still widely known and thus serve to show how far and in what direction the science has moved since his demise. That a textbook in physical anthropology could get by with only about ten pages on anthropometry, one of Hrdlička's specialties, would have appalled him. He would have been almost as appalled by the strong emphasis placed on human genetics: two sections that total 75 pages and many statements elsewhere, but especially in the section in which "racial varieties" are described. What would he have thought, for example, of the following quotation from Hulse's description of Caucasoid populations? "As in India, the inability to taste PTC has a high incidence. The female breast is usually hemispherical and well developed. At the MN locus, the balance between the two alleles is very close in most groups. At the Duffy and Kidd loci, the frequency of the positive allele is between 60 percent and 70 percent in most groups which have been tested." All of this, of course, is in keeping with the current practice of emphasizing the genotype instead of the phenotype. The de-emphasis of anthropometry is a result.

Obviously Hulse's book is needed to keep pace with the present teaching of physical anthropology. I predict that it will be well received and widely used. Hulse's extensive field work on peoples in different parts of the world (recently from the genetic standpoint) and his long teaching experience—at Colgate, the University of Washington, Northwestern, and now the University of Arizona—give him requisite background for authorship. To this he has brought a natural aptitude for clear expression and a good sense of the dramatic. The combination insures an authoritative and engrossing text. Twelve photographs of primates other than man and 45 photographs of human varieties, all different from those usually reproduced, add to the distinctiveness of the book. The numerous line drawings are unusual in their simplicity.

Perhaps because some schools permit students to satisfy the science requirement by taking physical anthropology, more than 150 pages at the beginning are devoted to the broad biological subjects indicated by the following section headings: The Qualities of Life, The Transmission of Life, The Varieties of Life, Ecology and the Evolution of the Vertebrates, The Evolution of the Mammals, and The Primate Pattern.

The sections of the book which deal with the remains of ancient man (about 100 pages) leave me unhappy. So much of our knowledge here comes from the older literature that the limitation on references and the consequent lack of details about the individual finds can only be considered a deprivation to the student. Thus, for example, the drama of the Australopithecine discoveries is omitted and Raymond Dart, one of the discoverers, is mentioned only in connection with his claim for an osteodontokeratic culture (published in 1957). Space limitations undoubtedly are responsible for this situation, but even so it is regrettable that the discoverers of ancient man, along with Hrdlička and other such colorful pioneers, had to be sacrificed in an introduction to physical anthropology.

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Plant Breeding

Recent Plant Breeding Research: Svalöf, 1946–1961. E. Åkerberg and A. Hagberg, Eds. Wiley, New York; Almquist and Wiksell, Stockholm, 1963. 346 pp. Illus. $10.

This book is a sequel to the volume *Svalöf 1886–1946* which was published in 1948. More recently a memorial volume, published in Swedish, was prepared in observance of the completion of 75 years of activity by the Swedish Seed Association. In view of the international interest in the 1948 volume and in response to many requests, the present volume was prepared to provide a report on selected aspects of the scientific investigations conducted at Svalöf since 1946.

One contributor (V. Stoy) comments that during the last few decades plant breeding changed from an area in which mainly applied genetics was utilized to an extensively ramified branch of agricultural science which draws heavily on genetics and cytogenetics, as in the past, but which also makes increasing use of plant pathology, plant physiology, biochemistry, and related fields. This viewpoint is given considerable support by the topics chosen for inclusion in this volume.

The 23 contributions fall readily into seven rather distinct groups. The first group deals with the history and organization of the Swedish Seed Association and with the agricultural regions of Sweden. The next group discusses natural selection in red clover and artificial selection in fodder beets and cruciferous plants. One chapter is devoted to the results obtained by breeding autogamous plants, and stress is placed on the problem of incorporating exotic germplasm into highly adapted indigenous material. The next section is devoted to mutation concepts and the utilization of induced mutations in plant breeding, an area in which Swedish workers have had considerable success. Five articles deal with the results of and the problems that arise from the use of polyploidy in plant breeding. Investigations on insect and disease resistance are covered in three articles. The final section deals with winterhardiness in rape, aspects of plant physiology related to breeding for increased yield, problems of starch and enzyme quality, alpha-amylose in ripening rye, the effects of sulfhydryl and disulfide groups on properties of flour and dough, and quality problems in cruciferous oil crops. A list of 206 publications, which were published in languages other than Swedish but which originated at the Swedish Seed Association during the years 1947 to 1961, completes the presentation.

This volume will be of interest to all plant breeders, providing as it does a record of both operational concepts and recent achievements at Svalöf.

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Ceramic Science

Ceramics: Stone Age to Space Age. Lane Mitchell. National Science Teachers Association, Washington, D.C., 1963. 128 pp. Illus. Paper, 50¢.

Colleges and universities in the United States are training less than half the needed number of graduates with degrees—B.S., M.S., or Ph.D.—in ceramic science or ceramic engineering. Those in the field of ceramics know that the unprecedented demand for men and women trained in the special field of inorganic, nonmetallic ceramic materials and their high temperature reactions and behavior is the result of the needs of the newer technologies (electronics, nuclear, aircraft, and the space-age industries) superimposed upon the continuing require-