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PRODUCTION AND TRADE OF IRON IN THE KHMER EMPIRE (9TH-15TH CE): A COMBINATION OF TECHNOLOGICAL, CHRONOLOGICAL AND SOURCING ANALYSES

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Investigation into material production and distribution is an important way of understanding the political and socioeconomic organization of premodern states. Reconstructing how iron was managed in the Khmer Empire is therefore a critical perspective for documenting the interrelationship between its multiple sociotechnical systems and greater historic trajectory. In this paper, we propose to combine archaeological, archaeometallurgical, technological, chronological and sourcing investigations of iron to reconstruct the spatial, diachronic and synchronic organization of the iron exchange system within the Khmer empire between the 9th to the 15th centuries.

To reach these objectives, we have investigated three classes of iron objects—architectural crampons, armatures for statuary and objects, and tools and weapons—that have played minor roles in past research but in combination may significantly alter our understanding of the Angkorian past. Since 2015, we have examined a statistically significant number of architectural supports (250 crampons) recovered from 7 from the Angkorian masonry complexes (9th to 15th c. CE) and tools and weapons from consumption sites (9th to 12th c. CE). The methodology was recently implemented on the iron armatures from the religious statuary and objects made of bronze that were also produced in massive quantities during the Khmer state.

The combination of the analyses have generated evidences of form, process of secondary manufacture, association with reduction systems, and date of production. This investigation was paired with extensive analyses of the vast iron production landscape of central Cambodia and evidence from northeast Thailand. Gathering all evidences permits to identify changes in the production and consumption strategies of the Khmer state that seem to be linked to key historical developments of the empire. Moreover, the resulting large datasets offer new methodological perspectives to apprehend the combination of data. Overall, it is possible to move towards reconstructing premodern iron economies and the interrelationship between the sociotechnical system and historic trajectory of the Khmer Empire.