Book Review

Brett C. Hoffman[1]

[1]. Department of Anthropology, Global Religions and Cultures, University of Wisconsin-Oshkosh Fox Cities Campus, 478 Midway Rd, Menasha, Wisconsin – 549 52, USA *(Email: hoffmanbc@uwosh.edu)*

Heritage: Journal of Multidisciplinary Studies in Archaeology 8.1 (2020): 1102-1105

Joyce C. White and Elizabeth G. Hamilton (Editors). 2020. Ban Chiang, Northeast Thailand, Volume 2C: The Metal Remains in Regional Context. Thai Archaeology Monograph Series 2C. Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology. Pages 240 (15 color, 29 b/w illustrations). Price Rs 5682/-. ISBN: 9781931707930. *https://www.upenn.edu/pennpress/book/16044.html.*

Ban Chiang, Northeast Thailand, Volume 2C: The Metal Remains in Regional Context, edited by Joyce C. White and Elizabeth G. Hamilton, is the third in a series of four volumes planned on the topic of metallurgy in Southeast Asia that focuses primarily on archaeological data from the site of Ban Chiang, Thailand. *Volume 2C: The Metal Remains in Regional Context* represents a culmination of efforts to provide both a detailed site level analysis (see *TAM Vol. 1, 2A, & 2B*) of copper, bronze, and iron assemblage from the site and to place the data in a revised model for the role of metallurgy in prehistoric Southeast Asian society. This ambitious volume seeks to apply empirical data from four main sites (Ban Chiang, Ban Tong, Ban Phak Top, and Don Klang) at a variety of scales to overturn existing models for the emergence and spread of metallurgy in prehistoric societies. Through a thorough and rigorous questioning of existing assumptions for all aspects of ancient metallurgy from production to consumption, *Volume 2C: The Metal Remains in Regional Context* lays out a comprehensive model for metallurgy in not only Southeast Asia, but one that has applications to researchers working around the world on archaeometallurgy. This model is focused on community driven networks and is not grounded in the hierarchical elements of elite control and competition that are significant components of traditional interpretations of the social and political role of metallurgy in the past.

The contributors to this volume bring a deep and multi-faceted understanding of the metallurgy of both Ban Chiang and the Southeast Asian region to their analysis and interpretation. Each brings detailed specialized knowledge and innovative approaches to the overall study. Many of the scholars featured in the volume have been involved with research at Ban Chiang and metallurgy in Southeast Asia for many decades. The volume seeks to define and analyze all steps in the acquisition, manufacturing,

consumption, and deposition of metals and the organization of the chapters reflect this. Chapter 2 by Vincent C. Pigott presents a detailed review for the production of copper from mining and smelting sites across the region. This chapter provides an excellent summation of the evidence and provides a strong model for any other interested researchers to follow for identifying and understanding primary production evidence for copper metallurgy. The incorporation of geology, an understanding of technology, and archaeological assemblages into a cohesive interpretation is a strong initial contribution. The linkages between copper ores, smelting, and production is further analyzed in Chapter 3. Here, T.O. Pryce outlines the results from a large-scale lead isotope analysis project aimed at constructing source provenance designations for artifacts from Ban Chiang and Don Klang. These analyses provide a solid foundation for constructing correlations between consumption and production locations for copper metallurgy. In addition, the application of lead isotope analysis to chronological questions is an intriguing demonstration of how technical analyses of archaeological artifacts can be mobilized for more than simple characterization studies. Chapter 4 by Elizabeth G. Hamilton and Joyce C. White is an important chapter for anyone interested in the metallurgy of Southeast Asia and Thailand. All of the published data from five decades of research on archaeological metals in Thailand is organized, compiled, and presented in a cohesive overview. This is a tremendous undertaking and has been well executed here. This chapter is an invaluable data set not only for this project, but for anyone interested in the archaeometallurgy of the region. Chapter 5 by White and Hamilton places all of the available data into a regional focus. This regional perspective and movement beyond single site analysis shifts perspectives on the role of metals in the prehistory of Thailand. The analysis of production and consumption data on a regional scale reveals that a bottom-up model focused on community choice is far more appropriate than traditional hierarchical models for the organization of ancient metallurgy. The final chapter by White continues the perspectives of the previous chapter and extends them to attempt to answer the question of how a new regional understanding of Southeast Asian metallurgy can aid scholars in interpreting and understanding prehistoric metallurgy in other regions as well.

