

Ban Non Wat: crucial research, but is it too soon for certainty?

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As Charles Higham so rightly states, chronology is a major key to unlocking the prehistoric past, perhaps even the master key. Most readers nowadays will agree that the chronologies for the inceptions of farming and bronze working in north-east Thailand, as put forward in the 1970s, were in error, for the simple reason that archaeologists at that time were prone to sending small scattered fragments of charcoal to C¹⁴ laboratories without really trying to understand exactly how and where the charcoal originated. I am sure I have been guilty of similar lapses, so apportioning blame is not on my mind and would indeed be pointless.

With the hindsight available in 2015, and with hundreds of C¹⁴ dates tucked under our belts, we can have no doubt that Higham's short chronology is the correct one. My recent involvement in many excavations in Vietnam demonstrates this to me clearly. In Neolithic sites such as Man Bac on the southern edge of the Red River Delta (Oxenham *et al.* 2011), Thach Lac in central Vietnam (current research), and the Vam Co Dong and Dong Nai Neolithic sites of Southern Vietnam—An Son, Loc Giang, Dinh Ong and Rach Nui (Bellwood *et al.* 2013; Piper & Oxenham 2014; Sarjeant 2014; Oxenham *et al.* 2015)—there is not a scrap of bronze, or indeed any other kind of metal, prior to 1500 BC in terms of our current chronological understanding. Exactly when copper and bronze did first appear in Vietnam is not yet very clear, as no major excavation project has bombarded the question with C¹⁴ heavy weaponry. But Higham's estimate of *c.* 1050–1000 BC for north-east Thailand does not surprise me. Perhaps we might allow a century or two earlier for northern Vietnam, given its closer proximity to Bronze Age China, but this is only a guess at present.

I am also in complete agreement with Higham on the importance of the migration of a southern Chinese Neolithic population into Mainland (and Island) Southeast Asia at the start of the Neolithic. I note the statistical strength of the demonstration, by Hirofumi Matsumura and colleagues (Bellwood & Oxenham 2008; Matsumura *et al.* 2011; Matsumura & Oxenham 2014), that Southeast Asian population history involved an immigration of an Asian Neolithic population from the north, with a high birth rate, admixing with and often assimilating quite decisively an older Hoabinhian Australo-Melanesian population located in the south. The newcomers brought in *japonica* rice, as we know from an as yet unpublished range of flotation, rice chaff temper, phytolith and ancient DNA evidence from several Neolithic sites in Vietnam, including Man Bac, An Son and Loc Giang (see also Castillo *et al.* in press). Foxtail millet is also reported from Rach Nui. These crops originated in central China.

The suggestion that indigenous hunter-gatherers still occupied Ban Non Wat in the early Neolithic requires more of a leap of faith however, given that no craniometric analysis has been undertaken on the burials from the site so far, especially the relevant flexed Neolithic 1

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burials. Higham refers to newly published stable isotope evidence on this matter (King *et al.* 2015), but my reading of this report suggests to me that the results were inconclusive with respect to the impact of the so-called ‘two-layer hypothesis’ at Ban Non Wat. In fact, I have difficulty in accepting that flexed burial is a necessary indicator of an indigenous hunter-gatherer origin. Without craniometric analysis, and in the absence of a true Mesolithic component in the site—thick vine-rolled pottery, edge-ground pebble axes, tightly squatting or seated burial postures (Bellwood 2015) and a confirmed hunter-gatherer economy with no food production—I am a little doubtful.

Nevertheless, Ban Non Wat is a young site compared to coastal sites such as Nong Nor, Khok Phanom Di and An Son, and was arguably founded perhaps 500 years later in time. It may be that this southern region of the Khorat Plateau was settled relatively late by farmers penetrating into inland terrain still occupied by indigenous hunter-gatherers, even if by 1750 BC the latter were already culturally influenced by the immigrants. But it is also interesting that the truly indigenous Australo-Melanesian minority members of the Man Bac Neolithic population, at 1900 BC, were buried supine with full Neolithic artefact assemblages, exactly like their morphologically Asian contemporaries (Oxenham *et al.* 2011). In the Man Bac cemetery, indigenous hunter-gatherers joined the food producers in cultural terms almost instantly, and did not seemingly differentiate themselves through behaviour at all.

Higham also asks if there was one major spread of food producers into mainland Southeast Asia, or several. As noted above, coastal and near-coastal Neolithic sites appear at present to be considerably older, perhaps by half a millennium, than inland sites such as Ban Non Wat. So perhaps the first farmers travelled by sea and along the coastlines rather than down the major rivers, but it is too soon for certainty, and future excavations might, of course, change this perspective.

The discovery of high-status Bronze Age burials at Ban Non Wat also came as a surprise to many who expected evidence for an egalitarian society prior to the Iron Age, and I believe we can see the roots of such hierarchy in some of the much older Neolithic burials excavated by Higham himself at Khok Phanom Di (Higham & Bannanurag 1990). Were the initial roots of this efflorescence of apparent ranking connected with factors of land ownership and food production, rather than being predominantly a result of metallurgy as Higham suggests? We cannot at present be sure. But, up to now, we have not excavated equally rich graves in Neolithic or earliest Bronze Age (pre-Dong Son) Vietnam, and wealth in metallurgy and valuable metal objects on the Khorat Plateau might explain why domesticated cattle, as another potential item of wealth storage, appear at Ban Non Wat but not (yet) in Neolithic Vietnam.

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