



INSTITUTE FOR SOUTHEAST ASIAN ARCHAEOLOGY (ISEAA) NEWSLETTER

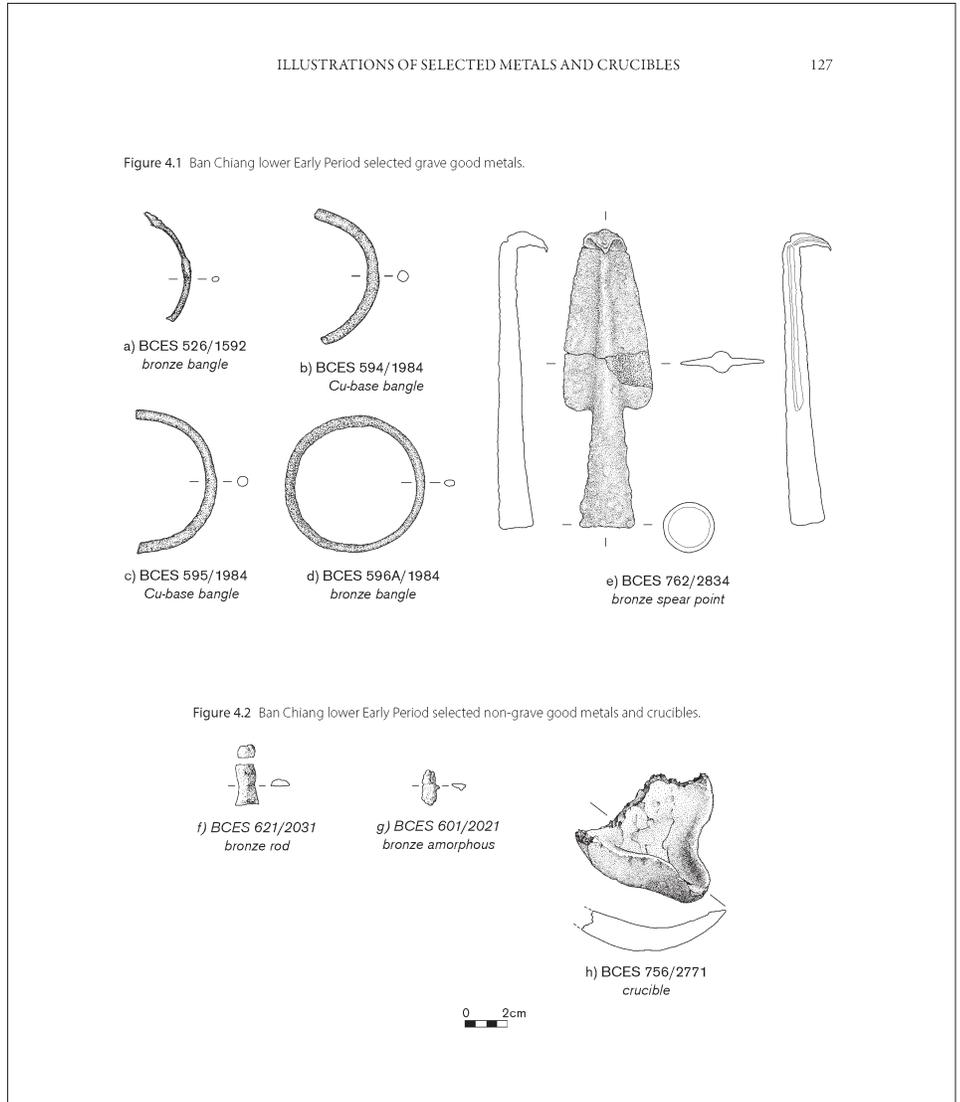
Issue 6 Winter/Spring 2022

An Amazing Two Years

Dear Friends of the Institute for Southeast Asian Archaeology,

The last two years have been amazing despite the stresses and disruptions caused by Covid 19. First and foremost, your loyal contributions have enabled us to accomplish one of our primary objectives when we founded the ISEAA in October 2013: monograph publication! The last volume of the Ban Chiang metals monograph suite, 2D, was shipped to the warehouse in early January, and is now available! <https://www.upenn.edu/pennpress/book/16286.html>. This volume is composed of the extensive catalogs of all the metal and crucible remains from the four prehistoric sites of Ban Chiang, Ban Tong, Ban Phak Top, and Don Klang, with contextual, descriptive, and analytical information. Also included are hundreds of artifact drawings and photomicrographs from every analyzed artifact. As with the ARA article discussed below, a good deal of the work on this volume was done at home during the Covid lockdown.