The strength of this volume is its strong regional focus grounded in data from site level archaeological assemblages. The integration of multiple scales of analysis allows the volume to present a strongly contextualized interpretation of metallurgy in Thailand for all aspects of the sequence of production, distribution, and consumption. Following the "New Paradigm" (see White Chapter 4 in *TAM Vol. 2B*) outlined as a corrective to the "Traditional Paradigm" (see White Chapter 4 in *TAM Vol. 2B* and White Chapter 6 in *TAM Vol. 2C*), the authors situate traditional metallurgical datasets within a larger social, economic, and political framework. This incorporation of isotopic, chemical, typological, and technological data into a holistic interpretation of prehistoric Thailand organizational dynamics is well-aligned with recent trends and theoretical perspectives on archaeometallurgy (see Roberts and Thornton 2014 for examples). A regional revised synthesis that works from the individual data sets to an overall model for

metallurgy, rather than starting with a series of model assumptions and fitting the data to them, is a fresh construction for Southeast Asian archaeometallurgy. The recognition of the critical role of the abundance of copper, tin, and iron ores in the region on the adoption and spread of metallurgy in the region is the core contribution of this work. The reorienting of the role of metal in Southeast Asian prehistory, from one of hierarchical control and competition to one focused on variable localized patterns driven by choices in different consumer communities, is extremely valuable. I encourage other researchers attempting to understand the roles that metals may have played in different ancient systems to consider the nuanced and variable perspectives laid out in this text.

Overall, I find little to critique in this synthesis. I do hope that efforts to expand and strengthen source provenance studies will be undertaken in the future. Providing additional empirical evidence for the overlapping economic networks that appear to be enabling the variety of consumer choice in prehistoric Thailand would be a welcome additional line of evidence. The authors often speak to a lack of clarity on issues related to bronze and the supply of tin. Again, analytical work to characterize and source tin ores in the region would provide an avenue to start untangling this complex issue. A final potential for new and further research to strengthen and expand the synthesis presented to date would be replicative and experimental studies on the technologies of production, particularly for copper and bronze. Detailed experiments on crucibles, furnaces, and molds could help to further the understanding between ancient technology modes and the organization of the various communities engaged in metal production.

Ban Chiang, Northeast Thailand, Volume 2C: The Metal Remains in Regional Context provides not only a fresh perspective on the role of metallurgy in ancient societies, but it also presents a clear roadmap for how to construct large-scale archaeometallurgy syntheses for interested researchers in other world areas. This integration of numerous datasets, multiple archaeological assemblages, and analytical techniques into a coherent narrative is a significant achievement. In addition, this volume presents an impressive application of leading theoretical perspectives. Scholars working across the world face similar challenges when attempting to identify, define, and interpret metallurgy at both the site and regional level. This volume provides a richly detailed model for undertaking such studies and provides all interested researchers with an invaluable comparative case study. I believe this book is a significant achievement and will be a useful tool for those interested in the prehistory of Thailand, Southeast Asia, or ancient metallurgy.

References

Pietrusewsky, M., and M.T. Douglas. 2002. *Ban Chiang, a Prehistoric Village Site in Northeastern Thailand I: The Human Skeletal Remains*. Thai Archaeology Monograph Series 1. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.

Roberts, B.W. and C. P. Thornton (Eds.). 2014. *Archaeometallurgy in Global Perspective: Methods and Syntheses*. Springer, New York.

White, J.C., and E.G. Hamilton (Eds.). 2018. *Ban Chiang, Northeast Thailand 2A: Background to the Study of the Metal Remains*. Thai Archaeology Monograph Series 2A. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.

White, J.C., and E.G. Hamilton (Eds.). 2018. *Ban Chiang, Northeast Thailand 2B: Metals and Related Evidence from Ban Chiang, Ban Tong, Ban Phak Top, and Don Klang*. Thai Archaeology Monograph Series 2B. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.

White, J.C., and E.G. Hamilton (Eds.). 2019. *Ban Chiang, Northeast Thailand, Volume 2C: The Metal Remains in Regional Context.* Thai Archaeology Monograph Series 2C. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.