The Palaeolithic Settlement of Asia

Robin Dennell
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THINKING OUTSIDE THE CRADLE

Rudyard Kipling once wrote that "there is too much Asia and she is too old" (1899: 167). Indeed the continent of Asia represents the largest and most diverse stage upon which human evolution occurred. Shockingly however, no one has ever published an integrated account of early Asian prehistory. Robin Dennell's new book is an excellent attempt at filling this void. *The Palaeolithic Settlement of Asia* is a monumental contribution towards a continent-wide understanding of early Asian prehistory. This work combines an authoritative review of Asian Plio-Pleistocene paleoenvironments with an up-to-date summary of the main fossil and archaeological evidence prior to the last interglacial (i.e., ca. 2.0–0.1 Ma).

The body of the book is prefaced by two chapters that establish a context for the early Asian record. Dennell reviews the history of paleoanthropological exploration in Asia and also provides a decent summary of the African evidence, highlighting some of the main issues in paleoanthropology prior to ~2.0 Ma. The rest of the book focuses on Asian prehistory and is divided into two parts broadly corresponding to the Early and Middle Pleistocene. These sections include chapters covering the Early and Middle Pleistocene fossil and archaeological records of Southwest Asia, Central Asia, South Asia, East Asia, and Southeast Asia. Both the Early and Middle Pleistocene sections of the book are preceded by a review of the latest Asian paleoclimatic literature. Each chapter includes a summary, a discussion, and the occasional detour where Dennell showcases some of his unique perspectives on Asian prehistory.

Asian paleoenvironments form the backbone of the book and an ecological approach is applied in outlining Asian prehistory. Consequently this book is the best resource available for information on Asian paleoenvironments relative to hominin evolution. The author provides a very thorough examination of our current knowledge on Asian climate and environments through time. Moreover Dennell brings this information together in a manner that details each regional climate archive as though it were a site unto itself. In doing so he includes numerous figures to compliment the text (many of which are reproduced from primary journal articles) and this information is explained clearly so that even the novice reader will understand.

In Chapter 3 Dennell presents an excellent synopsis of modern Asian climate, focusing on the mechanics and origins of the Indian and East Asian monsoon systems that constitute the "heartbeat" of Asian prehistory (p. 473). Chapters 4 and 5 highlight the fossil and archaeological evidence for the earliest Asians, and are structured somewhat irregularly. Chapter 4 reviews the best-known Early Pleistocene sites from Southwest Asia according to geomorphic setting (lakes and streams) and focuses on the main data points of Dmanisi and Ubeidiya. In contrast, Chapter 5 combines the evidence from a very large geographic spread (South and Southeast Asia and China).

The South Asian portion of Chapter 5 describes the fossiliferous Upper Siwalik deposits and Dennell's controversial discoveries from Riwat and the Pabbi Hills in Northern Pakistan. Dennell's work in Pakistan presents the interesting problem of anthropogenic (albeit casually flaked) lithic specimens from convoluted deposits that date to the Late Pliocene-Early Pleistocene. Admirably, Dennell admits that the available evidence has some limitations and that new investigations are required to clarify the situation. Also in this chapter, the author introduces his "resource rich, stone poor" argument, suggesting that the major river valleys of South Asia (and elsewhere) would have constrained early hominins because these environments yield little stone for tool making (see Dennell 2007). Although this is an eloquent argument that takes important seasonal and epidemiological variables into account, it is difficult to fully accept the assumption that early hominins were so strongly dependant on stone. We as Paleolithic archaeologists are the ones who are stone-dependant and because perishable material culture is almost universally more prevalent than durables (e.g., among wild chimpanzees, documented hunter-gatherers, and the best preserved prehistoric sites), one might find Dennell's argument troublesome. Chapter 5 ends with a section devoted to Southeast Asia that primarily considers the age and contextual issues relevant to key fossil bearing sites from Java (e.g., Trinil, Sangiran, and Mojokerto). Finally the current Early Pleistocene discoveries from the Nihewan Basin (China) are summarized in a useful and concise manner.

