Introduction

Introduction: Bronze Age Civilizations

This volume collects different regional and methodological approaches to the phenomenon of global Bronze Age in the Eurasian and African landmasses, arising from the conference *Bronze Age Civilizations* hosted at the Research Centre for History and Culture at United International College-Beijing Normal University, Zhuhai on April on the 25th–26th March 2022. The intention of the volume is a deliberately broad one: to promote dialogue in discussing the ‘Bronze Age’ across cultures, disciplinary boundaries, and research methodologies, although it cannot make a pretense to be a comprehensive treatment of these themes. The papers given here present not only different regional perspectives, but also different foci and primary evidence corpora, from theoretical discussions of the state, ideas of networks and cosmopolitanism, to mortuary archaeology, craft specialization, and metallic production. It is hoped that ideas and themes of social complexity, technological innovations, long-distance trade networks among other key themes may be held to the analytical microscope, allowing us to tease apart common and uncommon phenomena present in world ‘Bronze Ages’.

‘The Bronze Age’ is a phrase that is synonymous with archaeology and ancient history, from our textbooks to our university courses. It is a term so embedded in the literature that only seldom is its utility questioned, and even here it is rather only inquisitioned in those specific cultures which are peripheral to bronze production. Since Christian Thomsen’s coining of the term in his three tier system, ‘Stone Age’, ‘Bronze Age’ and ‘Iron Age’, the phrase has enjoyed a long use in the scholarship of world archaeology and ancient history, being only (somewhat) absent from the archaeological discourse in Oceania, sub-Saharan Africa, and the Americas. Indeed, in an academic literature

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1 For the origins of this term in 19th century scholarship, see Heizer (1962: 259–262).
punctuated by every-changing terminology and jargon, the term ‘Bronze Age’ is remarkably resilient – perhaps partially so because of its simplicity and due to the fact that one would have to redesign the tiered system altogether if one was to remove it. Even works which have attempted to rewrite the central axioms of progress in human history, namely Graeber’s and Wengrow’s recent *The Dawn of Everything* (2021), have kept ‘Bronze Age’ as a comparative term to describe cultures from China, South Asia, and Europe among others. Despite increasing critical approaches to long-held ideas in archaeology, it does not seem like ‘Bronze Age’ is going anywhere.

Yet one of the chief findings of any comparative approach is that the ‘Bronze Age’ as a phrase has meant different things in different disciplines and regional settings. In some fields typified by their study of enduring territorial states with indigenous written traditions which periodize their history (Egypt), ‘the Bronze Age’ remains a relatively under-utilized term, primarily used by those scholars who are employing a specifically comparative perspective or anthropological theory in their work (Moreno Garcia, this volume). For Egyptologists, the juxtaposition could not be more apparent. The ‘Old Kingdom’ is the Levantine Early Bronze Age, the ‘Egyptian Middle Kingdom’ is the Levantine Middle Bronze Age. Egyptologists do not need the ‘Bronze Age’ as a chronological marker even if there is acute awareness in Egyptian archaeology that Egyptian culture acceded from a Neolithic to Chalcolithic to Bronze Age in the late Fourth and early Third Millenniums BCE. In other disciplines (Near East, Europe), the phrase is so cemented in chronological orderings and phasing that it is possible even to speak of typical assemblages in terms of their belonging to this phase, so we create phrases such as ‘Bronze Age pottery’, ‘Bronze Age hill fort’, *et cetera*. One may even speak of a ‘Bronze Age chief’.

For the scholars of East Asia, the term ‘Bronze Age’, apart from broad comparative connotations, invokes the local cultural emphasis on resource- and labour-intensive ritual bronzes, sometimes bearing informative inscriptions. In the absence of monumental buildings, bronze vessels and musical bells have become the focal point of archaeological and historical studies for the period of ca. 1700 to 300 BCE (Wu Hung 1996). The scholarly understanding of the East Asian ‘Bronze Age’ is also changing rapidly. On the one hand, it is no longer seen as a unified realm focused on the Central Plains region. The most vivid illustration of East Asia’s cultural diversity during the Bronze Age is the famous site of Sanxingdui in the Sichuan province. A few sacrificial pits discovered there in the 1980s, supplemented by new major findings in 2019–2021, have produced an astounding wealth of impressive bronze objects dating to the late Second Millennium BCE, of which the most recognizable are the...
extravagant bronze heads, which bear no traces of influence from the Central Plains (Li et al. 2023). In addition, ongoing scientific studies of bronze alloys, such as the Oxford-based FLAME project, shed more light on the technological and economic aspects of bronze production in East Asia, creating a fuller perspective of the broad networks involved in metallurgical production and the distribution of bronze objects, and not just the few centres of mass production (Pollard et al. 2019; Liu et al. 2020). These exciting developments in the study of the East Asian Bronze Age have served as one of the initial points of inspiration for this volume.