Getting these books out has been a decades-long journey with lots of twists and turns, headwinds, and ups and downs. But our amazing team of Elizabeth Hamilton (archaeometallurgist), Ardeth Anderson (illustrator), Janice Cross (editor), Page Selinsky (Museum Publications Director), and co-authors Vince Pigott, Oli Pryce, Sam



Illustrations of selected lower Early Period metal and related artifacts from the metals monograph, Volume 2D.

Nash, and the late Bill Vernon carried it off. Moreover, the reviews have been strong—check out the two-page insert with excerpts from some of the reviews and from Volume 2A's Foreword. Thank you thank you thank you for your support over the long haul!!

Joyce C. White, Ph.D.

Executive Director

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From left to right: Dr. Sethapan Krajangwongs, Minister-Counselor for Science and Technology at the Royal Thai Embassy; Dr. Elizabeth Hamilton; Dr. Joyce White holding her award; and Dr. Christopher Woods, Williams Director of the Penn Museum. Photo by Julianna Whalen.

Friend of Thai Science Award

In July 2021, staff from the Royal Thai Embassy in Washington DC travelled to the Penn Museum in Philadelphia to present Joyce White with the “Friend of Thai Science Award” for 2020. Recipients of this award are selected based on their contributions in STEM (science, technology, engineering, and mathematics) fields that “benefit Thailand and humanity for the morale and encouragement of such people.”

The website of the Embassy notes that White has devoted her decades-long career to studying the Ban Chiang cultural tradition including both the site and its greater regional context. As Director of the Ban Chiang Project at the Penn Museum and Series Editor of the Museum’s Thai Archaeology Monograph series, she oversees publications on the Museum’s 1970s excavations at the site. The five volumes published so far include the comprehensive study of the human skeletal remains from Ban Chiang authored by Mike Pietruszewsky and Michele Toomay Douglas from the University of Hawaii, and the comprehensive study of ancient metallurgy from Ban Chiang and three additional sites in northeast Thailand. The metallurgy volumes, with primary authors of White and Dr. Elizabeth Hamilton, not only present detailed scientific evidence for the ancient metals, they also reframe the metal age in Thailand in terms of a contemporary narrative and a global perspective.

So that all interested persons have access to the content of the metals volumes, all chapters from the first three volumes on metallurgy are posted online here <https://iseaarchaeology.org/ban-chiang-project/publications/#1535400402302-cae8af45-5348>.



A close-up of Joyce White’s award.

Dr. White also heads related collaborative initiatives, including: 1) archaeological fieldwork in Laos under the banner “The Middle Mekong Archaeological Project” (MMAP) in cooperation with the Lao Ministry of Information, Culture, and Tourism (Department of Heritage), and 2) development of digital resources for Southeast Asian archaeology. Currently available digital resources include a searchable online bibliography of Southeast Asian archaeology publications, Ban Chiang and Non Nok Tha skeletal data, and Ban Chiang and related sites’ metallurgical data. White also strives through the MMAP program to incorporate Thai and Lao archaeologists in order to foster cross-border collaboration among Mekong countries in the investigation of the region’s archaeology.

Major Article on Metals Published

In July 2021, Joyce and Elizabeth published a new article in *Archaeological Research in Asia* (ARA) titled “The metal age of Thailand and Ricardo’s Law of Comparative Advantage.” This article uses data from the analysis of metal remains from Ban Chiang, Ban Phak Top, Ban Tong, and Don Klang (presented in much more detail in the metals monograph suite), to argue that regional exchange systems involving metal and metal artifacts during the bronze and iron periods were not controlled by an elite, as in some places in the world, but by individual communities in decentralized, relatively peaceful, heterarchical networks. The article also emphasizes the importance of analyzing whole assemblages rather than just a few burial artifacts, as many archaeologists do. Analyzing whole assemblages, i.e., artifacts from all available contexts, periods, and artifact types, is the only

way to obtain a comprehensive view of the role of metals in a society. The article is open-access and can be read at this link <https://doi.org/10.1016/j.ara.2021.100305>. We think it’s an important article that uses laboratory data to illuminate social relations and economic networks.

