

and historical traditions in this part of the world remain focused on a nomad-based economic model. Ultimately, she argues that though there are trappings of nomadic political systems visible in the archaeological record, the broader economy was based on a mixed agro-pastoral system. She also points out that the roughly 1000 identified burial mounds on the Talgar alluvial fan represent a small segment of society. These political elites were supported by communities of farmers and craft workers.

Arguably the greatest contribution to come from Chang's excavations at first-millennium BC settlement sites on the Talgar alluvial fan was the identification of these craft workers, farmers and herders. The historical narratives for this time period in Central Asia have been overshadowed by depictions of warrior nomads, hindering any realistic understanding of Central Asian prehistory. Chang and her team of scientific specialists have identified sedentary occupation sites with evidence of ceramic and textile production. They have also demonstrated the existence of a complex farming system utilising irrigation canals and several different grain crops. The archaeological data also show that animals were raised for secondary products, transport and meat. In this book, Chang shows that the different segments of society articulated into an economic and social system that exemplified a broader region of Central Asia. She envisions a decentralised state, with a large lower-class population of craftsmen, farmers and transhumant herders, who supported a political elite through tribute. This view of Central Asian prehistory is supported by scientific data and 20 years of excavation. Chang is quick to credit earlier scholars, such as Akishev in the 1960s and 1970s, for recognising the important role of farming in the economy in south-eastern Kazakhstan during the Iron Age. Nonetheless, and despite Akishev's contributions to the field, archaeological scholarship has focused on a largely romanticised nomadic population of horse-riding warriors.

Throughout the volume, Chang grapples with questions relating to the nature of political systems and how the peoples of the Talgar fan juggled differential labour needs and scheduling demands. She supports her view of Central Asian prehistory through detailed descriptions of her excavations and a series of analyses by scientific specialists, who collaborated with her over the past two decades. Chang and her colleagues have systematically

excavated the sites of Tuzusai, Taldy Bulak 2 and Tseganka 8; these excavations are laid out in Chapter 3 of this volume. In Chapter 4, she explores evidence for social hierarchies, inequality and an Iron Age demographic shift. Ultimately, these data transition into a discussion of changing social orders and the formation of Inner Asian tribal confederacies (states, empires or polities); Chang draws on world-systems theory to interpret social interactions on a broad scale (Chapter 5). By quantifying the numbers of kurgans on neighbouring alluvial fans throughout the region, she clearly illustrates that the phenomena she describes on the Talgar fan are not unique and were part of a larger population. In the final chapter of this volume, she endeavours to fit the Talgar data into the larger social arena of Inner Asia, while also moulding a new paradigm for archaeology in this part of the world. She argues "that the Iron Age Talgar folk of Semirech'ye were part of a nomadic confederacy tied to a religious cult spread across a vast territory" (p. 124). The arguments that Chang lays out in *Rethinking prehistoric Central Asia* call for a new look at Inner Asian prehistory, one that emphasises the diversity in cultural practices and archaeological remains.

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HARVEY WEISS (ed.). *Megadrought and collapse: from early agriculture to Angkor*. 2017. Oxford: Oxford University Press; 978-0-19-932919-9 £47.99.



This volume marks yet another contribution to the books on collapse that have appeared in the last few years. Yet it differs importantly from many of these in that it is, at least in its packaging, unashamedly deterministic when it comes to climate change and collapse. In Weiss's Introduction to the book, for example, he argues that evidence for megadroughts, severe droughts occurring on multi-decadal or centennial scales, has come to challenge multi-causal and more socially based explanations of many past collapses. These episodes were "impossible to predict and impossible to withstand" (p. 1). His own chapter, which revisits Early Bronze Age

northern Mesopotamia and the collapse of the Akkadian Empire, marshals an impressive amount of palaeoclimatic evidence in a ‘multi-proxy stack’ and in 24 pages of references to other studies. He makes the case that a 30–50 per cent reduction in rainfall caused the rapid abandonment of northern Mesopotamia, according to Weiss the breadbasket of the empire, resulting in the Akkadian collapse.

Northern Mesopotamia may have been affected by megadrought as Weiss argues, but this in itself would not prove that it caused the imperial collapse. Indeed, it is surprising that the inherently unstable Akkadian Empire lasted quite as long as it did, unpopular as it was with the once independent cities of Mesopotamia and plagued by revolt. If, however, we accept that there was massive climate change affecting the north, and that this did cause serious problems for the Akkadian dynasty, the collapse would still have to be regarded primarily as a human-focused process rather than as an inevitable knockout blow from nature. It would instead show that the Akkadian powers that be failed on a number of levels to avoid or mitigate imperial collapse. These were failures of imagination, policy and organisation—failure to integrate the cities and their elites into a unified system, failure to win general popular support and failure to ensure standby means of supply for dependent groups, such as elites and the army. The collapse of the Akkadian Empire was, in this view, avoidable, if the society had taken different steps. This is where we can learn lessons about resilience, now an important aspect of the study of collapse.

Weiss argues that the 4.2ka BP megadrought also affected “the Mediterranean, West Asia, the Indus, and Northeast Africa”, such that “synchronous West Asian and adjacent collapse and abandonment events and processes would not have happened without the 4.2ka BP megadrought” (p. 115). This theory dates back at least to the 1970s and has been the topic of a number of conferences and volumes (e.g. Dalfes *et al.* 1997), but recent research suggests that the notion of simultaneous climate-caused collapses *c.* 2200 BC across this vast area should be reconsidered (Middleton 2018 with references therein).

