obscure the discussion of the problem of a moving rod being carried through a barn. In all fairness, however, their use is not pervasive. Sartori also intersperses a bit of history—a welcome addition. The citations to literature are in the form of footnotes, a slight inconvenience, but are adequate, as is the index. The problems are unexciting but okay. The illustrations are all right; in general, the format is clear and helpful.

I have two main dislikes: I feel the style is overly wordy, perhaps in an attempt at the "simplified approach." I don't think it succeeds in that respect, but it is in many places refreshingly personal and interesting. I also don't like the overemphasis on Galilean and Newtonian views of nature. In my view, students at whom this book is aimed don't have a thorough enough intuition for nonrelativistic physics to make this approach more comfortable than a relativistic treatment from the start.

Taylor and Wheeler's book is wonderful. Its content is just at the right level for a freshman or sophomore course on relativity, where the students have some knowledge of but are not comfortable with calculus (although Sartori's math level is fine). Taylor and Wheeler take a four-dimensional, geometric approach from the beginning, and as I said, I much prefer this technique. The personalities of Taylor and Wheeler shine through the text, making it exciting reading. The format of their book—large margins, clear type, eminently readable equations—is superb; its problems are interesting and provocative; its illustrations are well-captioned and striking; its index is formidable; citations to the literature are adequate (although I would prefer an end-of-book listing of suggested readings).

Oh yes, one thing more: For some time now the definition of the meter has been the distance light travels in 1/299 792 458 second. This definition makes the speed of light unmeasurable; its definition is in fact a perfect integer, the same in any reference frame. Sartori and many other writers on relativity give lip service to this definition but do not incorporate it into their discussions. Taylor and Wheeler's treatment adequately reflects the thinking behind the adoption of this definition of the meter.

I hope I have been clear: I am not inspired by Sartori's book; I don't think students will be, either, but it is a pretty good, fairly standard treatment with a few quirks. I prefer Taylor and Wheeler by a long shot.

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Department-Head Standards in Undergraduate Texts

This list was compiled from the "Graduate Programs in Physics, Astronomy and Related Fields", an annual publication of AIP. In the 1994–95 edition, over 100 heads of PhD-granting physics departments cited specific texts as the undergraduate preparation they assumed of students applying to their programs. The following are those texts cited most often. The list was compiled by Christine Cassagnau of the AIP Education and Employment Statistics Division.

Quantum Physics of Atoms, Molecules, Solids, Nuclei and Particles. 2nd edition. R. Eisberg, R. Resnick. Wiley, New York, 1985. ISBN 0-471-87373-X

Analytical Mechanics. 4th edition. G. R. Fowles. Saunders College Publishers (Harcourt Brace), Philadelphia, 1986. ISBN 0-03-004124-4

Quantum Physics. 2nd edition. S. Gasiorowicz. Wiley, New York, 1995. ISBN 0-471-85737-8

Introduction to Electrodynamics. 2nd edition. D. F. Griffiths. Prentice Hall (Simon & Schuster), Englewood Cliffs, N.J., 1989. ISBN 0-13-481367-7

Introductory Quantum Mechanics. 2nd edition. R. L. Liboff. Addison-Wesley, Reading, Mass., 1992. ISBN 0-201-54715-5

Electromagnetic Fields & Waves. 3rd edition. P. Lorrain. W. H. Freeman, New York, 1995. ISBN 0-7167-1823-5

Classical Dynamics of Particles and Systems. 4th edition. J. B. Marion, S. T. Thornton. Saunders College Publishers (Harcourt Brace), Philadelphia, 1995. ISBN 0-03-097-3023

Introduction to the Quantum Theory. 3rd edition. D. A. Park. A. W. McGraw, Whitehall, Ohio, 1992. ISBN 0-07-048554-2

Fundamentals of Statistical & Thermal Physics. *Fundamentals of Physics Series.* F. Reif. A. W. McGraw, Whitehall, Ohio, 1965. ISBN 0-201-55737-1

Foundations of Electromagnetic Theory. 4th edition. J. R. Reitz. Addison-Wesley, Reading Mass., 1993. ISBN 0-201-52624-7 (0-201-55737 answer bk.)

Elementary Quantum Mechanics. D. P. Saxon. A. W. McGraw, Whitehall, Ohio, 1968. ISBN 0-07-054980-X

Mechanics. *Physics & Physical Science Series.* 3rd edition. K. R. Symon. Addison-Wesley, Reading, Mass., 1971. ISBN 0-201-07392-7

Electromagnetic Fields. 2nd edition. R. K. Wangsness. Wiley, New York, 1986. ISBN 0-471-81186-6

Heat & Thermodynamics. 6th edition. R. Dittman, M. W. Zemansky. A. W. Mc Graw, Whitehall, Ohio, 1981. ISBN 0-07-072808-9

Advanced University Physics

S. B. Palmer and M. S. Rogalski
Gordon and Breach, New York, 1996. 876 pp. $124.00 hc ($39.00 pb) ISBN 2-88449-065-5 hc (2-88449-066-3 pb)

Stuart Palmer of the University of Warwick in England and Mircea Rogalski of the Institute of Atomic Physics in Bucharest have set themselves the ambitious goal of producing a single volume that contains a unified approach to all of undergraduate physics. In particular, they seek to emphasize the connection between microscopic and macroscopic physics and to bridge the gap between what they regard as an overly descriptive approach to undergraduate physics and the more formal and mathematical approach that characterizes graduate courses.

The result is a work that can be described as unique and idiosyncratic: unique in the sense that I know of no other work as ambitious or as comprehensive; idiosyncratic in that it must by its nature represent the authors' opinions on what is important or fundamental in the undergraduate curriculum. Overall, the work is very formal and mathematical. While the examples are well chosen, they are few in number, and there are no exercises for the student. It is also a formulaic work in that the lengths of the 53 chapters are very uniform (14–18 pages each), and each chapter includes precisely three references to textbooks offering presentations in greater depth (most of which are published in Europe and may not be readily available to students in the US). The distribution of topics by chapter gives some idea of what the authors consider significant: mechanics (four chapters), relativity (two), electromagnetism (four), thermodynamics (four), statistical mechanics (four), waves (four), optics (nine), quantum mechanics (eleven), solids (eight) and nuclei (two).

This is not a book that one can read cover to cover. Although I think the authors have succeeded admirably at their goals, they have produced a work that will be more useful to students and faculty as a reference book than as a textbook. It is neither an encyclopedia nor a mere tabulation of formulas. Each chapter is a more or less self-contained exposition on a single