Late-Pleistocene human adaptations in Myanmar and their environmental context

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Western Southeast Asia (WSEA) can be defined as the region between the Arakan Mountains in the west of Myanmar, separating Myanmar from the Indian sub-continent, and the Salween River which defines part of the border between Myanmar and Thailand. While the regions east of the Salween River have a long history of archaeological research, WSEA has seen only few activities, especially in the last fifty years. With just one previously excavated prehistoric archaeological site in Myanmar that is firmly dated to the Late Pleistocene, Badahlin Cave (Aung-Thaw, 1971), any new data from this region will be a major contribution to regional prehistory.

Western Southeast Asia is important among monsoonal regions of SEA because it contains large geographical areas of very low rainfall. The central and east regions have a modern average rainfall of only 68 cm and 89 cm per year. No other region of Southeast Asia has such low rainfall, so this is an extreme habitat for prehistoric populations in this region. This means we may find technological adaptations in WSEA that we have not yet seen in SEA. This information may help us to understand how modern human populations can best adapt to modern climate changes, and expansions of these arid regions in SEA.

Previous work in Thailand and Vietnam has suggested only minor impacts of the Late Pleistocene and Pleistocene-Holocene transition on hunter-gatherer populations (Marwick and Gagan, 2011; Shoocongdej, 1991; Van Tan, 1985, 1997). My hypothesis is that WSEA will be different because the climates are currently much dryer, and probably also dry in the past. This means we have a major habitat in the whole Southeast Asia for which we have no information about how past human populations adapted to climatic and environmental changes. My theoretical orientation is human behavioral ecology and their technological adaptation, which holds that anatomically modern humans adapt to environmental and climatic conditions in predictable ways, and that these adaptations can be modeled from the material traces that they leave behind. The current excavations at Badahlin



Badahlin Cave



Gu Myuang Cave

and Gu Myuang cave sites were done by Prof. Ben Marwick in 2016. As part of this project, stone artifacts collected from these excavations will be analyzed to trace the human adaptation during Late Pleistocene and Pleistocene–Holocene transition periods.

The expected outcomes are new data about human adaptation and new models

of hunter-gatherer population dynamics for Western Southeast Asia. The implications will be a greatly expanded knowledge of the archaeology of hunter-gatherer and early farming societies in Western Southeast Asia, and new understandings of technology used during the transition to agriculture for this region.