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Production and distribution of iron in the Angkor kingdom: evolution of technical practices and networks between smelters and consumers (9th -15th c).

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IPPA 22

CHIANG MAI

CONFERENCE PROGRAM and ABSTRACTS

The 22nd Congress of the INDO-PACIFIC PREHISTORY ASSOCIATION

6-12 November 2022
Chiang Mai, Thailand



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Indo-Pacific Prehistory Association
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exhibiting varying typologies. This paper focuses on two Shisanhang culture Metal Age sites; Shisanhang (200-1600 AD) in the northwest, which delivered one of the largest set of metal objects in Taiwan, and Blihun Hanben (500-1000 AD) in Yilan County that has produced molds demonstrating local secondary copper production, especially for bells and human shaped knife handles. Around 30 objects from these two sites were selected for archaeometric analyses (Optical Microscopy, SEM-EDS and ongoing Lead isotope analyses) in order to identify the different copper-base traditions of the Shisanhang culture. The research is aimed at identifying potential links with Metal Age Taiwanese cultures and other known copper-based metallurgical centres across Southeast Asia more broadly.

S10-7 The Ancient Iron Industry in Cambodia

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The research project entitled 'The Ancient Iron Industry in Cambodia' was established by the Royal Academy of Cambodia with the purpose of searching for the source of the iron industry, which led to the growth of the ancient Khmer Empire, and underpinned the emergence of the great empire (Moha Norkor) era from the 9th century to the 15th century AD. The Moha Norkor constructed hundreds of sandstone and laterite temples still present in Cambodia, Thailand, Laos, Vietnam, and Malaysia. Research by Dr. Thuy Chanthourn, Deputy-Director General of Institute of Culture and Fine Arts, Royal Academy of Cambodia since 2010 has focused on the northern area in Preah Vihear, Kampong Thom, Siem Reap, Oddar Meanchey, and the western area of Stung Treng Province. The purpose of the project is to preserve national heritage sites and to contribute to the establishment of Samdech Techo Hun Sen Eco-Global Museum in Preah Vihear province, leading to the creation of a law to protect those sites and the creation of a new national park at the ancient iron-producing industrial sites.

S10-8 Production and Distribution of Iron in the Angkor Kingdom: Evolution of Technical Practices and Networks Between Smelters and Consumers (9th - 15th c.)

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Since 2014, a transdisciplinary project has been documenting the technical practices and organization of iron smelting activities within the territory of the Angkorian kingdom. This research project applies a holistic approach to archaeometallurgical analyses developed at the interface between field studies, material sciences, and data analysis. A vast archaeometallurgical database has been constructed from the analysis of waste products of iron smelting operations, the investigation of finished products found in use context, and from contextual (spatial and chronological) data from the sites. On a large scale of investigation, it is possible to observe an evolution through space and time of technical practices and of relationships between the smelters and the consumers. Important shifts in the production and distribution networks that related to the political and cultural fluctuations of the Angkorian state can be evidenced. At a local level, we can investigate the logistics of supply, and use or storage of metal products at various sites. This paper discusses some results obtained at these two scales of investigation by presenting, first, the production behaviour that took place around Phnom Dek (Cambodia) over a period of 1400 years; second, the data obtained on the origin and period of production of the iron armatures related to the Prakhon Chai bronzes (7th-9th c., Buriram province, Thailand). Through these two examples, we will demonstrate the methods developed specifically to reveal and describe these patterns.

S10-9 An Iron Smelting Technology at Ban Na Tum Archaeological Site, Phrae Province, Thailand

Phonphayuha Chaiyarot