First Farmers: The Origins of Agricultural Societies by P. S. Bellwood, and: The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics ed. by L. Sagart, R. Blench, and A. Sanchez-Mazas, and: The Origins of Pottery and Agriculture ed. by Y. Yasuda (review)

Loukas Barton

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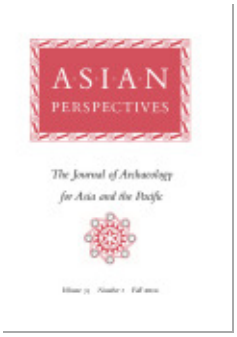

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Book Review Essay by Loukas Barton *University of Pittsburgh*

The Garden of Eden or Vavilov's El Dorado?
A review of recent thoughts on the origins of agriculture in mainland East Asia

Numerous texts, edited volumes, and monographs from around the world address the origins and consequences of agricultural life.

Three volumes have emerged that re-evaluate the context, timing, and manner of agricultural evolution in mainland East Asia. The volumes coalesce under a narrow topical and theoretical range, but together they bring the complexities of current research on agricultural origins in China to a much wider audience. To some degree, all are concerned with the details of when and where agriculture originated, but vary in approach to the treatment of these details. All are also somewhat concerned with process and explanation, but vary widely in their commitment to the theoretical underpinnings of these explanations and the degree to which archaeological, linguistic, genetic, and paleo-environmental data are marshaled to support them. Together, these three books enrich our understanding of agricultural origins in mainland East Asia and demonstrate that the study of agricultural origins in China is an international and multidisciplinary program with worldwide appeal. If the point of studying major behavioral transitions is to gather wisdom about the nature of human adaptations at the level of entire populations facing climatic, environmental, and social anomalies, then it is now clear that the transition to agriculture in China must be part of the debate. Furthermore, as the evolutionary path to independent food production in East Asia looks increasingly distinct from other parts of the world, the universality of our explanations, or at least the scale to which they are applied, must also be reconsidered.

These three books are concerned primarily with the origin of agriculture, and by extension also examine the origins of civilization and complex society, race and ethnicity, language, and nation. Within the confines of early and middle Holocene East Asia, they provide a solid foundation in the material correlates of origins, homelands, diffusion, and migration. The foundation for the Western version of genesis and diffusion lies in agricultural origin myths that reveal widespread commitment to singular, knowable origins (Harlan 1992:31–35). Some of the first scientific contrasts to this Garden of Eden narrative focused on the origins of cultivated plants (de Candolle 1886; Vavilov 1926). Nikolai Vavilov reasoned that plant cultivation and selective breeding began in areas where the greatest crop diversity could be found today. From this he concluded there were numerous independent centers of plant domestication around the world. Despite the strength of Vavilov's influence on the study of prehistory (Harris 1990), the earliest agriculture in East Asia and the Chinese Neolithic as a whole were often attributed to Western inspiration (Bishop 1933; Eberhard 1937; Ward 1954). K. C. Chang (1963:75–76; 1973:527–528; 1976:12) argued vehemently for the independence of the developments discovered in China. A similar campaign would seem anachronistic today, yet conflict over the number, location, age, and direction of influence between the various centers of origin dominate current research on the origin of agriculture in mainland East Asia. Here I focus on pieces from each of these volumes that pertain to this discussion.

The Origins of Pottery and Agriculture (Yasuda 2002) is a rare collection of full-color photographs and essays by a multinational group of authors assembled to proclaim that "the origins of pottery and agriculture in the East precede their origins in the West" (Yasuda, 10). The volume brings together current research, inter-regional comparisons, and synthetic evaluations of East Asian origins. While many of the results printed here appear elsewhere in English and Chinese, readers will appreciate the context and overview provided in essays by Yuan Jiarong for Yuchanyan Cave, Zhang Chi regarding phytolith analysis at Xianrendong and Diaotonghuan, and Zhang Wenxu on methods for distinguishing wild and domestic rice, as well as the thorough account of the archaeological evidence for rice in East Asia by Shuichi Toyama, and Guo and Li's description of the late Pleistocene and early Holocene sites of Nanzhuangtou and Hutouliang. Contributions by marquee players (e.g., Ofer Bar-Yosef and Fekri Hassan) in the literature of Old World agricultural origins provide supplementary background and theoretical inspiration for synthetic, holistic treatments of East Asian origins by Yan Wenming, David Joel Cohen, and Yoshinori Yasuda himself.

