

primarily descriptive, others provide insightful syntheses of diseases in their historical, spatial, and social dimensions.

The volume and coverage are organized into sections that present the major historical roots and branches of medical thought from ancient times to the 20th century. The first overview section, which introduces the interplay of human migration, epidemiology, and immunology, is followed by reviews of the evolution of concepts of disease in the East and West and how they have changed over time. Part III, "Medical Specialties and Disease Prevention," addresses traditional approaches but also includes coverage of efforts outside mainstream medicine, such as chiropractic. The shortest section, "Measuring Health," while essentially demographic, is methodological and focuses on measuring health by nutritional status, morbidity, and mortality. I agree with Kiple, the editor, that these essays raise significant methodological questions.

Regional histories of disease from prehistory to the present around the globe comprise two sections: "Outside Asia" and "Asia." Some essays are able to incorporate the historical literature of countries and regions, while others must rely on archeological and paleopathological evidence. Nonetheless, the coverage is relatively comprehensive, even though some contributors had richer databases than others and provide their own interpretations. The regional approach with an ecological change perspective is expanded to include the Caribbean and Australia/Oceania for more detailed discussions of environment/biology/culture interplay in part VII. These three sections illustrate the more comprehensive literature for disease history of the West. As Kiple insightfully points out, anthropologists have been more active in this area, Western medical observers have been more empirically oriented, and a greater variety of illnesses appears to have been present through history.

The final and longest section is essentially an encyclopedic discussion of the history and geography of the "most notable" diseases of humanity arranged in alphabetical order. Most entries include the definition, distribution and prevalence, epidemiology, etiology, clinical manifestations and pathology, and history and geography of the disease. While earlier sections are apt to be of more interest to professionals, this portion of the volume is likely to become the standard reference section for students. In my own paleopathology class last term, this section became the seed

for several papers, both graduate and undergraduate. In addition to the "facts" for the disease entity, the bibliographies proved to be extremely useful, with accessible literature in physical anthropology, history, and medicine.

The two indexes provide detailed access to the volume contents. One is a general-subject index with cross-references and historical synonyms for diseases. The other is a name index with a biographical sketch for historical figures in medicine mentioned by more than one author. It was only here that I noted one of the few errors: My surname.

While I was not able to read in detail every essay in the 1,200 full-size 8.5-by-11 pages of the volume, I did sample at least one from every section. As expected in an edited volume, the prose and style vary considerably, but for the most part the vocabulary, organization, and citations are appropriate and will make the information accessible to a wide audience with a range of expertise and background. In addition to the academic utility of this volume, it should also be extremely useful for public libraries and their patrons.

The production of this volume, surely a monumental task for the editor and the board members who refereed the entries, should hold up over time. The essays include syntheses of current understanding for a variety of topics, the coverage is comprehensive, the bibliographies are significant and accessible, and the physical qualities of the volume include high-quality paper, type, and binding. Even though the price for the entire volume may be daunting for an individual's private library, at approximately 13 cents per page, the value of scholarship on each page would be cheap at twice the price. Kiple and his collaborators have done Hirsch and Creighton proud and have made a significant contribution to the history of human disease.

The Evolution and Dispersal of Modern Humans in Asia. *Takeru Akazawa, Kenichi Aoki, and Tasuku Kimura*, eds. Tokyo: Hokusen-sha, 1992. 672 pp.

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In November of 1990, a conference focused on the evolution and dispersal of modern humans in Asia was held in Tokyo. Some 36 scholars from 13 countries presented formal papers and discussed a wide range of topics, from paleoanthropology and archeol-

ogy to the details of genes and morphology, in an attempt to focus on Asia and the question of when, why, and how its diverse populations evolved. The papers and summaries of four topical discussions are presented in this volume, whose editors are the conference coorganizers. Many of the papers are versions of work published in other places—this is an unavoidable consequence of the large number of conferences held annually on similar topics. However, in most cases the papers are updated versions of the author's thinking, and reflect the learning process that is inevitable for many who attend these conferences. A number of other papers put at the reader's disposal discussions difficult or impossible to find published in English, and there are some first-time publications.