Kaniewski *et al.*’s chapter on the Late Bronze Age collapses in the Eastern Mediterranean is also problematic. The authors argue for a 3.2ka BP megadrought event, lasting three centuries, which caused crop failures and famines, social and political crises and mass migrations into the Eastern Mediterranean (the Sea Peoples). There is, however,

no positive evidence for crop failures and famines in Greece, and none is offered, and the textual evidence for shortages in the Hittite Empire does not necessarily indicate either drought or famine. We do not know the purpose of the grain imports mentioned, and the Hittite monarchy and armies were active until *c.* 1200 BC. The Hittite collapse most probably came about through widespread internal and external conflict, which is certainly recorded in textual sources, and it remains unclear how far we can link this to the Mycenaean collapses. It would also be strange if people were to migrate en masse to drought-stricken regions—from the Balkans into the Aegean and Anatolia, and then east. Among Aegeanists, the notion of mass migrations has long been rejected, and the Sea Peoples narrative as often given is debatable—the Egyptian primary sources on them are more propaganda than history. Again, a number of key texts on the period are simply ignored.

Some of the authors approach causality and historical change more circumspectly. Fletcher *et al.*, for example, explore the abandonment of the megacity of Angkor, capital of the Khmer Empire. This is linked to climate events that saw the city’s delicate hydrological infrastructure become damaged and dysfunctional. Here the decline of the city is set in a much longer context, in which the elite, and others, may have begun leaving in the second half of the fourteenth century, decades before the taking of the city by Ayutthaya in or just after AD 1431. The authors emphasise that this ‘collapse’ was by no means the end of the Khmer Empire, the centre of which moved south to Phnom Penh—rather it was “a display of flexibility and versatility” (p. 306) in which a new urban network and focus on trade developed. The Khmer state thus becomes an excellent example of resilience and reorientation in the face of climatic instability and challenge. As the authors explain, “climate alone does not determine the outcome” (p. 306); its effects also depend on the society affected and the choices made.

Bar-Yosef *et al.*’s chapter discusses the adoption of cultivation in Western Asia *c.* 10 000–8300 BC and the ‘collapse’ of foraging. This is marked by the appearance of the Natufian culture, which “represents a major organizational change from the traditional mobile way of life practised for many millennia” (p. 51). Changes included the practice of settled agriculture, organised graveyards and ceremonial burial, and the authors suggest that these were in part driven by an increased population. But

these phenomena are usually taken as indicators of heightened social complexity. This, then, is an interesting understanding of the term collapse because collapse is often taken to mean a rapid simplification of society, following Tainter's well-known definition (1988), or by others, such as Diamond (2005), to mean significant and rapid depopulation. It is unclear how rapidly these changes are thought to have taken place, although the authors suggest that human events happen "within short time intervals of between one to three centuries" (p. 44), and that domestication "was achieved gradually" (p. 34).

The volume as a whole will provoke thought amongst collapologists, but should be used with care. Weiss's Introduction pushes the megadrought collapse agenda and dismisses McAnany and Yoffee's important *Questioning collapse* volume (2009) by calling them 'politically correct'—because they want to problematise the characterisation of collapse and to place humans at the centre of the story—and simply omits additional work, but other chapters are not so deterministic. We might also question whether the slow abandonment of the city of Angkor, and the continuation of the Khmer state, is really comparable with an imperial collapse (Akkadian), the collapses of the Eastern Mediterranean c. 1200 BC, or with the take-up of sedentary agriculture. While Weiss suggests that his determinists are turning the tide against those who consider social factors key, it is rather the case that both views have long co-existed and have fed off each other; as there are difficulties in weighting factors in collapse, this to and fro seems likely to continue. The deterministic approach adopted here seems to go against the grain of twenty-first-century collapse research, which is now much more open to non-deterministic, non-linear reconstructions emphasising historical particularity (Middleton 2017).

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BÉRÉNICE BELLINA (ed.). *Khao Sam Kaeo. An early port-city between the Indian Ocean and the South China Sea* (Mémoires Archéologiques 28). 2017. Paris: École française d'Extrême-Orient; 978-2-85539-427-5 €65.



Khao Sam Kaeo (hereafter KSK) is a large archaeological site located near Chumphon on the eastern coast of the Malay Peninsula, southern Thailand. Looting activities

at the site started in the 1960s and continue to the present. A first publication of non-local artefacts with origins across South and East Asia attracted experts' attention to the site more than 20 years ago (Srisuchat 1993). Since 2002, the site has been investigated by a joint Thai-French team.

This final publication includes 23 papers by 25 authors from different countries. The excavations of the Thai-French Archaeological Mission have covered 136 test pits and 5 trenches. Thus, almost 600m² from the total site area of 350 000m² have been investigated. A catalogue of the artefacts from the excavated pits is not provided. Rather, most papers focus on in-depth classification or analyses of ceramic sherds, stone, glass and metal objects. While this provides valuable information on the various artefact types, it remains impossible to recognise associated artefacts from different layers or test pits, and it is difficult to detect which artefacts came from looting, surveys or the excavated pits. Profile views are illustrated for 41 of the excavation pits/trenches, with occasional plan views. These illustrations show a quite complex stratigraphy with looting holes,