The volume is full of useful insights and observations on the early appearance of pot-

tery, forays into intensive plant-based subsistence, and the ecological backdrop for each, marshaled by the editor in defense of East Asian independence (Yasuda, 353–364). This point was already overdone by the time K. C. Chang attended to it in the 1960s and 1970s, so this thesis lacks novelty and urgency. The purpose of this agenda is not entirely clear, but lack of clarity does not stop it from metastasizing into statements such as: "East Asian people developed a natural sense of tolerance and coexistence with nature and their society remained egalitarian" (Yasuda, 356). Such comments amount to little more than wistful, uncritical nostalgia for the savage nobility of an idealized past. In the end these tangents dilute the strength of Yasuda's cumulative assertion that the context and motivations of agricultural origins in East Asia differ markedly from those in other parts of the world. The timing and nature of rice consumption, cultivation, and domestication in the Yangzi Basin, for example, are critical to understanding these differences, an issue to which this volume attends admirably.

Archaeology provides the most compelling evidence for the independent origins of East Asian agriculture. The dates are too early, the domesticates too different, the distance too far, and the barriers too great for agriculture in East Asia to have descended from the Near East. Each has its own center of gravity and the two are distinct. Within the vast area of eastern Asia, however, Vavilov's quest for the fabled El Dorado of plant domestication continues. The debate seems to cycle between claims of a single Neolithic "nuclear area" for everything from rice to pottery (Chang 1963), to multiple independent centers, perhaps one for rice in the Yangzi drainage and one or two kinds of millet in the Huang He drainage (Lu 1999). More recently, additional independent origins have been proposed for marginal regions of arid northern China (Bettinger et al. 1994, 2007; Madsen and Elston 2007; Madsen et al. 1996; Shelach 2000; Zhao 2005). Some scholars decry the concept of agricultural centers, homelands, and hearths altogether (Harris 1996), preferring instead to view a "mosaic of contemporary developments over a wide area" (Harlan 1992:198). The polemic echoes a long-standing theoretical debate over origins within the field of anthropology that pits "stimulus diffusion" against "independent invention" (Jones and Brown 2000) or "phylogenesis" against "ethnogenesis" (Borgerhoff-Mulder et al. 2006*b*). While the pursuit of precise epicenters is certainly futile, a "mosaic" of development has its own gravity, one that surely can be identified archaeologically.

In *First Farmers: The Origins of Agricultural Societies*, Peter Bellwood (2005*b*) marshals archaeological, genetic, and linguistic evidence from around the world in support of the farming and language dispersal hypothesis. Originally applied to explain the diffusion of agriculture and the spread of language in a few distinct areas (Bellwood 1996; Matson 1991; Renfrew 1987, 1996), the farming/language dispersal hypothesis is now made to account for both the global ubiquity of agriculture and the modern distribution of language families around the world (Bellwood 2001; Bellwood and Renfrew 2002; Diamond and Bellwood 2003). The hypothesis is simple: while the practice, knowledge, and culture of agriculture were surely exchanged between neighbors, farming moved farthest with the farmers themselves, and with them moved their languages and lineages. In his own words: "Farming spread with farmers, and on some occasions spread to those foragers who were in direct interaction with farmers, on a much greater scale than it spread through unilateral adoption by foragers with no farmer presence in the vicinity" (Bellwood 2005*b*:88).