It is difficult to envisage the breadth and variety across Asia as being part of a single coherent region, a point brought out by the mix of papers. A real attempt was made to treat the prehistory of the continent as a interrelated whole. Scholars representing eastern and western Asia came together in the same room, but fundamentally their foci did not. With only a few exceptions (Geoff Pope, Christy Turner, Nancy Ossenberg), biological anthropologists from the Levant, Europe, and North America remained intellectually linked to Europe and its problems—which is to say Neandertals. The East and Southeast Asia anthropologists mostly remained focused on the specific local problems of eastern and southern Asia, although nobody was there to discuss the Australian fossil record. Johan Kamminga, one of the Australian prehistorians invited, ranged afield to deal with a North Asian problem. The archeologists were almost all quite localized in their discussions, and the several geneticists used their usual very narrow data sources (such as HLA genes and alcohol sensitivity) for very broad, even continent-wide, explanations of human variation.

Besides this mix of specialties and regions, there was a real mix of intellectual traditions and cultures, and perhaps some mix-ups because of differences in language. This was underscored by an exchange reported in one of the summaries, by Geoff Pope and Christy Turner (p. 473): "Bar-Yosef [believes that] in comparison with the Middle East, we know virtually nothing ('zilch'), for example, of pre-agricultural China. . . . Pope disagreed, noting that . . . in fact quite a lot is known about Chinese prehistory." The East Asian scholars were evidently too polite to join in.

Invitations to the Tokyo conference seem to have been designed to avoid conflict over the competing models for modern human origins, multiregional evolution, and the 'Eve' theory. Yet the pervasiveness of this intellectual conflict is revealed by the fact that most of the papers addressed it in one way or another. Other disagreements among presentations on related topics and in the discussions were also revealed. The broad issues were well laid out by Geoff Pope in his introductory paper. He makes the often unrecognized point that the multiregional model is based on *both* anatomical evidence for regional continuity *and* genic exchanges. Pope emphasizes the increasing evidence for the latter he has uncovered in his research, while Wu Xinzhi (one of the founders of the multiregional model) details fossil evidence for regional continuity from the Middle through the Late Pleistocene in East and Southeast Asia. Multiregional evolution is proposed as the best explanation for the pattern of human evolution in South Asia by Arun Sonakia. However Günter Bräuer asserts that supporters of multiregional evolution are mistaken and can only "try to keep their concept alive by making others and probably also themselves believe their model can still be supported" (pp. 403–404).

On the archeological side Anthony Marks argues that the appearance of modern humans in the Levant, the earliest known from anywhere, is not marked by an invasion of lithic industries from Africa, not even from adjacent areas in North Africa. Ofer Bar-Yosef expanded on the implications of the newer TL and ESR dates for the Levantine sites, developing an ecological and geographic model for biological and behavioral variation in the region. Ecological considerations are also important in Eitan Tchernov's use of biogeographic data to understand the successive hominid dispersals and replacements in the Middle and earlier Late Pleistocene of the Levant. The reality of these hypothesized population movements, however, is often disputed by Marks. Moreover, Arthur Jelinek argues that the TL and ESR dates that form the basis of all of the other Levantine presentations, biological and archeological, are "inconsistent," and many are "highly improbable."

Archeological evidence, whether regional, local, or site specific, is typically dense and if anything underanalyzed. Among the paleoanthropologists there is a very wide range of quality for the evidence brought forward to support various viewpoints and interpreta-

tions. At one extreme, the nonmetric Holocene population studies by Yukio Dodo and colleagues, and Nancy Ossenber, were based on large databases that were summarized and well illustrated. These studies used a variety of innovative techniques to try and ascertain genealogical relationships among populations. Both dealt quite successfully with the potentially confusing consequences of genic exchanges among populations, and resulted in convincing ethnohistoric reconstructions for Japan and the American Northwest.

