

some brief discussion of crystal structure, behavior of crystalline materials under load, and structure of alloys. Here, also, is considered the interpretation of cooling curves and equilibrium diagrams, and this serves as an introduction to part II.

Part II, "Metallic materials," includes several chapters on the production and properties of iron and steel. In subsequent chapters, other materials considered include copper, aluminum, zinc, lead, tin, magnesium, nickel, and titanium. In each case the author discusses the production of the metal, its properties and uses, the commercial forms available, and alloys of the metal, some of whose properties are indicated in tabular form.

Part III on "The deterioration and protection of metallic materials," contains chapters on corrosion, inorganic and organic protective coatings, and lubricants.

Part IV, consisting of eight chapters on "Nonmetallic materials," deals with wood, cementing materials, concrete, building stone, clay products, glass, refractories, soil, organic plastics, rubber and rubber substitutes, and solid, liquid, and gaseous fuels. For several of these classes of materials there are tables of comparative properties.

The text concludes with an eight-page bibliography.

PAULA FEUER

Purdue University

**Demographic Analysis.** Selected readings. Joseph J. Spengler and Otis Dudley Duncan, Eds. Free Press, Glencoe, Ill., 1956. 819 pp. Illus. \$9.50.

**Population Theory and Policy.** Selected readings. Joseph J. Spengler and Otis Dudley Duncan, Eds. Free Press, Glencoe, Ill., 1956. 522 pp. Illus. \$7.50.

These companion volumes contain 101 papers, three-fourths of which were published in the decade 1946-55. With a few exceptions, these are drawn from periodicals and symposia. American demographers, sociologists, and economists strongly predominate among the 74 different authors, who include a few collective persons, such as the U.N. Population Division.

The items are grouped in 16 chapters, for each of which the editors supply a brief introduction, designed mainly to "provide a framework" but also (in too few instances) to "cover important points which have not received sufficient attention in these readings." For each chapter there is an extended supplementary bibliography, likewise limited

largely to "fugitive" post-World War II literature. References to sources of wider scope in time, space, and subject matter are given in footnotes to the individual papers.

The chapter headings and individual titles correctly indicate a rich coverage, although several raise hopes that are disappointed. Almost every topic in the field of population is dealt with, or at least touched on, more than once. Effective use of the materials, however, is regrettably limited by the lack of an index.

Most of the selections should be read with the date of writing or publication borne firmly in mind. Such words as *present*, *recent*, and *next few years* refer to very different periods of time. For example, "The economic consequences of the present trend of population" was completed in December 1945 and was first published in 1950 and refers only to the United Kingdom; and "Some recent results in population analysis" was presented at the International Population Congress in July 1937. Unfortunately, neither table of contents identifies the individual papers by date of publication—which ranges from 1927 to 1956. In *Population Theory and Policy*, the source and date of each paper are given in a footnote on its title page. In *Demographic Analysis*, most of the papers were apparently reproduced by photo-offset and therefore display a variety of formats, and sources and dates can be ascertained only by a laborious process of working through the "Acknowledgments."

The two volumes were published primarily for use by university instructors and students in this special field, although the bibliographies were planned to be useful, also, "to the reader who wishes to gain an overview of current research in population." Used under the guidance of a keen, critical, well-informed instructor, especially in conjunction with an up-to-date textbook, these materials can be extremely valuable. Anyone who has a good grasp of recent population developments and some knowledge of the earlier literature will welcome the opportunity to browse through, or consult, this large and representative collection.

The more general reader, whatever his specialty and range of knowledge, must be warned to be on his guard in using these volumes. Obsolescence in this field is rapid. A collection of papers on *Population Problems in the United States and Canada* was written in 1924 and published in 1926. Although this was ably planned and well edited, it is now hopelessly out of date, and a new edition today would be startlingly different. Since 1940, long-established trends and relationships have been gravely altered

and firm convictions upset. These important facts are not clearly brought out in the volumes under review, although two or three papers discuss some of them, and most of the changes receive incidental mention here or there. A few of the earlier selections are largely obsolete, and several others are obsolete in spots, even though they are less than a decade old. Few of these defects are pointed out or corrected, and the editors even refer in the present tense to "Population policy for the United States," which was published in September 1939, before the unexpected upsurge had radically altered the prospect for future growth.

Time and again the informed reader will be surprised at the wide divergence between current facts and the confident assertions of scholars of high repute in some year before, during, or after World War II and can be sure that the same authors could not now express the same views. But the reader who is unfamiliar with the course of population developments is likely to be misled or confused and to get an unbalanced view of the present state of research and expert thought in this important field. *Caveat lector!*

JOSEPH S. DAVIS

Council of Economic Advisers

**The Mechanism of Phase Transformations in Metals.** A symposium organized by the Institute of Metals and held at the Royal Institution, London, 9 Nov. 1955. Institute of Metals monograph and report series No. 18. Institute of Metals, London, 1956. 346 pp. Illus. + plates. \$7.50.

*The Mechanism of Phase Transformations in Metals* contains all of the papers that were included in the symposium of the same title which was held in London, 9 Nov. 1955, as well as the discussions which were presented there. The symposium was divided into two parts. The first part was devoted to transformations which involve nucleation-and-growth processes; the second, to martensitic transformations.

The first paper of the first group, "Nucleation-and-growth processes in metals and alloys," by H. K. Hardy and T. J. Heal, provides an excellent review of the subject as a whole; the next seven papers are concerned with special aspects of it. Of particular interest in this group is the paper "A resistometric study of the kinetics of precipitation in lead-tin alloys," by G. Borelius and L. E. Larsson. These authors show that precipitation in alloys that contain approximately 20 percent tin occurs in two stages. They conclude that the first stage consists of a homogeneous clustering of the tin atoms,