Near East

May the Revolution Prosper

By Peter Bellwood

The Neolithic Revolution in the Near East: *Transforming the Human Landscape* (2007). Alan H. Simmons. University of Arizona Press, Tucson, Arizona. Pp. xvii +338, index, illustrations. Hardback ISBN-13: 978-0-8165-2442-6; ISBN-10: 0-8165-2442-4.

This is a welcome new book on a significant stage in the history of human affairs. Simmons offers a synthesis of the Near Eastern Neolithic using a style of writing that is commendably clear, avoiding sociocultural jargon. The coverage is mainly on the Levant and to a lesser degree Anatolia, rather than Iran and regions to the east. The text unfolds without being dogmatic or self-opinionated, often presenting more than one point of view on controversies: "Nor do I pursue a specific theoretical orientation, although my overall perspective is anthropological and processual" (p. 6). This is a work about evolutionary change, in the sense of a general progression from more simple to more complex over time, albeit with occasional moves in the reverse direction that involved important episodes of putative human impact on regional environments.

In its broad coverage this book is a worthy successor to earlier surveys by Mellaart (1975), Redman (1978), and Cauvin (2000). Simmons clearly sees the Neolithic as enshrining significant changes in human affairs: "Around 10,000 years ago, a dramatic transformation occurred in parts of the Near East that forever affected the human experience…While it is undeniable that the Neolithic was an economic and technological milestone, it also was a dramatic social and symbolic transformation" (pp. 3-4). This is in remarkable contrast to Gamble's recent opinion (2007) that origins, revolutions, and the Neolithic all represent conceptual blots on the concept of a universal continuity from a transcendent Palaeolithic. Barker (2006), however, would perhaps approve, with his similar title, "*The Agricultural Revolution in Prehistory*".

Simmons' first task is to review past theories on why people "…took a momentous first step in exercising more control over their food, eventually culminating in the domestication of both plants and animals" (p. 10). All the usual players are brought forward, from de Candolle and Childe onwards, via Binford, Flannery, and many more, and Simmons slips in his own view that "...it was sedentism during the early Natufian that created the need for agriculture" (p. 14). I have to agree with this—after all, Simmons quotes me as one source for this view, although I fully acknowledge many predecessors. Population growth, food storage, stress, and social (feasting/brewing) models are also clearly attractive to Simmons, whereas the current crop of postprocessualist models are considered "somewhat fuzzy" (p. 19), a viewpoint with which I must also agree.

A number of specific Near Eastern models are also discussed, including one that sees instability caused by adverse Younger Dryas climatic conditions as playing a role in the development of pre-domesticatory cultivation during the succeeding Pre-Pottery Neolithic A (henceforth PPNA, followed by PPNB and PPNC). Simmons does not favor any single explanation for agriculture, partly because of the significance of the current "recovery revolution", the profound flow of new data from palaeobotanical and genetic research, and direct AMS dating. New data can be somewhat devastating for any finely buffed agenda. And to it can be added the flow of data from modern deep foundation and freeway construction projects (Bellwood 2005: 134, 171); the key PPNB site of Ain Ghazal in Jordan was actually discovered during road construction (Simmons p. 194). Something new and hitherto not quite thought of turns up almost every week, so final closure of the question "why agriculture?" is going to be elusive, particularly when extended to other regions apart from just western Asia.

Simmons goes on to consider palaeoclimatic evidence from the Levant, pointing out that climate alone would have been unlikely to determine the course of human action moving into or through the Neolithic. However, determinism apart, the Early Holocene warm, wet, and markedly seasonal climate, apparently with up to twice as much precipitation as occurs in the Levant today, was clearly a significant factor behind the rapid growth of annual cereal and legume agriculture during the PPNA and earlier PPNB. Following this initial growth, increasing PPN population densities and forest clear-

ance in fragile environments ultimately led to considerable environmental instability, witnessed by colluvial slope wash layers of cobbles in many PPNB sites in the southern Levant. Simmons discusses this in the first of several short "case studies" to be presented in the book (pp. 43-45, "Neolithic cobble layers"). In Simmons' view, admittedly qualified, "The cobble layers thus represent concrete geoarcheological evidence for humanly induced environmental degradation in conjunction with heavy summer precipitation. This occurred against a backdrop of deteriorating climatic conditions" (p. 45).