Christy Turner's work dealing with variation in limited aspects of the dentition uses a more restricted data source for reconstructing population relationships and history across Eurasia. His conclusions, that the dentition shows a single origin for modern humans and that the place of origin could have been in Southeast Asia, may reflect the consequences of this limitation, but they surely are provocative. At the other extreme, Günter Bräuer's assertions were backed up only by selective citations (and a few misrepresentations) and photographs of crania to be compared that are each oriented and faced differently, and never placed in the Frankfurt Horizontal (this is a widely used standardized orientation for crania developed by biological anthropologists and used since the last century so that comparative views can be truly comparable).

There are a few papers—for instance, those of Dodo and colleagues and of Ossenber—that use multivariate approaches to biological relationships in valid and interesting ways. Mostly, however, the multivariate-based papers repeat the same problems that have plagued the use of these statistics since high-speed computers became widely available a quarter-century ago. Some of these can be traced to William Howells's pioneering publications, which defined a series of measurements that have been very widely used in population analysis, even though their inadequacy was exposed in two aspects of Howells's ongoing work: (1) varying multivariate techniques sort his populations differently, and (2) the patterns of relationships for males and females invariably differ, often dramatically.

For reasons I find inexplicable, it remains true that few have concluded from this that there might be something wrong in the methods or the measurements that have come to be standard multivariate fare. It is rarely clear which methods are appropriate, a problem often circumvented by simply applying all the procedures available in a statistical package,

and the dependence of the results on everything from the programming package to the reference samples badly muddies the waters. For instance Johan Kamminga continues to publish his Howellsian discriminate analysis of the Zhoukoudian Upper Cave male in which it does not appear to be Mongoloid (although one of my standard osteology exercises is to ask students to use the widely applied Giles-Elliot discriminate function on the specimen—it invariably sorts as Mongoloid). A further problem is exemplified in the words of Michael Pietrusewsky and his colleagues: various multivariate statistics developed from 34 measurements on 2,275 crania are used in "assessing the historical-biological relationships of these populations" (Erik Trinkaus, in his summary of the first section's discussion, reports a wonderful argument about how many measurements are enough and whose battery is better). But within species and among near-adjacent populations, do metric similarities reflect relationships or similar adaptations? Is "relationship" as Pietrusewsky uses it a measure of descent from a recent common ancestor or of the history of genic exchanges? Charles Brace and David Tracer provide a multivariate analysis of Late Pleistocene to recent craniofacial variation across the northern Eurasian tier, but include numerous features that are not only adaptive but whose patterns of adaptation are the object of their discussions. This further confusion invalidates attempts to ascertain population histories *or* relationships.

Interpretation of the West Asian fossil record has dramatically changed in the past five years because of the redating of the Levantine sites. This has not been without controversy, as Jelinek's paper shows; but if the dates are correct, all of the evolutionary models in use since F. C. Howell's seminal analysis of the region need be adjusted to take account of the new data (astonishingly, the need to adjust theories to encompass new data is ridiculed by a few authors). It is ironic that the only evolutionary model not discussed is the original Ted McCown and Arthur Keith one, in which Skhul is seen as the ancestor of European Neanderthals. Yet, the dates reported in this volume place the Skhul remains earlier than the Levantine Neanderthals, with implications discussed in detail by Bernard Vandermeersch in his interpretation of cranial anatomy, Erik Trinkaus in analyzing the postcranial remains, and Anne-Marie Tillier in her ontogenetic considerations. The problem is that some interpretations make these populations contemporary

(although see Tchernov), yet, the behavioral evidence afforded by the archeological remains suggests only minimal differences between the so-called Neanderthals and moderns.