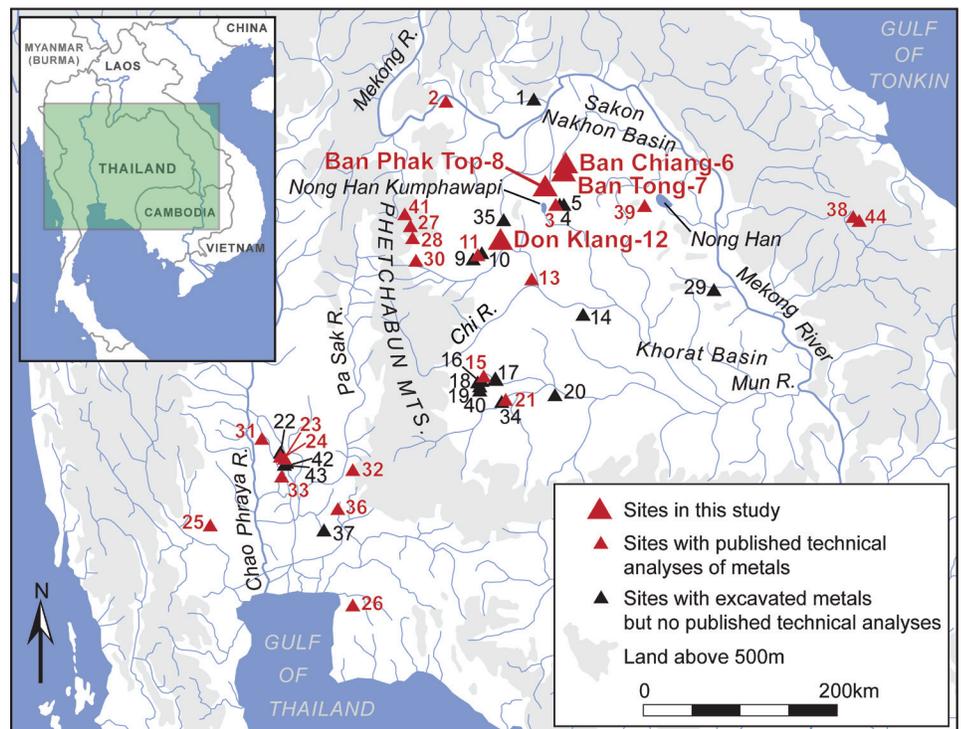
Archaeobib

A new incarnation of our beloved online bibliography is now officially launched in 2022, 20 years after its first inauguration.

In 2002, with funding from the Henry Luce Foundation, the Ban Chiang Project put the Southeast Asian Scholarly Archaeology Bibliography online. This flexible bibliographic database, with thousands of searchable scholarly citations, was a first in the field of Southeast Asian archaeology. We have added many more references since, so that the total is now over 17,000 citations, searchable by

author, title, date, keywords, and other fields. By 2018, Bibloscope, the software powering the first incarnation, was no longer supported by the manufacturer, and we decided we needed to produce a custom platform.

Sasha Renninger, a former Ban Chiang work-study student and now a Senior Applications Developer at the Penn School of Arts and Sciences (and participant in the 2019–2020 study season in Laos) took on the project in her spare time. It has involved a lot of work on her part, and we can only appreciate her patience as she dealt with our continual “Do you think you can fix this little problem?” We are very impressed with her product; not only does it improve on the original Bibloscope database, but it is more stable (and more attractive). Praise to Sasha! If you would like to investigate the new bibliographic database, now called Archaeobib, go to <https://pennds.org/archaeobib/>.



Map from the new White and Hamilton ARA article. Map by Ardeth Anderson.

Joyce White plans to demonstrate the bibliography program at the upcoming meeting of the Indo-Pacific Prehistory Association in Chiang Mai, Thailand, in November 2022.



Sasha Renninger, the developer of the Archaeobib program.

Green Sahara Article

On August 21, 2020, Michael Griffiths et al., including Joyce White, published an article in *Nature Communications* journal, “End of Green Sahara amplified mid- to late Holocene megadroughts in mainland Southeast Asia.” The article reports the existence of a nearly 2,000-year-long drought in Southeast Asia that began about 5,500 years ago, around the same time the Sahara Desert dried up.

The research team gathered evidence from stalagmite records in a Lao cave in the study region of the Middle Mekong Archaeological Project (MMAAP). Until now, the existence and effects of this megadrought in mainland Southeast Asia had never been reported. Droughts like this have drastic influences on all forms of life, with important implications for human settlement and behavioral patterns. How the inhabitants of

Laos and Thailand responded to the dry conditions is an important project for future archaeological research in the region.

You can read the article at <https://www.nature.com/articles/s41467-020-17927-6>.