The farming/language dispersal hypothesis is informed by a number of disciplines, but this book focuses on archaeological evidence from around the world. Bellwood's presentation of it is masterful. Though regional specialists will certainly take issue with his handling of details, especially contentious ones, this stands as perhaps the most complete, current, and compelling look at the origins and diffusion of agriculture to date.

With regard to East Asia, Bellwood expands on arguments made by Cohen (1998, 2002) by melding elements of Chang's (1963) argument for Neolithic China as a nuclear area with Harlan's (1992) mosaic of contemporary developments. He suggests that the early appearance of rice in the middle Yangzi

Basin and at Jiahu in the Huai Basin together represent the earliest forays into plant-based food production. Soon thereafter, millets were added to an essentially rice-based system along the northern limits of the region naturally suited to rice cultivation. This scenario is reiterated in Bellwood's (2005*a*) chapter in the volume edited by Sagart, Blench, and Sanchez-Mazas discussed below, but with a concession that broomcorn millet (*Panicum miliaceum*) may have been introduced from afar.

Here it would be useful to point out that broomcorn may have been domesticated several different times in different places throughout Eurasia (Hunt et al. 2008; Jones 2004). If domesticated multiple times across Eurasia, then I see no reason why it couldn't have been domesticated multiple times in East Asia as well. Of the major domesticates, broomcorn is unusual in that it has no known wild progenitor. Though broomcorn populations, including those identified as "feral" can be subdivided genetically (Colosi and Schaal 1997), and additional work is under way (e.g. Hu et al. 2009; Hunt et al. 2011), we know very little about the genetic basis for the phenotypic differences between feral and domestic, nor can we say much about the historic relationships among the varieties or traits we observe.

Phenotypic differences between broomcorn cultivars and between the feral varieties are subtle (Cavers and Bough 1985). Perhaps we should consider that the portions of the genome controlling traits like seed size, tillering, and ripening are relatively complex and inalienable, and therefore impervious to primitive harvest selection as well as modern intensive breeding. Other traits (e.g., seed dormancy) seem to define feral populations (Colosi et al. 1986), may be under simple genetic control, and may be easily modified by either artificial or natural selection. Still, we know next to nothing about the genetic basis for traits like tillering, seed size, or maturation in *Panicum miliaceum*, and many of these traits can be altered by environmental management (Agdag et al. 2001; Carpenter and Hopen 1985; Nelson 1990). If so, we should consider broomcorn "domestication" a result of selective interference rather than directed breeding.

Both domestic and feral varieties produce relatively large fruit in water-stressed environments in short amounts of time. If variation across the wild-weed-crop continuum was low, and if most variation can be induced through environmental management, it's possible the wild-type *Panicum* was naturally amenable to human acquisition and manipulation. We should consider the possibility that the unmodified wild-type looked much like the eventual cultivar and that the subtle benefits of the domestication syndrome in broomcorn millet emerged for any bunch of humans willing to invest the time and energy in its harvest and processing. Neolithic increases in harvest productivity arose from manipulating the growing season for maximal day-length and water availability, by forcing plants to grow in closer proximity, and by protecting the plants from predation and competition with other taxa. If the wild-type was an easy target for foragers wherever they encountered it, and if broomcorn "domestication" required little more than occasional management, then low-level agricultural economies could emerge numerous times, in numerous places. In such cases, the initial forays into agricultural food production began without complex genetic change, idiosyncratic selective mechanisms, or the sustained management required to prevent backcrossing that would erode the attributes of domestication. Interestingly, Bellwood (2005*b*:27) seems to disavow the legitimacy of low-level or (in his words) "transitional" economies. However, his opposition has little to do with the initial forays into agricultural production. Instead, he suggests agriculture moves with agriculturalists, not by the gradual adoption of farming behavior by hunter-gatherers. This wholesale expansion leaves little room for the occurrence of transitional, low-level economies.

