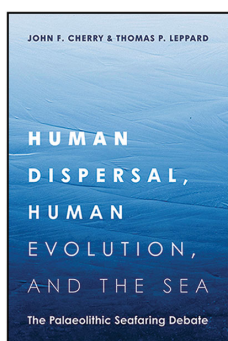




## Book Reviews

JOHN F. CHERRY & THOMAS P. LEPPARD. 2025. *Human dispersal, human evolution, and the sea: the Palaeolithic seafaring debate*. Denver: University Press of Colorado; 978-1-64642-690-4 hardback \$67.



John Cherry and Thomas Leppard's *Human dispersal, human evolution, and the sea: the Palaeolithic seafaring debate* synthesises perspectives on prehistoric movements and migrations, particularly from the Mediterranean region and Island Southeast Asia (ISEA). The Palaeolithic seafaring debate is one of the central themes in human biocultural evolution, key to our understanding of human colonisation of remote regions. The book contextualises the complexity of understanding prehistoric human traits and behaviour in relation to technology that was required to successfully conduct intentional sea crossings. The authors have concisely and coherently presented key themes in seafaring, exploration and colonisation. They

discuss the commonly accepted notions in detail while incorporating the latest studies from both the Mediterranean and ISEA, focusing on connecting the important fossil and artefactual evidence in both regions to discuss the antiquity of seafaring, whether it be accidental or deliberate. At the core of this debate is the set of parameters considered as the 'Gold Standard' that includes artefacts, stratigraphic context, chronometric determinations and remains of hominins. This standard has two divergent views—a minimalist perspective that favours the stricter adherence to this set of parameters and a maximalist view that opposes such view as unrealistic.

The debate centres on views about human behaviour and cognition that facilitated over-sea movements. The antiquity of such an important milestone in human evolution is the core topic in this book, with less emphasis on the mechanisms and technologies behind such movements. To provide proper contexts, cases from the Mediterranean and ISEA were presented focusing on subjects such as lithic technology, the human fossil record, archaeological experimentation, excavations and latest developments including ancient DNA (aDNA) and proteomics. Cases from these regions are presented as contrasting examples in terms of early human colonisation, palaeogeography and timelines with the goal of highlighting the complexity of sea crossings whether it was intentional or not. Although such work is relevant and timely in the ever-changing landscape of archaeological research, it is not without criticism.

There are some ideas that need to be highlighted and assessed when reading the work of Leppard and Cherry. First, the idea that stone tools seem to be less reliable when associated with certain human species as proxy for the arrival of certain groups to geographic areas that seem to be isolated and only reachable through sea crossings. In certain areas where fossils are absent, lithics remain the key pieces of evidence in ascertaining the presence of

hominins. With the absence of stone tools, such as the case of *H. luzonensis*, we would be unable to decipher prehistoric technology and behavioural capacity despite the presence of fossil evidence. In contrast, the open-air site at Talepu in Sulawesi has no fossil evidence but other proxies, including stone tools. Indeed, lithics are the strongest and most-often present proxy of human presence and activity at an archaeological site, yet even for experts it is still challenging to establish the context and veracity of such artefacts and in some cases, these are not present in key periods in an archaeological site. Further, the challenge of studying stone tools not found in proper archaeological contexts increases this problem. However, to limit the role of lithics due to problematic typological classifications may also be counterproductive when interpreting results with the absence of other pieces of evidence.