This result, expressed partly also through some rather ambiguous palaeoclimatic evidence for drought towards the end of the PPNB (what came first, the drought or the humans?), could help to explain the disjunction in many settlement histories from PPNB into Pottery Neolithic, bringing home to us the up and down nature of human demographic history in this fragile region (e.g., Kohler-Rollefson 1988; Rosenberg 2003). Simmons discusses this also in his chapter 7, which is focused on the later PPNB megasites in Jordan and their decline, but not total abandonment, and admits that he leans "towards the ecological degradation model as playing a principal role in the dramatic changes witnessed at the end of the PPN (p. 191).

The debate over the intensity of human impact during the PPN in the Levant is of course a very significant one for us to pay attention to today, particularly given Ruddiman's views (2005) on the heavy impact, starting in the Neolithic, of forest clearance and agriculture on atmospheric carbon dioxide and methane levels. Although there is ongoing debate here about the strength of this impact (Olofsson and Hickler in press), my own view is that the southern Levant PPNB presents to us the first documented example of human population "overshoot" in the archaeological record, albeit one that was relatively short lived, and balanced by regrowth in subsequent Pottery Neolithic cultures in the northern Levant and northern Mesopotamia. In this instance, declining productivity, increasing human populations seeking protection in fewer large settlements, and possibly drought (?), led not to permanent cultural and population demise, but to reformulation, a result perhaps aided by increasing investment in pastoralism (Rosenberg 2003). The Sumerian descendants of these early Levant populations four thousand years later in southern Mesopotamia were perhaps not so lucky.

Chapters 4 to 8 of Simmons' book are period-specific (Natufian to Pottery Neolithic), with chapter 9 devoted to Cyprus, the island that has provided one of the most exciting bodies of new information on the Near Eastern Neolithic. Simmons sees the Natufian as having sedentary or semi-sedentary settlements, animal art (with no mother goddesses, similar to Gobekli Tepe), only limited social differentiation, and an economy based mainly on gazelle hunting, wild plant harvesting (including cereals), and possibly some pre-domestication cultivation. Life appears to have been better in the Early Natufian than in the Late, owing to the incursion of Younger Dryas cold and dry conditions, and intensification of cereal exploitation during the latter could have set "the stage for subsequent domestication during the Neolithic" (p. 85).

Simmons' discussion of the PPNA presages the fairly intensive debate during the past year or so about the reality of a long phase of "pre-domestication" cultivation in the Near East (Fuller in press; Willcox et al. in press; Weiss et al. 2007; Zong et al. 2007). It seems now to be agreed that the PPNA had no morphologically domesticated plants or animals, and it is of interest here that Fuller (in press) has defined full morphological domestication in cereals as the acquisition of a non-shattering habit. Many questions arise about just how those early Neolithic populations managed to turn their wild shattering cereals into well-behaved non-shattering and synchronously-ripening domesticated ones. Simmons does not really go into this issue, but many behavioral decisions involving replanting (i.e., cultivation), and especially replanting beyond wild distributions, plus an apparent switch from green towards increasingly riper harvests, all clearly mattered. Non-shattering habits probably required selection imposed through the harvest of ripe grains, so how did Natufian/PPNA collectors balance the considerable loss on shattering, if they attempted to harvest ripe grain, against the greater difficulties of processing if they harvested only green unshattered grain? Did they harvest wild stands on successive occasions in each season, progressively collecting more and more ripe non-shattering grains and favoring the latter for replanting?

The PPNA was "a point of no return" for the

Neolithic in Simmons' words (p. 116), quite distinct from the Natufian even if descendant from it, with some very large settlements, intensive cultivation but not domestication, and a presence of substantial public architecture represented by the Jericho wall and tower and the remarkable stone-lined sunken circular structures at Jerf el-Ahmar and Gobekli Tepe. The PPNB involved more than the PPNA, not just a switch in projectile point styles and house plans (circular to rectangular), but, more importantly perhaps, the full domestication of plants and animals in the archaeological record.

Simmons presents "an exercise in speculation" (p. 124) in which he suggests that the PPNB in the Near East at any one time contained 200 modest-sized villages of 200 people each, and 15 megasites (products especially of the later PPNB and PPNC) with 3500 people each, giving a total population of 92,500, to whom one must add a small number of non-villagers and pastoralists. This, according to Simmons, is rather a low population, one that implies that many regions had only very low numbers of humans in residence. Whether one agrees with this view or not, given the obvious fact that discoveries tend to cluster where archaeologists roam, it can hardly be overlooked that two large regions of the Levant, in northern Syria (south of the Euphrates) and between central and southeastern Anatolia, have an astonishing *in*frequency of sites, perfectly obvious for instance on Simmons' fig. 6.1. Is this a real absence, or just the result of a lack of searching? I raise this point because I do not believe that Near Eastern archaeologists have yet systematically explained these gaps, both involving areas with hospitable terrain for early farmers and large modern populations. How complete is the site distribution in the Levant? Could the PPNB in reality have supported many more than 92,500 people?

