

tic and Collectivistic types of State take on a militaristic configuration as a result of emergence to predominance of the military hierarchy" (p. 49). Such statements make much of what he says appear to be description rather than reasoned analysis.

While it is possible to pick out many details that offend both the specialist and the thoughtful nonspecialist, there are also instances of insight that are worth considering. For example, Ribeiro discusses the Salvationist Empires in contrast to Capitalistic Empires. The impetus for the former is religion while mercantile activities characterize the latter. Tracing these two forms of society historically one can see that the forms taken by modern states cannot be understood without reference to their unique historical development. When modern planners recognize that the rationale of today's states is deeply rooted in their histories, they must seriously consider how they can hope to impose quite different systems of values on, for example, emerging nations. The difficulty of the task is seen in the frustration of most aid programs.

The basic problem with this book is that it simply tries to do too much with an insufficient theoretical model. Ribeiro has chosen cultural evolution as his explanatory framework. In his view evolution consists of a series of stages which are "models of social life" that result from technological innovation and are rationalized through ideology. The difficulty with this approach is that one tends to become transfixed by the task of putting societies into their proper typological slots, to focus on stages as if they have some inherently interesting properties and to neglect the factors that cause them. Cultural evolution is a descriptive, not an explanatory, model. It is not clear that this model can lead to significant insight into the causes of behavior. It seems rather that the model is inappropriate to the task. Ribeiro wants to understand process, but he gives us generalized views in stop action—the antithesis of process. And the same criticism can be leveled against other such attempts.

Perhaps it would be better to view isolated phenomena rather than whole societies. For example, what effect do sheer numbers of people have on social organization and communication, or surplus, scarcity, and differential distribution of resources on the forms society may take? We might consider cultures as ongoing life systems that exist in cooperation and competition with other,

similar systems and whose internal organization is the result of a complex interplay of decisions in response to a series of conflicting demands, pressures, and opportunities. By examining decision making in regard to certain common phenomena rather than results (that is, evolutionary stages) we might get closer to the causal factors that social scientists discuss at length but rarely succeed in identifying.

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Zymology

The Yeasts. Vol. 1, *Biology of Yeasts.* ANTHONY H. ROSE and J. S. HARRISON, Eds. Academic Press, New York, 1969. xiv + 510 pp., illus. \$19.50.

The 14 authors and editors of this volume have performed a commendable service for persons interested in the relatively small but diversified group of fungi known as the yeasts. This book deals with taxonomy, habitat, pathogenicity, cytology, life cycles, sporulation, hybridization, and genetics (two later volumes will cover physiology and biochemistry and yeast technology). It is a well-written and abundantly illustrated review of current knowledge.

Recent studies of yeasts that live in association with plants, insects, mammals, and marine environments have revealed many new species. Improved taxonomic procedures have added new genera of basidiomycetous yeasts to the many previously known ascomycetous genera. The chapter on taxonomy by Kreger-van Rij anticipates generic diagnoses that will be set forth in the author's chapter in the second edition of *The Yeasts: A Taxonomic Study* (J. Lodder, Ed.), now in preparation.

Of the few yeasts causing disease in animals, *Candida albicans* and *Cryptococcus neoformans* receive the large attention they deserve. Species of lesser importance in *Candida*, *Torulopsis*, *Trichosporon*, *Rhodotorula*, and *Pityrosporum* are considered. Serological and therapeutic aspects are discussed by authors who evidently know patients as well as yeasts that infect them.

Cytological features of *Saccharomyces cerevisiae* and some of the ascosporogenous fission yeasts are amply illustrated by electron micrographs. Those produced by the freeze-etch procedure are notable for their three-dimensional

appearance. The functions of cell wall, plasma membrane, the endoplasmic reticulum and related organelles, vacuoles, mitochondria, and other components of the cytoplasm are discussed. The cytologically refractory nucleus is found to be similar to hyphal nuclei of other simple species of Ascomycetes such as *Aspergillus nidulans* and *Ceratomyces*.

Factors involving success of the acetate sporulation media commonly used in genetic studies of *Saccharomyces* and sporulation processes in haploid and diploid species are presented in detail. The various aspects of heterothallism and homothallism as viewed by geneticists are explained. Functions and mechanisms of sexual agglutination and conjugation are described, as are the procedures involved in hybridization of yeasts. The last half of the book is largely oriented to genetics and reaches its climax in a chapter covering life cycles, methodology, linkages, gene action, mutant characterization, suppression, and cytoplasmic inheritance. A discussion of types of life cycles and their evolutionary significance terminates the book.

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Ancient Maladies

Palaeopathology. Diseases and Injuries of Prehistoric Man. PAUL A. JANSSENS. Translated by Ida Dequeecker. Baker, London, and Humanities Press, New York, 1970. xiv + 170 pp. + plates. \$8.50.

It is safe to say that scarcely a single English-speaking student of ancient diseases, except Calvin Wells in England, has been aware of the author of this little book and his wide-ranging medicohistorical interests. Even the publisher is secretive on this score, revealing only that Janssens "is an industrial medical officer of the City of Antwerp and collaborator of the board of the Belgium National Service of Archaeological [sic] Excavations." However, his 20 listed publications (mainly in Dutch, French, and Spanish) indicate that he became interested initially (1957) in prehistoric representations of human hands and other anatomical details, perhaps as a result of having excavated in the caves around Santander, Spain, where there are some fine cave paintings. Subsequently he seems to have concentrated