Study Season in Laos December 2019– January 2020

Joyce and several other specialists conducted a productive study season in Luang Prabang for three weeks in 2019–2020, and she also managed to fit in a day of site survey. It was quite a team that was assembled. Cyler Conrad, an archaeologist from the Los Alamos National Laboratory in New Mexico, together with Hannah Van Vlack, an environmental archaeologist, and Phousavanh Vorasing of the Culture Section of Xieng Khouang Province, Laos, studied the

A screenshot of the Southeast Asian Archaeology Bibliographic Database homepage. The page has a white background with a navigation bar at the top containing links for Home, About, My Lists, Help, Donate, and Login. Below the navigation bar is a large illustration of a traditional Southeast Asian house on stilts, surrounded by various archaeological artifacts like pottery and tools. To the right of the illustration, the text reads: "Welcome to the Southeast Asian Archaeology Bibliographic Database. This searchable online bibliography contains thousands of references for books, articles, and other publications related to the archaeology of Mainland and Island Southeast Asia, along with other citations related to southern China and South Asia." Below this text are three buttons: "Login" (For registered users), "Register" (Full functionality is only available to registered users), and "Search as Guest" (Limited functionality). At the bottom, a grey box contains a notice for users of the old database: "For users of the old Southeast Asian Archaeology Bibliographic Database: The new database has some changes from the old program. As noted above, you can now search for references without creating a login, but if you want to maintain Marked Collections (now called My Lists), you must log in. You can now create and maintain as many My Lists as you please. Your login and password for the old site have not" (the text is cut off).

The homepage for the new Archaeobib (featuring Ardeth Anderson’s illustration “Splatt Theory”).

freshwater shell remains from the four cave sites excavated by MMAP. Sian Halcrow, a bioarchaeologist from the University of Otago, New Zealand, and Korakot Boonlop, a bioarchaeologist from Silpakorn University in Thailand, examined the human skeletal remains excavated from four MMAP cave sites. Peter Cobb, a digital



Dr. Mick Griffiths, lead author of the Green Sahara article, takes a sample from a speleothem in a cave in northern Laos.

archaeologist at the University of Hong Kong, along with Sasha Renninger, a senior applications developer at Penn and former work-study student in the Ban Chiang Lab, and Souksamone Sonethongkham worked together on expanding and improving the GIS database for the 100+ sites discovered in previous years' surveys. Bounheuang Bouasisengpaseuth, Sengphone Keophanhya, Kongkeo Phannasy, and Norseng Sayvongdouane developed content for a future exhibition on the MMAP program.

New Reviews of the Metals Monograph

Since 2018, when the first volume of the Ban Chiang metals monograph suite was published, ELEVEN reviews of one or more volumes have so far been published, and several more reviews are in the works. We like the words in several reviews such as “brilliant,” “sophisticated,” and “must-have.”

We are particularly excited that Bryan Pfaffenberger agreed

to review Volumes 2A-2C. He is a professor emeritus at the University of Virginia and a seminal scholar in the field of the “anthropology of technology,” which provided the theoretical basis essential for our understanding of the development of metalworking technology in prehistoric Thailand. He wrote “I believe this work insightfully and creatively employs the concepts and approaches of the anthropology of technology, affirms the authors’ thesis, and charts the way forward in the archaeometallurgy of Southeast Asia. It should be widely read.... Furthermore, I believe this work should be required reading for students of archaeometallurgy generally. It is exceptionally well written and accessible to those new to the field.”

This newsletter includes a two-page insert with brief selections from several reviews and the Foreword. If you want to read the full review texts, check them out here <https://iseaarchaeology.org/ban-chiang-project/publications/#1535399686834-56db95a7-d32e>.

Third ISEAA Early Career Award

ISEAA launched an award program, the first ever in Southeast Asian Archaeology, in 2015 for Early Career Southeast Asian archaeologists. In the third round of this biennial program, the ISEAA Early Career Award winner for 2020 was Veronica Walker Vadillo. Her paper “A historiography of Angkor’s river network: shifting the research paradigm to Westerdahl’s Maritime Cultural Landscape,” published in *SPAFA Journal*, was chosen by the distinguished award committee as this round’s best



Cyler Conrad and Phousavanh Vorasing examine shell recovered from MMAP excavations.



Veronica Walker Vadillo, winner of the third ISEAA Early Career Award.

application of theory in a peer-reviewed paper in the discipline of Southeast Asian archaeology. The fourth round applications were due December 1, 2021, and the winner will be selected by next summer.

