REPLY TO SHELACH-LAVI ET AL.:

Implications of the horse assemblages from Shirenzigou and Xigou

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Our analysis of horse skeletons from Shirenzigou and Xigou supports the presence of horseback riding in the eastern parts of the emerging Silk Road region by around 350 BCE (1). In their comments on our study, Shelach-Lavi et al. (2) point out that much of the significance of our discovery lies in its demarcation of the onset of cavalry warfare, a development that significantly transformed regional politics over the long term. We thank them for their comments.

Shelach-Lavi et al. (2) observe that domesticated horses are present in the Chinese archaeological record by the late second millennium BCE, a fact which we agree is already established. Our paper focused not on these important earlier developments (3, 4), however, but on reconstructing the transition from chariots to riding based on empirical archaeological data.

Shelach-Lavi et al. (2) mention the artistic depiction of horseback riding from the Nanshangen site (5), located in the modern county of Ningcheng, which predates Shirenzigou and Xigou by a number of centuries. While we agree that this bronze artifact, from an Upper Xiajiadian culture period (ca. eleventh to sixth century BCE) burial context, is a tantalizing piece of evidence for horseback riding, iconographic depictions and stylistic dates are unreliable indices for tracing the actual practice of horseback riding along the Chinese frontier, particularly given the strong economic and cultural links between this region and steppe societies to the north. No directly dated osteological evidence from horses—of the nature we identified from Shirenzigou and Xigou—has been secured

for Nanshangen or any other first millennium BCE site. Shelach-Lavi et al. also cite Goodrich's (6) work, but what Goodrich suggested was that horseback riding was likely practiced in the Warring States period, as early as the fourth century BCE (contemporary with our horse assemblages). While earlier evidence for horsemanship in the Central Plains of China or its periphery may emerge, to date, no direct evidence has substantiated this practice or provided insight into its prevalence.

We agree with Shelach-Lavi et al.'s (2) insightful commentary that mounted cavalry changed tactical battlefield strategies and played a crucial role in political disputes and socioeconomic developments in ancient East Asia during the late first millennium BCE (2, 7, 8). However, despite evidence for the presence of horseback riding and mounted archery at Shirenzigou and Xigou around 350 BCE, the form and scale of mounted warfare in this region is still poorly characterized. Our ongoing research seeks to clarify the social and economic impacts of the emergence of cavalry in Xinjiang and beyond. As Shelach-Lavi et al. suggest, future work helping to link these changes with cultural developments farther east, and developments across the northern steppe frontier, will help us build better archaeological models for these significant and transformative transregional changes.

We are grateful to Shelach-Lavi et al. (2) for their valuable thoughts on our article, which motivate us to consider more fully the implications of our findings from Shirenzigou and Xigou for the social, economic, and political milieu of ancient eastern Eurasia.

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