. Karplus was very appreciative of *Project Physics*, which identified ways to teach physics as part of the human experience and integrated the development of scientific concepts within a historical and cultural context. Karplus borrowed some specific ideas from *Project Physics*, for example the attempt to isolate a single light ray in Section 7.2, and he drew upon Holton's wonderful textbook *Development of Concepts and Theories in Physical Science* (1952) as well as Thomas Kuhn's seminal work, *The Structure of Scientific Revolutions*, which came out in 1962. Karplus also clearly did substantial reading of his own in the scientific and historical literature.

There are many notes in the margins about the historical context. More important, there are innumerable points in the course of an explanation of the physics content where Karplus calls up the historical context or the thinking of the discoverer in just the way needed to help a beginner gain a deeper understanding or to relate the concepts together in a memorable way.

This edition of Karplus' book is still quite close to its original form. While I edited the text in many ways – to clarify key points, correct typos, and modernize the most glaringly out-of-date items – I kept the page layout as close to its original form as possible. This imposed a rather demanding, yet salutary, requirement: modifications had to fit within the same number of pages as the original. Matching words in this way with the master gave me a workout at a level that I had not experienced since I completed my dissertation under his direction over 30 years ago.

This edition of Karplus' text could well be updated and supplemented in many ways. In particular, the references could be brought more up to date, many valuable innovations in physics teaching of the last 30 years could be incorporated, and additional hands-on experiments could be included. I would hope that the value of Karplus' work will not be dimmed by any shortcomings in the editing or by the fact that it has been out of print for so long.

Is understanding of the fundamental concepts of science necessary for non-scientists today? Is the capacity to apply scientific principles, think logically, and solve problems important for national and world citizenship? To Karplus the answers were obvious. His book provided and, I believe, still provides a positive and realistic response to these on-going challenges. I hope that a new generation of teachers and students find the book as valuable, provocative, and on-target as I, and many others, did during its brief life in print.

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