For the "mosaic" pattern of agricultural genesis to apply in China, a few archaeological hot spots hundreds of kilometers apart must represent rare examples of a widespread regional phenomenon that evolves rapidly out of an extremely diffuse foraging precursor. The mosaic landscape in Bellwood's model centers on the middle Yangzi and Huai basins with fringe elements incorporating the lower

Huang He. If this monolinguistic heartland was unified by rice agriculture at Pengtoushan along the Yangzi River, and rice and millet agriculture at Jiahu along the Huai River, did this heartland also include foxtail millet agriculture at Peiligang and Cishan along the lower Huang He? Are the roughly contemporaneous uses of rice and broomcorn millet at Yuezhuang and broomcorn at Dadiwan and Xinglonggou also part of these core developments? Or are they merely peripheral? Though there may be some merit in looking at a rice-based hearth between the Yangzi and Huai Rivers, and there may be some connection between this and the subsequent incorporation of foxtail millet (*Setaria italica*) with the northward spread of rice farmers, this scenario does little to explain the alternative routes to *Panicum*-based food production seen throughout the arid north.

Ultimately, the entire chain of events, and therefore the archaeological support for Bellwood's farming/language dispersal hypothesis in mainland East Asia depends on the chronology of agricultural origins. For example, if we accept that rice was neither domesticated nor intensively pursued in the Yangzi/Huai region until sometime after 8000 B.P. (Fuller 2007; Fuller et al. 2007, 2008*a*, 2008*b*), there is no a priori reason to consider it ancestral to the millet-based agriculture of northern China, regardless of how it might have spread. For these developments to be simultaneous and equivalent, they require a network of foragers possibly connected by common language and similar adaptive constraints living between 28° and 43° latitude and 105° and 124° longitude. Although it covers more area, more environments, several cultural histories, and numerous local adaptations, this is exactly the leap Bellwood asks us to make when proposing a Yangzi/Huai heartland if only on a much larger scale.

Regardless of the scale, to evaluate these arguments we need to know more about the nature of early Holocene hunter-gatherer land-use and narrow the long break in the archaeological record immediately prior to the appearance of agriculture (An 1988; Bettinger et al. 2007; Cohen 1998, 2002) by expanding the nature of our search. For the time being, the early forays into millet-based subsistence at Dadiwan, Xinglonggou, and perhaps Yuezhuang look unconnected to those centered on rice in the Yangzi/Huai heartland. Again, the chronology of development is critical, and for every challenge to the early domestication of rice, there are others pushing for its primacy (e.g., Liu et al. 2007). Resolution of this debate requires multiple, well-dated, stratigraphically secure archaeobotanical samples with enough statistical power to evaluate the morphological evidence for plant domestication. Currently such data are out of reach, and Bellwood's hypothesis hangs in the balance.

As with most other narratives about origins, Bellwood's hypothesis is built on a commitment to homelands. But unlike the mythical Garden of Eden or the elusive, acultural Vavilovian center, Bellwood's homelands have historical analogs in human populations with shared social norms, modes of production, and common language. The operational trouble with this is in defining the limits of the agricultural heartland—an issue highlighted by the discussion above. One alternative is to explain a series of different pathways to agriculture, each with different environments, domesticates, and connections to the foraging past. On evolutionary and ecological grounds, I prefer the latter. The balance of genetic evidence for both plants and animals points to domestic populations derived from numerous disparate clades (Jones and Brown 2000). Though this does not confirm multiple independent origins, it certainly suggests more complex processes than those assumed under the Garden of Eden model proposed for the Yangzi/Huai epicenter. Yet Bellwood is not unique in his search for the autonomous, circumscribed origins of things, as his work is informed largely by a tradition in historical linguistics concerned with describing origin and dispersal.

Chapters in the edited volume *The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics* (Sagart et al. 2005) provide or evaluate models of origin and dispersal consonant with the model built by Bellwood. While the volume features several chapters on archaeology (one each by Peter Bellwood, Tracey Lu, and Tsang Cheng-Hwa), one on

human cranial morphology (by Michael Pietrusewsky), and five devoted to human genetic variation (chapters 13–17), the bulk (eight total chapters) focus on linguistics. Here, the history of East Asian populations (i.e., the "peopling") is established by constructing and evaluating phylogenetic relationships between contemporary languages.