Whatever the answer, the decline of the megasites in the late PPNB meant a return to smaller settlements in the so-called PPNC (only represented in the southern Levant) and the Pottery Neolithic. Some very large exceptions did continue—at Ain Ghazal in the PPNC and Sha'ar Hagolan in the Pottery Neolithic, for instance, with continuing occupation into the Pottery Neolithic at Abu Hureyra. But with the balkanization of the Levant PPNB interaction sphere that resulted from all the environmental stress, the southern Levant, in Simmons' view, became marginalized and peripheral during the Pottery Neolithic (p. 226), although he seems rather ambivalent about this and on the next page (p. 227) proposes instead "...an efficient readaptation to new conditions rather than a cultural regression." True pastoralism in the drier regions now existed side by side with full agropastoralism in the smaller farming settlements. It is around this time, of course, that we see large settlements fully established in central Anatolia (e.g., Catalhoyuk) and eventually southeastern Europe, not to mention Mehrgarh in Pakistan and later on the Nile Valley, although Simmons does not stray far into these regions.

One hundred kilometers or thereabouts across the ocean from the Syrian and Turkish coastlines, the island of Cyprus has given us some of our most thought-provoking information about the abilities of very early Levantine food producing populations. Simmons describes the new results very clearly, having worked on the island himself, especially in the cave of *Aetokremnos* that seemingly documents an initial phase during the terminal Pleistocene of apparent hunter visitation (scouts?), who perhaps engaged in the extirpation of an insular population of pygmy hippos. Soon after this, the Neolithic settlers arrived in full force, obviously by boat, either in the late PPNA or the early PPNB, and possibly as early as 9000 BC. Housing was established in the PPNA circular mode and continued firmly within it down to the time of Khirokitia, ca. 6500 BC. One of the oldest sites, *Shillourokambos*, has circular posthole settings, wells up to 5 m deep, a collective burial with 20 skulls, Byblos points, naviform cores, and Cappadocian obsidian, all hinting at a date very early in the PPNB. Most remarkable, however, is the list of introduced animals and plants—pig, dog, cat, fallow deer, sheep, goat, and cattle, together with barley, emmer, and einkorn. Although barley might have grown wild on Cyprus, all of the other food species, both animal and plant, would appear to have been wild in morphological terms, albeit obviously managed, and introduced by bobbing boat or raft across 100 km of rather deep (and doubtless often rough) sea from the Asian mainland. The dogs and cats were perhaps domesticated, or at least tamed,

given that the latter were buried with humans.

This evidence for animal translocation across sea is remarkable to people such as myself who frequent islands in the Pacific and Southeast Asia, regions where it is paralleled only by similar translocations of smaller wild animal species such as wallabies and phalangers (possums) between islands around New Guinea (e.g., Flannery et al. 1998). The cattle and deer on Cyprus seem not to have survived their first introductions, but the other species did, and this of course raises a very fundamental question. Were these morphologically wild species eventually domesticated on Cyprus itself, or were they replaced by domesticated populations introduced from the mainland? Given current debate over how many times agriculture and animal domestication were developed in the Near East, such potential evidence for a semi-independent domestication could be of great interest. Simmons himself (p. 141) suggests that "Domestication of individual species likely was a geographically independent event…" For me, however, the archaeological record of continuing contact with the mainland, for instance with the Anatolian obsidian, would certainly make any suggestion of *total* independence quite untenable—the first PPN Cypriots presumably arrived with a firm knowledge of the principles of plant and animal food production, otherwise they would not have carried all those species with them. In fact, Cyprus gives us the world's first evidence for a portmanteau biota (Crosby 1986: 89).

Simmons adds a final chapter in which he states "It is easy to wonder if the Neolithic Revolution has been worth it. Was it an improvement for humanity or a harbinger of the strife that affects so much of the world today?" (p. 278). Many modern archaeologists seem to take the view that the sooner the whole Neolithic Revolution concept is buried the better. I am not one of these, and regard Simmons' synthesis as balanced, percipient, and well informed. After reading the book I felt it could perhaps have benefited from a few more illustrations, and it would be nice if archaeologists writing about Cyprus would explain why all those place names have to be in italics! But, as a revolutionary at heart, I have no qualms over giving the Near Eastern Neolithic its due in the worldwide history of human affairs. □

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