there are eight papers on melanomas, two on carcinomas, and one on *acanthosis nigricans,* compared with five on biochemistry of pigment, two on embryology, two on genetics, and one on the relation of endocrine glands to pigmentation in the fowl. The invertebrate animals are not treated.

As is usual in publications of this kind, the papers vary in length and quality. The longest, as well as the most comprehensive, paper is that on the structure of melanins by H. S. Mason, a valuable review of the chemistry of melanin formation. The book is well printed on glossy paper and extensively illustrated with graphs and photographs. The reproduction of the halftones is first rate.

One gratifying outcome of the conference was an agreement on the terminology to be used for pigment cells. The definitions adopted for melanoblast, melanocyte, macrophage, and melanophore were also approved by the Subcommittee on Oncology, Division of Medical Sciences of the National Research Council and, hence, may be expected to have a more uniform use in the future.

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Explaining the Atom. Selig Hecht. Rev. by Eugene Rabinowitch. Viking, New York, 1954. xviii + 237 pp. Illus. $3.75.

It is a well-known fact that the distinguished scientist, when writing a popular book on his special field, underrates the difficulty of the ideas he is familiar with and so produces a book for his colleagues but not for the general public. The outstanding popular book on the atomic bomb has been written not by a nuclear physicist but by a great expert in another field of science. In 1946 Selig Hecht, professor of biophysics, wrote *Explaining the Atom,* the book that gave to many thousands an understanding of atomic structure and nuclear energy. The author's incentive was as much scientific interest as a sense of responsibility of the citizen who sees a new world coming and wants to propagate an understanding of the driving forces.

After the untimely death of the author, Eugene Rabinowitch brought the book up-to-date by many minor changes. The vivid style of Selig Hecht, who told the story of discoveries rather than described detail, is fully preserved. Hecht's book ends with the sections "The atomic bomb is built," and "The secret is out."

Rabinowitch, known to the public as editor of and contributor to the *Bulletin of the Atomic Scientists,* continues the story to the level of 1954. He describes the later development of the fission bomb and, more fascinating, the new "superbomb." Here he discusses Bethe's carbon cycle and the fusion reactions between hydrogen isotopes and lithium leading to thermonuclear reactions. They allow the construction of the famous bomb whose size is not subject to limitations (except the carrying capacity of a plane) and whose price is presumably much lower than that of a large fission bomb. A separate chapter is devoted to "Atomic power."

The chapters contributed by Rabinowitch emphasize the idea of Selig Hecht: to inform the citizen of the indispensable background of physics as well as to point out the relation of nuclear energy to the industrial development and domestic and foreign policy. The scope of fission is evident from the recent estimate that "the world resources of commercially utilizable fissionable material are fifty times greater than the world resources of commercially utilizable fossil fuels." This estimate, however, seems to include all uranium and thorium irrespective of the efficiency of the breeding process which leads to the fissionable isotopes.

Rabinowitch closes with an optimistic prospect:

> We live on the continuous but finite surface of a sphere of which any part can be reached from any other part in a few hours. It is obsolete to suppose that such a surface can be artificially maintained in a fractional state of national groups . . . the sooner all peoples join in some law-abiding extranational order, the better for us who hope for civilization.

The second edition of Selig Hecht's book is as excellent as the first edition for the instruction of the citizen who wants a sound foundation for his judgment on domestic and international policies as affected by the new energy.

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Linear Transient Analysis. vol. I, *Lumped-Parameter Two-Terminal Networks.* Ernst Weber. Wiley, New York; Chapman & Hall, London, 1954. xiv + 348 pp. Illus. $7.50.

Linear Transient Analysis is a textbook containing material appropriate for a basic graduate course in transient analysis. It is also of value to practicing engineers who will find four methods of solving linear transient problems gathered together in one volume. The book is unique in this respect. In presenting the classical solution of network response, the Heaviside-Jeffreys' operational calculus, the Laplace transformations, and the Fourier transform, Weber has laid bare the mystery of transients. To those devotees of the Laplace transform who would shun the classical or Heaviside methods, he answers:

> Fundamental knowledge, real understanding of any subject matter, must be independent of the form in which it is presented or in which we had our first introduction to it. The greater the variety of possible expressions for the same basic relationship, the clearer will be the concept recreated in the mind of the searching individual.

The chapters are laid out in a well-integrated order. The first chapter deals with concepts of circuits and networks that might ordinarily be overlooked in undergraduate work but are the essence of advanced circuit analysis. Classical solutions of network re-