While maps about shared ancestry are clearly interesting, phylogeny says nothing about absolute time or space. To establish these dimensions, the phylogeny requires additional information, like the topical vocabulary of agriculture (Blench 2005 in this volume) and an archaeological chronology to anchor it. Alternatively, linguistic homelands are established using logic similar to the logic that defines the Vavilovian center of domestication: things began in areas with the greatest taxonomic diversity today (Dyen 1956; Sapir 1916). This argument has been refuted repeatedly refuted in the study of agricultural origins (Harris 1990) as well as language evolution (Nettle 1999). Despite the promise of a combined approach, historical linguistics exacerbates the central troubles of Bellwood's hypotheses about origins in mainland East Asia: not only do the areal limits of the homeland seem arbitrary, so does the antiquity of common ancestry required to identify such an origin. Here, archaeology can help. But we run into trouble when archaeology looks to linguistics to support hypothetical centers of origin and dispersal and linguistics looks to archaeology to place the phylogeny of origin and dispersal in time and space. If A requires B, and B requires A, neither makes the other true.

The problem, again, is in the identification of homelands. A linguistic phylogeny may well identify common ancestry and we may well assume that this point of origin had a spatial and temporal home, but behavioral adaptations (e.g., plant-savvy subsistence) don't require this kind of monophyletic ancestry, particularly in systems dominated by horizontal transmission. Despite the urgings of an entire program in evolutionary archaeology (O'Brien et al. 2003), few aspects of cultural evolution demand tree-like ancestry (Borgerhoff-Mulder et al. 2006*a*, 2006*b*; Eerkens et al. 2005). Not only do phylogenetic trees obscure histories of descent, they tell us little about process.

Bellwood's (2005*a*) contribution to this volume reminds us that the farming/language dispersal hypothesis is less about origins than it is about dispersals. Nevertheless, the dispersal requires a homeland, which for him stretches roughly from the middle Yangzi to the Huai He basin. Here, the origin of rice cultivation and domestication, and tentatively the domestication of foxtail millet, pigs, and chickens somehow *promoted* the expansion of peoples northward to the Huang He drainage and beyond and southward to coastal regions and eventually Southeast Asia and Taiwan. Although the chapters on linguistics in this volume add little to the *origin* of agriculture in East Asia (they still rely on archaeology for this anchor), they may tell us something about the diffusion of it.

The introductory chapter by Laurent Sagart, Robert Blench, and Alicia Sanchez-Mazas covers the history of the phylogenetic organization of East Asian languages without getting sidetracked by controversy. Even though "the phylogenetic links between the main language phyla of this region . . . are still deeply controversial" (Sanchez-Mazas et al. 2005:273), several chapters in this volume add much to the quest for homelands in mainland East Asia. George van Driem (2005) strengthens and reasserts his argument placing the origins of the Tibeto-Burman language family in northeastern India and southwestern China near present-day Sichuan. He suggests that early agriculture appeared at Cishan, Peiligang, and Dadiwan following an expansion out of Mesolithic Sichuan by a population of "innovators" carrying both an agricultural disposition (or at least polished stone tools and cord-marked pottery) and an early form of Sinitic language (the Sino-Bodic branch of the Tibeto-Burman family) sometime before 8000 years ago. I see little reason to doubt this interesting hypothesis because there is little archaeological reason to refute it, primarily because so little work has been done in the homeland he nominates. Admirably, van Driem is not afraid to admit this. However, he provides very little support for the placement of this homeland and does not propose an explanation for its dispersal. While he calls

this a "linguistically inspired archaeological interpretation of the geographical dispersal of (Tibeto-Burman) groups" (2005:89), there are few relevant archaeological data on origins or dispersal to be interpreted. Without data, it remains an attractive hypothesis begging additional detail.

