Book Reviews

Evolution after Darwin. vol. 2, *The Evolution of Man: Mind, Culture, and Society*. Sol Tax, Ed. University of Chicago Press, Chicago, Ill., 1960. viii + 473 pp. Illus. $10.

This is a rewarding volume for various reasons, the principal one being that the typical contributor is writing on a general topic with which he has previously been identified, but here giving it the best exposition it has had. This would have pleased the great man himself at least as much as the complimentary paragraphs concerning him, with which most of the papers begin, and where, by the nature of their topics, their references to Darwin often end. In fact, many authors make their offering by doing what they do best, like the juggler of Notre Dame, instead of feeling bound to stretch connections with Darwin himself. Such are the papers by von Muralt on the phylogenetic increase of speed in the conduction of nervous impulses, by Howell and Washburn of stages of hominid evolution and the appearance and role of tool-using, by Emiliani on Pleistocene dating by the use of deep sea cores, or by Anderson on the evolution and distributions of domesticated plants. The last two are piquantly unorthodox. Emiliani, using a record of temperature fluctuations, gets a shorter Pleistocene by half than other workers using sedimentation, the astronomical theory, and so forth. Anderson speculates, on the basis of certain more obscure food plants, that Africa was the point of origin of seed domestication, and that influences from this point met, with others from a center of floral plant domestication in Southeast Asia, in the Fertile Crescent to produce the recognized cereal-using Neolithic. Other papers, by contrast with those above, are historical essays (generally on post-Darwin developments): Brosin on psychiatry in terms of evolutionary theory, Hilgard on general progress in psychology of all schools, or Magoun on the phylogeny of functions of the brain.

An important group of writers is concerned with the evolution of human culture. This is the most interesting general aspect of the volume: cultural evolution is no new subject, but the higher sophistication of present day archeology and the fuller knowledge of actual sequences in different areas has put discussion on a new plane. And this symposium, by its nature and title, brings together and juxtaposes a whole series of essays by writers already known for their contributions to the subject. Immediately manifest is a semantic and theoretical difficulty, in the word evolution itself. Evidently because of a feeling that the biologists are the proprietors of the word and that it means *biological* "descent with modification," the historians and anthropologists have always seemed a little shamefaced about using it, when they need not be. The same impulse must lie behind the search for parallels between biological and cultural evolution, a search which would hardly be missing from a book of papers dedicated to Darwin. The search is all right: the revelations of biological evolution are tremendously suggestive, and Darwin is rightly credited with impacts in every direction of thought: he "crystallized the problem of cumulative changes" (Gerard, page 191). It is just that there should be more of a search for the differences, and Kroeber points out that Julian Huxley has specified these differences. It is generally recognized, of course, that biological evolution is by selection of genes, whereas cultural evolution is "Lamarckian" (to get the right connotation with a small illegitimacy), but more might be done by way of definition. The various writers recognize the whole problem, in various degrees, Kroeber most of all, although Adams and others also try to find the chalk line and walk it. Kroeber contends that the study of culture and its history is at a stage that is not merely pre-Darwinian, but even pre-Linnaean, for, as yet, we have neither learned enough of its subject matter nor found the categories necessary to proceed to the kind of formulation that Darwin made. Kroeber might be comforted slightly by those other contributors who are dealing with the actual paleontology of culture—for example, Adams on the emergence of early civilizations generally, and Braidwood and Willey on the evolutionary implications of archeology in the Old and New Worlds, respectively. The happiest of these writers seem to be those least bothered by biological parallels or the traditional baggage of evolutionary ideas. Bordes, in a fine paper on paleolithic cultures, does not even pause to genuflect to Darwin but busies himself at once in a detailed demonstration that even in the Mousterian highly controlled excavation and analysis will reveal a history that may be interpreted not just as "evolution" but as the result of the interplay of culture processes familiar from studies of the ethnographic present. Here is something that reminds one of a paleontologist studying the evolution of the horse in genetic terms. Those contributors, on the other hand, whose papers are addressed more to the theory of the subject (Steward or Piggott) seem always faintly dismayed by the lack of any guiding star which is not biological. Steward hits bottom (on page 269) with "Perhaps the wholesale proclamation of allegiance to cultural evolution in 1959 is principally to do honor to Darwin."

It may be that we will get out of the wilderness when progressing knowledge of the evolution of the brain and behavior, covered in another important group of papers, has done still more to clarify for us the whole biological and psychological basis of culture itself. This is beautifully articulated by Hallowell in a long review. It is probably fair to say that Hallowell, a social anthropologist, has familiarized himself more fully with the work of biologists and physical anthropologists than these latter have really familiarized themselves with culture. He warns that simplistic views of "speech" and "culture" will not allow detection of the socio-psychological variables and the aspects of personality structure which must eventually be analyzed through a phylogenetic and comparative approach.

