

## Editorial: Some new directions

In the past two decades both the number of physicists and the number of fields of physics have increased substantially. The pace at which new knowledge is developed has also become more rapid, so that a subfield of physics may develop from infancy to maturity within a few years. As a result, the experienced researcher often finds it difficult to follow all the relevant developments in his own field, and still more difficult to keep abreast of results in other fields, while the graduate student beginning thesis research finds scant comfort or assistance in the proliferation of journals, authors, and new research results accompanying this growth in physics. It is important that journals, and especially review journals, examine their editorial policies in an effort to determine how they can function most effectively to improve communication among physicists, not only among those working in different fields, but also among physicists working within a given field.

During the past year, the Editorial Board of *Review of Modern Physics* has undertaken such a self-study. We have concluded that while the principal role of *Reviews of Modern Physics* should continue to be the publication of comprehensive scholarly reviews of significant topics in modern physics, the journal would seek as well to publish perspectives and tutorial articles in rapidly developing fields. To this end we have begun to solicit articles on frontier topics in physics which are intended to convey to graduate students, and to physicists in other fields, a sense of why that topic is of great current interest, what progress has been made recently, and what are its likely future directions. Contributions can, on occasion, be personal and, in part, nontechnical; written by physicists for physicists, such articles will contain more mathematics and physics than a comparable article written for, say, *Scientific American*; it is our hope, however, that we may become as successful as the latter journal in providing in each issue articles of genuine interest to our entire readership.

We plan to solicit as well a small number of summer school lecture notes, conference reports and/or conference summaries. In selecting such articles, our criteria will include both pedagogical style and the existence of substantial current interest. In similar vein we have begun publication of articles based on the lectures given by the recipients of some of the major awards in physics; such lectures frequently provide the audience with illuminating historical insights as well as offering a glimpse of both how a distinguished physicist works and what topics he considers important for the future.

There is general agreement in the scientific community that good scholarly reviews are needed more than ever. The importance of reviews was eloquently described by Conyers Herring some five years ago ("Distill or Drown: The Need for Reviews," *Physics Today*, September, 1968); the arguments presented there are more than ever applicable today. One response to this need has been a substantial increase in the number of specialized review journals; to help our readers keep abreast of the current review literature we have initiated a listing of review articles published in other journals. The editors hope for another response; a substantial increase in the number of reviews which provide not only a careful, balanced, and detailed coverage of a topic, but also place that field in its appropriate context, so that the nonspecialist will be able to understand both why the topic is ripe for review and its relevance to other fields of physics. Here we trust that RMP can play an increasingly important role in identifying and persuading potential authors to write reviews of just this kind. To encourage prospective authors still further, we have decided, on an experimental basis, to relax the traditional requirement that a review be *complete*, provided the author has been a major contributor to the field in question and that he makes every effort to be pedagogical. A physicist in the midst of active research is often reluctant to take time out from his research to give a full and balanced account of what all his colleagues in the field have been doing, for this generally requires covering material which is beyond his immediate expertise, but he may be persuaded to give an overview of the field, and with due encouragement, make that overview one which communicates effectively with those in other fields. We make the assumption that, over a five-to-ten-year period we will be able to balance a given personal view of a field with articles by other leading workers in the field written from a different approach.

David Pines, *Editor*

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