Chapter 6 is an extended version of the *Nature* article which Dennell and Roebroeks published in 2005. Dennell critiques the current Out of Africa 1 model for being built on three "flimsy" points of observation (i.e., Dmanisi, Nihewan, and Sangiran) and emphasizes the fact that Southwest Asia is so poorly known from the Late Pliocene and Early

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Pleistocene that it is not yet possible to reject claims that: 1) *Australopithecus* inhabited Asia; and, 2) *Homo erectus sensu lato* originated there. In fact, the paleoclimatic data suggest to Dennell that extensive grasslands which he calls "savannahstan" existed in Asia from the Late Pliocene to the Early Pleistocene. Although the paleoclimatic basis for "savannahstan" is spread somewhat thin and more detailed work on regional continental records is needed, the implication of this landscape is that it would have facilitated the movement of hominins and other fauna between Africa and Asia. It is ultimately suggested that the traditional African based dispersal scenario is most likely, however, Dennell rightly points out that much more work in Asia is needed to establish this.

Chapter 7 highlights some of the significant environmental changes that took place in Asia during the Middle Pleistocene. The climatic records of Asia are examined and the evidence for prolonged and more severe glacial periods is highlighted. The paleoclimatic data suggest that these longer colder glaciations in the northern hemisphere significantly weakened the Indian and East Asian monsoons. Consequently, Dennell suggests that the Early Pleistocene "savannahstan" gave way to a more fragmented and arid Asian landscape which he calls "aridistan." The implication of this environmental transformation is that Middle Pleistocene hominins and fauna faced formidable environmental barriers to dispersal and little exchange occurred during this time between Africa and Asia. The latter pages of this chapter discuss the faunal evidence for the environmental shift to "aridistan" and incorporates a useful review of large fauna from the Middle Pleistocene of Asia broken down by region (it also includes faunal lists from several major Asian Middle Pleistocene sites).

Chapters 8, 9, and 10 cover the Middle Pleistocene records of Southwest/Central Asia, South Asia, and China/Southeast Asia, respectively. Chapter 8 reviews the Early Paleolithic, the Jabrudian, and the early Levantine Mousterian of the Levant, in addition to the Middle Pleistocene evidence from adjacent regions (e.g., Turkey, Iran, Arabia) and Central Asia. Dennell does a good job illuminating the complexities of the vast amount of evidence from the Levant. This chapter also includes helpful tables and figures that summarize the many dates available for the Early Paleolithic of the Levant. The South Asian archaeological record is introduced in Chapter 9, where Dennell highlights the major lithic industries and historical issues of this region. Several Acheulean sites are described as case studies demonstrating both "vertical" and "horizontal" approaches to field archaeology in the Indian subcontinent. The Early Paleolithic of South Asia is juxtaposed with that of Europe on the grounds that the earliest Acheulean evidence from both regions appears after 800 ka and that, like southern Europe, parts of India (specifically basins with stable resource bases) may have served as glacial refugia. Though unlikely, this comparison is not contradicted by existing evidence. However, a few Acheulean sites in India (e.g., Isampur, Bori) have been dated tenuously to the Early Pleistocene (i.e. >800 ka). Chapter 10 reports on the Middle Pleistocene of China and Southeast Asia. The Chinese site of Zhoukoudian is detailed extensively. The biface sites from the Bose Basin in China and the Korean Peninsula (e.g., Chong-nokni) also are briefly considered as are other Middle Pleistocene sites from South China (e.g., Panxian Dadong, Jigonshan). The general paucity of Paleolithic materials from Southeast Asia is examined and the few instances where early lithic materials have been recovered (e.g., Mata Menge) are described in more detail. Dennell concludes with a discussion of the possible causes, endurance and implications of the Movius Line.