In a category of its own is Muller's

fascinating sermon on man as the master of his genes. When scientists wax utopian in the ordinary world of politics, we may think of the shoemaker and his last, but when a Nobel Prize winner does it in his own field it is time to listen, however much amazed. Not that Muller would not have first to conquer the political world as well as his own, if we are to expect, with him, "genetic upgrading" by rapidly developing means of insemination or inovulation, or the preservation of sperm or ova of highly selected donors, over generations, for use in manifolding Einsteins, Leonardos, or Lincolns as needed. This may sound like pure science fiction, but Muller is talking about possible things, in the technical sense, and building on a theme that has long occupied him: ways of relief from the population's load of detrimental mutations. Fellow geneticists have reservations, some of which he discusses, but he nevertheless poses a striking contrast between what we might do and what our mores have us do. He definitely does not wish to step out as a leader in a Brave New World, making decisions from the top, but rather to persuade individuals to see the good, where it is good, of raising someone else's seed in place of their own. Pride in biological parenthood and in the perpetuation of personal but inferior genetic endowment, he sees as only one of the sacred cows that would have to be slaughtered. There will be many, and perhaps we will never try his experiments. Perhaps, in spite of Lysenko and his ilk, the Russians will do it first.

W. W. HOWELLS

Harvard University

Evolution and Culture. Marshall D. Sahlins and Elman R. Service, Eds. University of Michigan Press, Ann Arbor, Mich., 1960. xii + 131 pp. $3.75.

If anthropology has a great debate, its subject is the evolution of culture. Still unresolved in many of its major aspects, the whole problem of cultural evolution has, in recent years, undergone something of a sea change: where for a long period the dominant voices were those of the opponents and critics of evolutionary approaches, the present is filled with new sounds of approbation. Yet, when a staunch and longtime supporter of theories of cultural evolution studies the work of some of the more recent contributors, he is often dismayed by its revisionist character, and we are treated to the spectacle of a scholar, who once bemoaned the lack of evolutionary thought among his colleagues, now regretting their adoption of such thought. At the heart of this apparent paradox is the uncertainty and murkiness with which many concepts crucial to the analysis of cultural evolution are beset. *Evolution and Culture* is a major contribution to the task of clearing away some of the deadwood that has accumulated about certain aspects of the manifold problem of cultural evolution.

The four chapters which comprise the heart of *Culture and Evolution* are closely linked but independent works, each by a different contributor. The papers have been slightly edited, but are otherwise unchanged from the versions first read at a symposium held during the 1959 meeting of the Central States Branch of the American Anthropological Association; at the symposium they were greeted with prolonged discussion and the enthusiasm that led to their appearance as a single volume. They are introduced by a foreword by Leslie A. White and by a brief chapter written jointly by Sahlins and Service.

Marshall Sahlins' paper is entitled "Evolution: general and specific." This essay supplies the theoretical *mise en scène* for the other chapters. As the title suggests, Sahlins is primarily concerned with two very different faces of evolution, which he identifies as "specific" and "general." The first of these is explicitly phylogenetic and "interested in how one species grows out of another and how the new species gives rise to still other species." General evolution need not be phylogenetic; at times there may be relative concurrence with phylogeny, but no necessary relation exists between speciation and advance, the fundamental concept on which general evolution rests.

Biologists will associate the distinctions advanced by Sahlins not only with Julian Huxley but with Novikoff and Needham and others who have worried about levels of biological integration. Cultural anthropologists should direct their thoughts beyond the strong voices that nourished cultural evolution during its dark days in this century, beyond the great anthropologists of the second half of the 19th century until they reach such pioneers as Comte, who, as John C. Greene has pointed out elsewhere, was struck by "the recurrence of an identical pattern of historical development in civilizations isolated from each other. The recurrence of this pattern seemed to prove beyond doubt that social evolution was not haphazard but issued inevitably from 'the fundamental laws of human organization' and was governed by 'a natural law of progress, independent of all combinations, and dominating them.' "

The importance of this issue is such that overstatement is difficult. For years anthropology has heard from noted scholars, who would replace Morgan and Tylor's "unilineal" evolution and White and Childe's "universal" evolution with something they call "multilinear" evolution. The argument was further complicated by the fact that careful reading of such a "unilinear" theorist as Spencer revealed no doctrinaire unilinealism but outspoken recognition of the local action of what, since Haeckel, we call ecology. It was further complicated by White's repeated insistence that he was not a "universal" evolutionist but simply an evolutionist, a follower of Tylor and Morgan, though one who had benefited by the decades of research that separated him from his theoretical ancestors. A further complication lies in the question of the relationship between history and evolution: Is evolution, as Kroeber asserts, simply history written large, or, as White assures us, are these two qualitatively different ways of analyzing the same data? Sahlins' viewpoint can be a source of clarification, though less in the area of the difference between history and evolution than in distinguishing the approach of, let us say, Leslie A. White from that of Julian H. Steward. Most importantly, Sahlins enables us to see clearly that Steward's "multilinear" approach is not a substitute for or an improvement on White's, but something very different. Furthermore, as briefly suggested above, the difference was recognized, at least implicitly, by the 19th-century theorists who *chose* to investigate general evolution.

The next chapter, "Adaptation and stability" (by Thomas G. Harding), investigates a central aspect of the process of specific evolution. Crucial to Harding's argument is the recognition of the distinction between the two kinds of evolutionary analysis: adaptation per se is a mechanism of specific, not of general, evolution. In Harding's words, "One of the major consequences of adaptation for culture as a whole has been the production of cultures in particular, the production of diversity"