In Chapter 9, Laurent Sagart places the ancestral homeland of both Sino-Tibetans and Proto-Austronesians (that is, proto Sino-Tibetan-Austronesian or "PSTAN") in the middle Huang He valley with the early agriculturalists of Cishan-Peiligang. This, he says, expands south to the coast (toward Hemudu), Taiwan, and of course, the Yangzi basin. His placement of the PSTAN homeland in the Huang He valley is geographically convenient but admittedly speculative. However, by examining shared vocabulary and morphology and sound correspondences, the author identifies common ancestry in Sino-Tibetan and Austronesian languages and locates this ancestry in a population sharing familiarity with agricultural things, specifically millet. The current and historical distribution of languages with common PSTAN roots suggests a dispersal of agricultural practices and products at some point in the past. But again, from the linguistic evidence we cannot determine whether this dispersal reflects the initial diffusion of agricultural innovations (to account for Jiahu, Dadiwan, and Hemudu for example), a late Neolithic expansion of intensive agriculture during the Yangshao period, or something much more recent (although the author suggests it took place prior to the widespread existence of metallurgy).

Two parallel contributions to this volume evaluate the feasibility of the farming/language dispersal hypothesis by looking at correspondence between linguistic and molecular variation. Estella Poloni, Alicia Sanchez-Mazas, Guillaume Jacques, and Laurent Sagart (2005) do this by analyzing variation in two classical markers (RH and GM polymorphisms) in chapter 15. In chapter 16, Sanchez-Mazas, Poloni, Jacques, and Sagart (2005) look at polymorphism on the HLA-DRB1 cell surface protein-encoding gene. Samples for both studies come from individuals throughout East Asia with known linguistic affiliations. For each study, linguistic affiliation and geographic proximity explain the variation observed in the biological markers, and the authors suggest this reflects a common history of linguistic and genetic diversification. Poloni and her colleagues suggest their correspondence analysis may identify two distinct sources of genetic and linguistic diversity in East Asia ("Austric" and "Sino-Tibetan"). However, support for this conclusion is only marginally stronger than the support for either single or numerous origins. This means that while population history may account for the linguistic diversity we see in East Asia, no single, parsimonious "origin" model is most capable of explaining the correlation between genetic and linguistic diversity.

Lastly, Peter Underhill's (2005) analysis of East Asian Y chromosome variation in chapter 17 indicates that the idealized models of origin and dispersal we've been toying with here are far too simple to account for the varied and complex history of human dispersal in East Asia. Nevertheless, *The Peopling of East Asia* is at once an excellent illustration of the controversy over the historical relationships between the language groupings of the region and a fantastic effort to shore up this confusion by encouraging communication between historical linguistics, human biology, and archaeology. Underhill notes that "recovery of the history of populations from a comparison of archaeology, genetics and language cannot be matter of proof but rather the balance of evidence for a hypothesis through correlation" (2005:297). We need more hypotheses, and we need more data.

The relative importance of ecology and environmental change is central to the study of agricultural origins and dispersal and each volume addresses this theme to some degree. Most chapters in *The Origin of Pottery and Agriculture* establish an explicit causal linkage between environmental context and the genesis of farming. Several chapters are devoted specifically to environmental reconstruction while others are bent on matching these records to archaeological history. Yasuda (2002:16) even goes so far as to suggest that the environmental differences between the Far East and the Near East demand different explanations for the evolution of food pro-

duction. Yet in both cases he identifies environmental change as the primary motivation for the earliest forays into agriculture. This connection is drawn from the rough correlation between archaeological and environmental records, citing some form of resource stress as the motivation for agricultural innovation.