As Ofer Bar-Yosef puts it (p. 208), in his usual superb review of the region: "The Mousterian struggle for survival lasted over 100,000 years. The amount of typological and technological variability among the lithic industries and the nature of the sites is rather limited." The shared headache comes from the fact that the biological anthropologists writing in this volume (although not necessarily other human paleontologists) view the anatomical remains at these sites as reflecting two distinct populations. If their anatomical differences result from behavioral differences, as Trinkaus argues so effectively here (and elsewhere), where is the evidence of the behavioral differences that have caused them?

One solution could come from a reexamination for the basis for regarding the Neanderthals and moderns as anatomically distinct populations. The interpretation of two distinct populations was manifestly *not* the conclusion reached by Ted McCown and Arthur Keith, who were the last to study the entire Mount Carmel (e.g., Skhul and Tabun) sample together (after their monograph, one-third of the specimens were sent to the Rockefeller Museum in Jerusalem, the Natural History Museum in London, and the Peabody Museum at Harvard University). They regarded Skhul and Tabun as the remains of one variable sample stretched between (what they called) "Neanthropic" and "Paleoanthropic" extremes. More recently workers like Baruch Arensburg have shown that, even in the broader Levantine sample, the case for two distinct Levantine populations is not well founded, and it is clear that, like other controversies touched in this book, this problem could not be resolved.

A conference on evolution and dispersals grapples mainly with the origins issue, as the bulk of the data allow us to detail and understand the dispersals part with much higher resolution. So where did modern humans in general, and modern Asians in specific, originate? Suggestions in this book include Sub-Saharan Africa (Bräuer), definitely *not* Sub-Saharan Africa (Brace and Tracer), the Levant for Europeans, western Asians and possibly North Africans but not others (Vandermeersch), China (Bowdler), Southeast Asia (Turner), locally from preceding populations of *Homo erectus* (Kamminga, Sonakia, Wu), and everywhere in the sense of region-

ally but with significant influences from other areas (Pope).

Generally, from reports I have heard from the participants and from the tenor of most papers, the conference seems to have been an amicable and somewhat successful interchange. With few exceptions (most notably Bräuer, whose reliance on inflammatory and provocative, but unsubstantiated, commentary to substitute for a solid factual basis for disagreement is an embarrassment), the papers constitute what our Chinese colleagues translate into English as "an exchange of ideas." They make a good read and an excellent reference source for a wide range of issues that we can only hope will ultimately cease being strange bedfellows.

The Fossil Man of Monte Circeo: Fifty Years of Studies on the Neanderthals in Latium: Proceedings of the Symposium Held in Sabaudia (Latina, Italy), October 19–21, 1989. *Amilcare Bietti and Giorgio Manzi, eds. Quaternaria Nova, Vol. 1. Rome: Istituto Italiano di Paleontologia Umana, 1991. 682 pp.*

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This volume contains a series of papers dealing not only with the Neanderthal fossils from Monte Circeo but also with various aspects of paleolithic archeology, paleoecology, and chronology of the Middle Paleolithic in the Latium region of west-central Italy. These papers derive from a symposium held to mark the fiftieth anniversary of the discovery of the Guattari cave on Mt. Circeo, and a Neanderthal cranium and mandible in it, in February 1939. These remains have traditionally been referred to as "Circeo 1" and "Circeo 2," respectively; but it was formally proposed at the conference that fossil specimens be designated according to their specific cave of origin on Mt. Circeo. Thus the cranium should now be called Guattari 1 and the mandibles (a second was found in 1950) Guattari 2 and 3. These specimens have been important in the anatomical study of Neanderthals, but they are probably best known in connection with claims of the practice of ritual cannibalism among the Neanderthals.

This volume is also the first number of *Quaternaria Nova*, the new official organ of the Italian Institute of Human Paleontology. The journal will appear annually and is a reincarnation of *Quaternaria*, which was founded by Sergio Serge and published from 1954 until