Committee Members: Co- Chairs Ben Marwick (University of Washington) and Grace Baretto-Tesoro (University of the Philippines); additional members Stephen Acabado (University of California, Los Angeles), Sian Halcrow (University of Otago, New Zealand), Gyles Iannone (Trent University, Ontario)

Next on our Plate

With the metals monograph in the rear-view mirror, ISEAA is turning its attention to new projects.

MMAAP ceramics

In the early summer, Joyce and Marie-Claude Boileau of the Center for Analysis of Archaeological Materials (CAAM) plan to spend a short season in Laos, Covid willing.

Marie-Claude received a grant from the American Philosophical Society for this project. The visit will allow Marie-Claude to sample the ceramics recovered in ISEAA's MMAAP surveys and excavations in Laos from 2005–2019 and bring them back to CAAM for technical analyses, especially petrography.

Year of Botany

Among the important Ban Chiang-related collections currently housed at the Penn Museum are collections related to botany and plant use, past and recent.

Joyce has been working with officials and scholars in Thailand and elsewhere to arrange a 'Year of Botany,' like the successful Year of Ceramics funded by the Luce Foundation that was conducted in



Peter Cobb, Joyce, and Bounheuang discuss a possible site with local residents during the 2019-2020 study season in Luang Prabang.



A pottery vessel from MMAP excavations at Tham An Mah that Dr. Marie-Claude Boileau will sample during the upcoming visit to Luang Prabang, Laos.

2010-2011. Joyce is working with Mahidol University to bring Thai ethnobotanists to Philadelphia for about 9 months during the next school year to curate and study the ethnobotanical material and data she collected in Ban Chiang in 1978-1981, back when she thought that she would do her dissertation on present-day plant use in Thailand.

Additionally, archaeobotanists will study the soil samples brought back from the Ban Chiang excavations in 1974-1975, sieving and floating them for archaeological plant remains. Setting this up requires a lot of arrangements: locating interested scholars in Thailand and elsewhere, arranging for visas, working with the Museum to obtain space and equipment, and, very important, finding funding!



Mounting plant specimens Joyce collected in the Ban Chiang region in 1978-1981 will be a primary activity during the Year of Botany starting later in 2022.



Dr. Marie-Claude Boileau will travel with Joyce to Luang Prabang later this year to sample MMAP ceramics for technical study at the Center for the Analysis of Archaeological Materials at the Penn Museum.

Supporting the Library of the Lao National University

A move of the Ban Chiang offices within the Penn Museum is motivating us to begin to downsize some of Joyce White’s library

holdings. As most journals are now available online at Penn, it is time to send select journals to a new home. The Central Library of the Lao National University in Vientiane cannot yet pay for subscriptions to expensive digital versions of international scholarly journals. Thus, our downsizing seems like an ideal opportunity to begin a program to support this library with mailings of hard copy publications, beginning with the *Journal of Asian Studies* from 1990. We hope that the US Embassy in Vientiane will help with this project.

Lab NOTES

❖ Good news on the social media front: as of February 3rd, the ISEAA Facebook page has 8,264 likes and 8743 followers! There really is a broad audience for Southeast Asian archaeology.

❖ ARA article receives good publicity. Confirming our opinion about its

importance, the Museum issued a press release about this article: [The_Metal_Age_of_Thailand_and_Ricardo’s_Law_of_Comparative_Advantage.pdf](#), and Penn Today conducted a Q&A with the authors (<https://penntoday.upenn.edu/news/Penn-Museum-metal-artifacts-Thailand-challenge-archaeological-theory>). Other non-Penn websites that picked up on the article including *phys.org* (Metal artifacts in Southeast Asia challenge long-held archaeological theory) and *Ancient Origins.net* (Study Contradicts Top-Down Theories on Ancient Thai Metal Production).

❖ The *Nature Communications* article on the Green Sahara also received good publicity. Penn Today conducted a Q&A with Joyce about the article on the megadrought, published online on August 21st, 2020, <https://penntoday.upenn.edu/news/Penn-UCI-William-Paterson-team-discovers-Southeast-Asian-megadrought-in-Laos-cave>. The article was also picked up in Science News <https://www.science.org/news/2020/08/ancient-megadrought-may-explain-civilization-s-missing-millennia-southeast-asia>.”

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Selected comments extracted from Muhly Foreword, and 7 reviews of one or more of the monograph suite volumes so far.