The penultimate chapter addresses the fossil evidence for hominin evolution in Asia during the Middle Pleistocene. Several valuable tables are included here that summarize data on the hominin remains recovered from Zhoukoudian and other Chinese Middle Pleistocene sites. The younger hominin remains from Java (Ngangdong, Sambungmachan, and Ngawi) also are included here under the assumption that the fossils are Middle Pleistocene rather than Late Pleistocene in age. The hominin remains from Hathnora (Middle Narmada Valley), India, are described, in addition to various other Middle Pleistocene hominins (e.g., Zuttiyeh, Azych). Some important omissions that may have emerged after this book went to press include the hominin cranium from Kobacaş, Turkey (Kappelman et al. 2008), and the undated Salkhit skullcap from Mongolia (Coppens et al. 2008). The remainder of this chapter addresses questions of taxonomy (i.e., "archaic" *Homo sapiens* vs. *Homo heidelbergensis*) and likely evolutionary dynamics during the Middle Pleistocene.

One of the inherent weaknesses of a book such as this is that it is necessarily general and one often desires more from different parts of the text. In Chapter 8 the miniscule sections on areas of Southwest Asia outside the Levant is troublesome. Clearly the author cannot be blamed for the inequitable distribution of known prehistoric finds. Nevertheless, the book is full of information that is not always structured in a natural way and with such a massive subject it seems as though the text could be structured better. Some seemingly erratic topics like the ontogeny of *Homo erectus* were included in chapters when they would have been better as short reference boxes. Finally, despite the fact that there are many useful illustrations distributed throughout the text, a number of figures were flawed, grainy, and or difficult to read.

On the whole however these concerns are easily overlooked as the book has many more positive aspects to it than negative ones. This book analyzes and interprets evidence from more than a dozen paleoenvironmental archives and more than seventy paleoanthropological sites from all over Asia. The local paleoenvironmental records are combined to form the first continental perspective of hominin paleoecology in Asia. Moreover, the book is written clearly and should be comprehensible to audiences with limited paleoanthropological knowledge. It could be suitable for an advanced undergraduate level course or simply as a desktop reference for any professional human origins researcher. The book includes numerous tables summarizing data

on hominin fossils, fauna, and chronometric dates. It also includes appendices that give the geographic coordinates of many of the paleoanthropological sites and paleoenvironmental archives (e.g., cores and sections) discussed in the text. Dennell provides many of the alternative Chinese spellings for site names throughout the book. In sum, both Asian and non-Asian oriented paleoanthropologists will likely find this to be a worthwhile book.

In a time where much of the debate on human origins has been firmly centered on Africa and Europe, *The Palaeolithic Settlement of Asia* is a significant publication that serves as a cautionary tale against relying solely on African models of human origins. Dennell's unconventional ideas about human prehistory provide this book with a valuable perspective on human origins. This outline of early Asian prehistory is an important first step towards continental perspectives on human evolution in Asia. It would certainly be worthwhile to update and refine this work as a new edition in the future. Ultimately, however, this book leaves one hoping that a similar book on the Late Pleistocene of Asia is published soon.

REFERENCES CITED

Coppens, Y., D. Tseveendorj, F. Demeter, T. Turbat and P. H. Giscard. 2008. Discovery of an archaic *Homo sapiens* skullcap in Northeast Mongolia. *Comptes rendus-Palevol* 7(1): 51–60.

Dennell, R. 2007. "Resource-rich, stone-poor": Early hominin land use in large river systems of northern India and Pakistan. In *The Evolution and History of Human Populations in South Asia: Inter-disciplinary Studies in Archaeology, Biological Anthropology, Linguistics and Genetics*. M.D. Petraglia and B. Allchin (eds.), pp. 41–68. Dordrecht: Springer.

Dennell, R. and W. Roebroeks. 2005. An Asian perspective on early human dispersal from Africa. *Nature* 438(7071): 1099–1104.

Kappelman, J., M. C. Alcicek, N. Kazanci, M. Schultz, M. Ozkul and S. Sen. 2008. First *Homo erectus* from Turkey and implications for migrations into temperate Eurasia. *American Journal of Physical Anthropology* 135(1): 110–116.

Kipling, R. 1899. *Life's Handicap. Being Stories of Mine Own People*. Doubleday and McClure Co: New York.