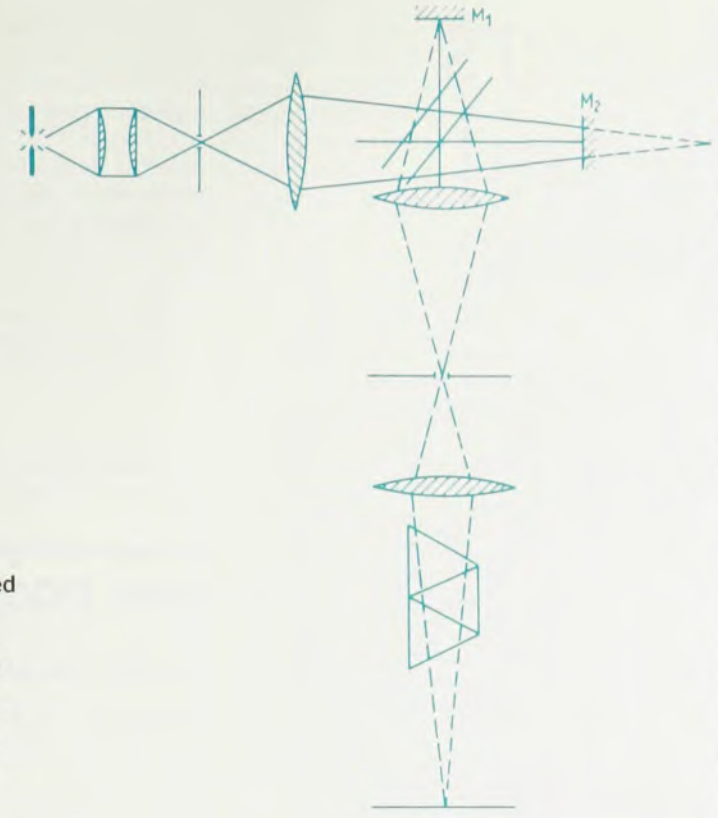

Michelson interferometer, arranged for the observation of the fringes of an air wedge. The air wedge is the distance in air between mirror M_1 and the image of M_2 at M_1. (From *Experiments in Physical Optics.*)

is not moderately familiar with the subject.

Surprisingly there are only ten photographs of optical effects, and as these are the sort of picture found in almost every book on optics, they are of little value.

This book must represent many years of practical experience in the teaching of optics (at the University of Paris). While none of the experiments appear to be novel, their wide range and the practical detail of the descriptions of the demonstration apparatus and its adjustment make this an invaluable book for those teachers of optics who have not yet developed their own repertoire of demonstrations and a useful one for those who have.

The translation is by S. Mallick of the Paris Institute of Optics, and is excellent with very few examples of the pedantic phrase that so often intrudes.

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Mechanics, Waves and Thermal Physics

By R. L. Armstrong, J. D. King
563 pp. Prentice-Hall, Englewood Cliffs, N. J., 1970. $9.95

This book is a new addition to the rapidly growing shelf of texts available for an introductory sequence of physics courses for science students. It is devoted to classical and relativistic mechanics, wave motion, some atomic and statistical physics, thermodynamics and even contains elements of solid-state theory. It does not discuss electricity, magnetism, or optics. Some knowledge of calculus is assumed; all other mathematical tools are provided.

It is a cleanly and carefully written book—the various topics are treated coherently, in a logical sequence, and in simple and lucid language. Major formulas are derived with care and receive adequate physical interpretation. There are many diagrams and pictures and a good collection of illustrative problems. It appears to be the kind of book that could be read and comprehended easily by even a mediocre student.

I particularly like the extensive and early discussion of the role of frames of reference in both classical and relativistic physics, a topic frequently either ignored or badly handled in an elementary text. It is treated here carefully and includes elements of transformation theory.

I confess, though, that I am troubled by what seems to me to be an *ad hoc* and early introduction of relativity, which is neither adequately motivated by the physics nor terribly well connected to the rest of the book. This arrangement is justified by the authors on the ground that it adds excitement to the course. That may be the case, but I remain skeptical of its efficacy. The discussion of atomic physics prior to any treatment of electricity and magnetism raises conceptual difficulties that are

not really resolved. Finally, I was taken aback by the inclusion of a rather extensive section dealing with the crystallographic space group.

I suspect that a teacher would either have to omit some of this more exotic material or supply some of the missing information and concepts in class. On balance, though, I recommend this textbook.

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new books

CONFERENCE PROCEEDINGS

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