Bellwood (2005*b*:19–25) also views resource "stress" as a critical feature of the initial experiments with food production. For him, environmental change provides the ecological theater for the evolutionary play of origins and dispersal. He suggests that early Holocene foragers lived well; occasional shortfalls in the general climate of abundance, however, required innovative measures to maintain the customary pattern of hunter-gatherer life. In this view, food production buffers the risk of losing the luxuries appointed by the "original affluence" of early Holocene environmental productivity. The hypothesis further implies that while not all affluent foragers became farmers, all original farmers came from relatively affluent (though not necessarily "complex" or even "sedentary") beginnings. This kind of explanation goes beyond simple correlation by providing a testable hypothesis connecting context with consequence. These assertions require further exploration and should be considered specifically when addressing the transition to food production in arid, high elevation and higher latitude areas of East Asia.

Another illustration of the potential connections between environment and cultural evolution appears in Underhill's (2005:298) explanation for Y chromosome diversity in East Asia. Basically, segregation of human populations by geographic barriers can generate isolated "homelands" for subsequent biological and cultural diversification and dispersal. This makes sense where obstacles are created (or ameliorated) by glaciers, sea-level change, or volcanic devastation. It makes sense on a temporal and spatial scale incorporating everything from Australia to North America for the past 25,000 years, but what were the barriers to early and middle Holocene migration and mixing in mainland East Asia? How might any of the homelands proposed in these volumes be isolated for long enough to develop independent biological and linguistic identities? How much interaction between them is required to facilitate the spread of cultural traits like three-footed *bo* vessels, cord-marked surface treatments, or wedge-shaped micro-cores? Is there any reason to believe that the diffusion of traits like these corresponds to the diffusion of far more complex, coordinated, group-level phenomena like language or the social conventions of agriculture? On what level must we accept that culture moves by migration rather than by imitation or word of mouth? I suspect the answer lies in the history of post-glacial population movement, aggregation, and sociality (Barton et al. 2007). Unfortunately, we know very little about the interval between the Last Glacial Maximum and the Younger Dryas, and we know even less about the early Holocene. Resolution of these issues will require fieldwork, modeling, and creativity directed at understanding the history of human populations prior to the appearance of anything Neolithic. Ofer Bar-Yosef's (2002) description of post-glacial hunter-gatherers in the Near East illustrates just how far we are from achieving such goals in the Far East.

Mesmerizing global synthesis of the sort produced by Peter Bellwood (2005*b*), Jared Diamond (2003), and Diamond and Bellwood together (2003) are at once compelling and infuriating. They provide headlines that avoid the microscopic vision of specialists, but lack acknowledged controversy and detail. Synthesis requires selective reading and specialists are quick to point out the flaws in the farming-language dispersal hypothesis. For many, the correlated movements of people, language, and agriculture simply did not happen, or at least, they didn't happen in the order and direction necessary to validate the hypothesis. In addition to strong evidence against specific regional aspects of the tale (Malhi et al. 2003), the debate is captured well in a series of bilious reviews in print (Bellwood 2007; Gamble 2007; Le Blanc 2007; Pluciennik 2007; Richards 2007; Terrell 2007), more tempered comments online (Anderson 2003; Fuller 2003; Golla et al. 2003) and in a mixed bag of conference proceedings dedicated to the topic (Bellwood and Renfrew 2002).

The problem is not with Bellwood's hypothesis for the diffusion of language and agriculture. This aspect of the model is compelling and may well account for the spatial distribution of languages we see around the world today. The problem is in explaining the archaeological data with a strict Garden of Eden model for the origins of agriculture in East Asia. The debate over sources of origin is an old one, both globally and within China. However, Bellwood notes (2005*b*:120) that "this does not mean that the Chinese Neolithic evolved from one small ancestral society, but it does mean that it evolved within a region characterized by a high degree of communication and interaction, perhaps focused on a chain of quite closely related ethnolinguistic populations" that dispersed concomitant with the diffusion of agriculture. The burden of proof will be on the strength of the archaeological chronology.