Second, experimentation is an issue when addressing this debate, and one of the goals of such experiments is also to test stone tools and their association with prehistoric seafaring technologies. These stone tools are the connection for experimentation on seafaring and modern-day production of seacraft replicas based on our interpretation from archaeological artefacts, and not just activities conducted to test seacrafts and routes. We can assess, for example, the connection between plant-working and seafaring, because use-wear traces on tool surfaces resulting from plant processing are common in ISEA. Additionally, protocols for targeting analogues on seafaring for the Palaeolithic are still inadequate due to the absence of a reliable reference. The oldest remains of prehistoric sea vessels were identified and dated to only around 10 000 years ago. The potential to the study of submerged coastal areas and sites could help us infer which technologies were transmitted along coastal areas and islands over the past 40–50 000 years, especially with an emphasis on open-sea fishing. The proposition that sea crossings might be accidental in ISEA through waif theory seems counterintuitive, since seafaring was more evident in the region just a few thousand years later, beginning with the arrival of modern humans in the region with technologies adapted to open-sea fishing. Although experiments have their limitations in addressing seafaring that spans thousands of years, from at least a million years ago, such attempts might not be futile since these can relate to our interpretation of tool functions from archaeological contexts.

But how to address such a complex topic with limited archaeological data? The authors proposed pursuing a ‘deposit-centred archaeological survey’, exploring landscapes of now-submerged continental underwater shelf and exploring perspectives from recent predictive modelling. Two viable options arise when addressing this debate during archaeological excavations. First, we can develop methods to excavate these sites with advanced underwater archaeology techniques. Second, we can give more emphasis on the mechanisms behind sea-crossings, seacrafts or accidental crossings that should work within the parameters from the environmental and archaeological data during the Palaeolithic. Due to the inherent human curiosity and plasticity, the same could be said about coastal environments and behaviour associated with seafaring and crossings. As the authors pointed out, localised adaptations did occur, potentially resulting in the development of skills in over-sea movements, such as swimming.

The book is a great contribution to the literature regarding prehistoric movements and readers would benefit from its coherent and well-thought-out arguments. It closes with a chapter that encapsulates the theoretical and archaeological perspectives on early seafaring—a good starting point for archaeologists and other scholars to grasp the extensive topic of prehistoric over-sea crossings. Connecting the diverse pieces of evidence to the bigger picture of human migrations

across time is a tall order, which might require a middle-range approach between minimalist and maximalist views. Given that this is grounded on the challenges and limitations of connecting cultural remains with actual human activities, especially prehistoric seafaring, connecting prehistoric sea crossings with fossil and artefactual remains should be tailored for each geographic area rather than presented as a general narrative.

Finally, the book raises more questions than it answers and to address these, we should utilise modelling and simulations using big data, potentially coupled with artificial intelligence. We need to perform more actualistic experiments involving the construction and testing of seacrafts in regions that required sea crossings for human occupation during the Palaeolithic, although this task requires a bit more scientific imagination since such sea-going crafts from the Palaeolithic have not yet been excavated. As the debate persists, we must continue testing the water to identify technologies associated with prehistoric sea crossings, whether through experimental or tangential results such as proteomics and aDNA. Humans, after all, are not only predators who pursue their prey over long distances and across bodies of water but they are also very curious, and such questions will surely be creatively addressed, just as our ancestors had to do when faced with open seas at least a million years ago.

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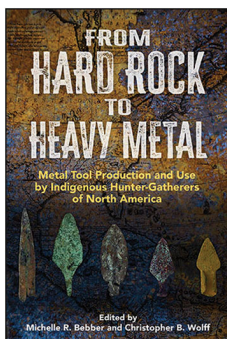
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MICHELLE R. BEBBER & CHRISTOPHER B. WOLFF (ed.). 2025. *From hard rock to heavy metal: metal tool production and use by Indigenous hunter-gatherers of North America*. New York & Oxford: Berghahn; 978-1-83695-044-8 hardback £104.



When you consider the oldest metallurgy in the world, do Egypt, Mesopotamia and other agricultural societies come to mind? If so, turn up the volume on *From hard rock to heavy metal* to explore Indigenous uses of metals across millennia in North America. As Michelle Bebbier, David Pompeani and their colleagues have elsewhere demonstrated, the Great Lakes region preserves the world's oldest known evidence of metallurgy, originating as early as c. 9000 BP (Pompeani *et al.* 2021; Bebbier *et al.* 2022). This edited volume highlights the working of copper, meteoric iron and reworked iron trade items specifically among hunter-gatherer communities, providing case studies that underscore their