"What has been produced is the most comprehensive monograph ever published in the field of archaeometallurgy." James Muhly in foreword, Volume 2A, pp. xvii-xviii

"It is not only a complete analysis of all the metal finds from Ban Chiang and from three other contemporary sites, Ban Tong, Ban Phak Top, and Don Klang, but it is also an introduction to the discipline of archaeometallurgy. While discussing the different methods of metal analysis now in use, the text gives a clear, detailed description of the basic technology involved in each technique. In dealing with iron the text provides an excellent explanation of all the technical terms involved, including carburization, quenching, and tempering. The chapter on geology provides the best summary of the geology of Thailand ever written. The chapter on chronology offers the best-available account of all the problems and complications connected with radiocarbon dating, including a discussion of the controversies connected with the type of material being dated." James Muhly in foreword, Volume 2A, p. xviii

"To my knowledge, such a comprehensive and well-organized research project is without precedent in the history of archaeometallurgy." James Muhly in foreword, Vol. 2A, p. xviii

"This volume is exceptional as the theses advanced are critically examined, logically presented and evidence driven." David Warburton in *Antiquity* 2019, vol. 93, p. 1400

"the theoretical significance goes far beyond this specific field [of early Southeast Asian Metallurgy]." David Warburton in *Antiquity* 2019, vol. 93, p. 1400

"A more thorough, introspective and critical examination of this, or any other, set of material would be difficult to find!" Katheryn Linduff in *Asian Archaeology* 2020, vol. 4, p.1

"What Volume 2B offers in particular is a detailed, descriptive, analytic and transparent reporting of the material—the data will prove invaluable in our quest to reimagine the emergence and use of technological know-how across the broader region if such exploration remains open-minded and flexible". Katheryn Linduff in *Asian Archaeology* 2020, vol. 4. p. 5

"...the volumes provide brilliant theoretically sophisticated insights into the relation between technology and social change, and the development of social complexity and class," Penny van Esterik in *The Journal of Asian Studies* 2020, vol. 79, p. 810

"... specialists will have these groundbreaking definitive monographs to study for years to come." Penny van Esterik in *The Journal of Asian Studies* 2020, vol. 79, p. 811

“Chapter 1, written by White, provides a broad overview of the archaeology of prehistoric metallurgy with a special focus on Southeast Asia, highlighting the importance of Ban Chiang in this debate. This is a greatly useful overview of general developments and important points of discussion in the emergence, development, and context of metal production around the world, drawing on a vast range of literature.” Anke Hein in *Current Anthropology* 2021, 62(5):658

“...a major milestone in the global archaeological study of copper alloys...” Bryan Pfaffenberger in *Advances in Archaeomaterials* 2021, vol. 2, p. 1

“The work’s tone is combative, to be sure, but for reasons that, as I have endeavored to explain and with apologies to Higham, strike me as crucially important and eminently justified ...I believe this work should be required reading for students of archaeometallurgy generally. It is exceptionally well written and accessible to those new to the field.” Bryan Pfaffenberger in *Advances in Archaeomaterials* 2021, vol. 2, p. 3

“An enormous analytical data load presents an excellent framework to evaluate changes and diversity for non-state, middle-range societies through time.” In Press: Gonca Dardeniz in the *Bulletin of the Mineral Research and Exploration* 2022

“While the New Paradigm focuses on the extensive evidence collected from four sites located in northeast Thailand, this well-grounded model appears significant for regions beyond Southeast Asia.” In Press: Gonca Dardeniz in the *Bulletin of the Mineral Research and Exploration* 2022

“To conclude, the ultimate aim of the TAM volumes is to add to the current global discussion of the development of early metallurgy (preface in TAM 2A). Correspondingly, the volumes are a great success. Both the editors and contributors challenged and succeeded to debunk the conventional paradigm of prehistoric metallurgy. The evidence is crystal clear that the impact of metal technology was not equal in all prehistoric societies; thus, they should not be considered uniform. The cases based on the Ban Chiang cultural zone sites of Southeast Asia validate the New Paradigm. Now, it is time for scholars in the field to test the new model to understand technologies (e.g., metal, ceramic, stone, textile) in social contexts to lead the paradigm shift.” In Press: Gonca Dardeniz in the *Bulletin of the Mineral Research and Exploration* 2022

“This volume is a must-have for archaeologists and archaeology students working in Southeast Asia and other parts of the world as a theoretically-rich interpretive case study...A contextualised and theoretically sophisticated appraisal of socio-economic organisation is a welcome addition.” Siân Halcrow and Nigel Chang in *Asian Perspectives* 2021, vol. 60, p. 464