The study of agricultural origins in mainland East Asia is still desperate for details. These volumes provide us with a few new data and some fresh ideas. Additional volumes emerge with ever more (Jia 2007; Madsen et al. 2007; Sanchez-Mazas et al. 2008). As the new generation engages data collection, physical analysis, and (slowly) quantitative evaluation at the expense of fanciful speculation, we lose a critical element of the scientific process: creative hypothesis. Explanation should not be forgotten in the pursuit of the "earliest" or "greatest" attributes of human history with state-of-the-art science. There is room for both superlative discovery and processual understanding. Without published data, ideas cannot be evaluated scientifically; without ideas, the data are meaningless. The causes of agricultural origins in East Asia may well differ from those of other parts of the world and so might the engine of language diffusion and acculturation, but without creative, global engagement and open reporting, we'll never know.

Postscript: While considerable field research, data analysis and synthesis regarding the origins of agriculture in mainland East Asia have been conducted since this review was completed in 2007, the author's critiques of the texts still stand, and the conclusions regarding the state of this research are still relevant today.

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China Before China: Johan Gunnar Andersson, Ding Wenjiang, and the Discovery of China's Prehistory/Zhongguo zhi qian de Zhongguo: Antesheng, Ding Wenjiang he Zhongguo shiqianshi de faxian. Magnus Fiskesjo and Chen Xingcan. Stockholm, The Museum of Far Eastern Antiquities (Ostasiatiska Museet), 2004. MFEA Monograph 15. 159 pp. Bilingual in English and Chinese. ISBN 91-970616-3-8.

Kina före Kina. Eva Myrdal. Stockholm, The Museum of Far Eastern Antiquities (Ostasiatiska Museet), 2004. MFEA Exhibition catalogue No. 57. 181 pp. ISBN 91-970616-1-1.

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These two books relate to the Kina före Kina (China before China) exhibit at the Museum of Far Eastern Antiquities (hereafter MFEA) in Stockholm, Sweden, which opened in September 2004. The Neolithic objects on display were collected by Johan Gunnar Andersson and his team in Central and Western China in the 1920s. Andersson's discoveries depended not only on his personal interests, but also on the interest of others and on the political and economic realities in Europe and Asia at the time.

The first book discussed here is the exhibit companion volume, which tells the history of these discoveries with a special emphasis on the context of the events described. The book is a joint project by Magnus Fiskesjö, a former director of the Museum of Far Eastern Antiquities, and Chen Xingcan, a prominent Chinese archaeologist. The authors did not mean this to be the ultimate study on Andersson and MFEA, but rather to provide a starting point for a more extensive investigation into the early years of archaeology in China as it relates to Andersson and the Museum.

The second chapter provides a chronological description of Johan Gunnar Andersson's career, his discovery of Chinese Neolithic finds, and the birth of MFEA's collections. It develops Andersson's story in tandem with that of Ding Wenjiang, Andersson's employer, collaborator, and friend. This joint treatment highlights the crucial role Ding Wenjiang played in Andersson's discoveries, a role that is often left unmentioned. The chapter is packed with information and it is by far the most interesting part of the book. Nearly every sentence hints at additional avenues of research, although they are here left unexplored. Among the most important revelations this chapter provides is that Andersson's Neolithic discoveries were the result of purposeful inquiry into China's past fueled by nationalistic sentiments back in Sweden. According to the authors, the endorsement of another Swedish archaeologist, Oscar Montelius, partly accounts for the support Andersson received from the Swedish government and from the Crown Prince Gustaf Adolf. Interesting also is the description of the agreement between the Swedish and Chinese collaborators over the division of the collections and publication of the findings. This chapter also reveals connections between Andersson and the geographer Sven Hedin, and touches upon the history of MFEA's bronze collections. The chapter ends with Andersson's last trip to China when the location of the returned half of the collection was last documented, and with MFEA's history since Andersson's death.

In the third chapter, Chen examines Andersson's changing fame within China since the start of his archaeological work until the present day. Chen notes that these changes are a reflection of the history of modern Chinese archaeology as the attitudes toward Andersson have changed according to the political climate of any given period. This same political climate determined how and why archaeology was supposed to be practiced. Chen divides his treatment of the subject into three periods: the first covering the years between 1921 and 1949, the second 1950–1985, and the third covering the post-