havior; but several authors, including Paul Halmos (whose book *Towards a Measure of Man* is the only conspicuous omission from this well-documented work) have argued that there are certain physiologically determined forms of mental disorder which are recognized as abnormal in every society. On the whole, sociologists, like clinicians, have found deviance easier to define and study than normality. Coser has justified this by arguing that deviance helps to make explicit and indeed to reaffirm the positive values of the society in which it occurs.

In the biosciences, an earlier preoccupation with clear-cut, identical norms has given place to an appreciation of the range of individual variations. This is perhaps most vividly shown in modern genetic theory, particularly in biochemical genetics, which shows how insistently differences in small details (for instance, in the inheritance of different minor enzyme systems) preserve diversity in a seemingly uniform gene pool. This has led to the acceptance, in most biological fields of study, of the concept of a range of normal findings, with a high statistical probability that a given individual will exceed the range in some of his attributes.

Having reviewed the whole field, the authors summarize the numerous definitions of mental health under the headings Normality as Health, Normality as Utopia, Normality as Average, and Normality as Process. Although they avoid committing themselves, there is an implied endorsement of the last point of view.

In a rather cursory excursion into ancient philosophy, attention is drawn to Plato's exalted view of the role of the philosopher in human affairs. The rhetorical question is put, "Must it logically follow that the present-day psychiatrist, who has been trained in the 'ordering of the mind,' and the psychoanalyst, who has undergone personal analysis, should consider it their moral duty to direct the mental health of the populace?" The authors neither endorse nor categorically reject this alarming proposition, although they eventually state that most of their colleagues would repudiate such a role.

The monograph concludes with the following engimatic sentences: "We have not offered a 'substantive' definition of normality. We believe that the process of definition is currently the responsibility of the individual investigator who, understanding the array of possible definitions, can employ knowledge rather than arbitrary ignorance to formulate his own definition."

On a purely pragmatic level, this book will be of value to all practicing psychiatrists by compelling them to think about their own concepts of normality, which are usually held in a vague, if not self-contradictory form; it is particularly valuable, at a time when psychiatry is reaching out to many underprivileged groups, to be reminded how easily one's own judgments of normality can be colored by the values currently prevailing in the particular section of society to which most psychiatrists belong.

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Plants Used by Man

Franz Schwanitz's **The Origin of Cultivated Plants** (Gerd von Wahlert, Transl. Harvard University Press, Cambridge, Mass., 1966. 183 pp., illus. $4.75) is at least the second book to appear with this title. The first was written by Alphonse DeCandolle and appeared in 1886. DeCandolle's efforts were directed toward description of as many cultivated species as possible and toward determining the place (or places) from which these species arose. Schwanitz, following more in the tradition of Darwin's efforts, attempts to discover how plants (mostly food plants) differ in their genetic and other mechanisms from wild ones and how these mechanisms arose. His book owes a debt to the groundwork laid by Darwin, DeCandolle, and the Russian plant breeder and geneticist Vavilov, all generously acknowledged by Schwanitz.

The characteristic of cultivated plants which is primarily responsible for their usefulness to man is gigantism—witness the enlarged roots of cultivated carrots contrasted to the small, woody taproot of its wild relative (Queen Anne's lace), or the large, fleshy fruits of tomatoes (*Lycopersicon esculentum*) contrasted to the small, seed-filled fruit of the putative wild relative (*L. pimpinellifolium*). Gigantism of certain organs, a phenomenon common to many cultivated species, is caused by several different genetic mechanisms: mutation in some, hybridization in some, and polyploidy in others. Gigantism may result from increased cell size or from increased numbers of cells in the useful part. These variations, once established, are kept going by man—they seldom have any competitive ability if not nurtured, weeded, and watered. And the influence of environment (which must include man as a factor) is another critical part of the picture for the development of cultivated species.

Perhaps primitive man's biggest role in the development of useful plants was in environmental modification. Certainly he did not have a program of breeding toward a desired goal. But by chopping down competitors, keeping livestock, and by generally messing up the natural habitats, he made great strides in the development of most of our cultivated species. Schwanitz does not put it this way. To him, plant breeding is as old as agriculture. His definition of plant breeding is much broader than I would care to make it, since to me breeding involves much more knowledge of the biology of the organisms than the primitive people had. What he must mean is a sort of selection process, in which results of chance hybridization or desirable spontaneous mutation were kept going by some observant primitive farmer.

Whatever interpretation is made, however, this is an informative and useful book. A short list of general references, mostly from the German literature, is appended.

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Variety, Conflict, and Change

Animal Conflict and Adaptation (Dufour, Philadelphia, 1965. 172 pp., illus. $8.95), by J. L. Cloudsley-Thompson, in all honesty should not have been published—certainly not until a great deal more care and time had been put into its composition.

The book contains good summaries of the gross physiological and behavioral mechanisms of adaptation to various physical environments (ocean, land, desert, snow and ice); to other species (predators, prey, parasites, agents of disease); and to other members of the same species (cannibalism, territoriality, hierarchical relations, displacement activity, and so on), and these may