Essentially when one uses ‘Bronze Age’ there is generally a tacit acknowledgement that it does not imply the same materials, patterns, and complexities in each ‘Bronze Age’ society, especially in chronological terms where dates for the introduction of bronze vary widely. Nevertheless, we must accept that there is an obvious commonality, namely the presence of bronze objects and/or bronze production. More hazardous is the application of the term to those regions which were peripheral to central regions of bronze production and yet participated in long distance trade networks and themselves possessed bronze objects and even Bronze Age ‘value systems’ (Kristiansen 2018). While there are obvious regions which are not part of the world Bronze Age such as southern Africa or Oceania, there are other regions where, despite the occurrence of bronze materials in the archaeological record, the status of local societies as belonging to the ‘Bronze Age’ is debated.

The difficulties of applying the phrase ‘Bronze Age’ is illustrated in the example of Nubian cultures of the Second Millennium BCE (de Souza 2023, this volume), where the moniker ‘Bronze Age Nubia’ has a questionable status in the scholarship despite the presence of bronze objects and even evidence for local bronze workshops. Beyond this, it must be stressed that not all of Eurasia and Africa participated in this ‘global Bronze Age’ – the arctic tundra, archipelago Southeast Asia, Oceania, and the entirety of sub-Saharan Africa did not possess bronze metallurgy techniques until fairly late in history. The case of sub-Saharan Africa, although still in the early stages of research and thereby insufficient for large-scale generalizations, offers an illuminating counter example to the common ideas of Bronze Age trajectories (Killick 2015). The early dates for iron production (and lack of Bronze production) in many parts of Sub-Saharan Africa go against the trajectory commonly espoused in scholarship, where the Neolithic gives way to the Bronze Age. This early emergence of iron puts under question the structural inevitability of bronze technology as an essential technological innovation in the course of societal development. While there are dates for copper metallurgy, for example in the Western Sahel in the First Millennium BCE (Mapunda 2013),
there is little evidence for specific bronze production before the advent of iron metallurgy. The ‘Bronze Age’ is therefore not justifiably applicable to much of the southern half of the African continent, and although comparatively early metallurgical innovation was taking place there, including iron smelting in the First Millennium BCE, there is no justification for considering ‘Bronze Age’ an applicable moniker for this region. Likewise, one can mention the entire American landmass as one which certainly contained many of the presumed societal ‘ingredients’ for Bronze Age ‘civilizations’ (urbanism, craft specialization, centralization, mineral exploitation) but never developed the innovation of bronze metallurgy – a story that does not belong here. Returning to the Bronze Age cultures of Eurasia and North Africa, it is difficult to confidently state that their respective cultures encapsulated something altogether similar to one another.

There remains a school of internationalist and comparativist archaeology that does speak of ‘Bronze Age’ societies as if it were some sort of constant in world archaeology and history. For this approach, the Bronze Age is synonymous with a litany of features, most often exemplified in those primary states of fertile regions in China, Mesopotamia, the Near East, the Indus, and Egypt. This includes but is certainly not limited to: growing urbanization, monumental architecture, international trade, pronounced vertical hierarchies, elite display in mortuary traditions, the emergence of territorial administration or bureaucracies (aka the ‘polity’ or ‘state’), writing, and increasing craft specialization. This ‘Bronze Age pack’ is, however, a problematic ideal. Many cultures existing in the Bronze Age did not possess these features, and few outside the fertile riverine zones of the Fertile Crescent, the Indus, and north China possessed them all. Across Eurasia, bronze metallurgy was practiced by peoples living outside territorial administrations and urban zones, and without the mediation of such groups, bronze technology may not have even become known in some regions that fostered advanced urban societies, such as East Asia. Pastoralist nomads of the Central Asian steppe practiced bronze production by the Third Millennium BCE (Dupuy 2014). Technological advancement was not necessarily correlated with social complexity. Therefore, when speaking about the different societies, one might suggest ‘common factors’ or ‘correlates’ of the Bronze Age, but not preconditions. It would be perhaps crass to dismiss the obvious chronological correlation that many Bronze Age societies of Eurasia invented writing systems (Egypt, Mesopotamia, the Aegean, China). But then again, some societies independently invented writing outside such a system (Maya hieroglyphs).
Metallurgy

The common factor here is metal, copper mixed with tin and other elements like arsenic. Why and how to label a whole swathe of history after the advent of a new technological process? For archaeologists practicing their profession in Europe and the Middle East, the idea of a distinct ‘Bronze Age’ following the Neolithic or Chalcolithic ‘Copper Age’ remains simple enough following Thomsen’s hierarchy. Humanity had for long periods of time used lithics and then progressed to a time where a new material, copper, was available to them, even adapting some of the ‘cold-working’ lithic techniques to this new material (Li Kin Sum 2023, this volume). This development was sometimes interspersed with the so-called Chalcolithic, often defined as a transitional period typified by the use and manipulation of copper without the presence of alloying with tin or other metals.² Even ancient authors were cognizant of this;³ the Roman philosopher Lucretius phased human history into ages of stone, bronze, and his contemporary ‘Iron Age’. Likewise, the Greek cosmology of Hesiod mentions a ‘Bronze Age’ being followed by a ‘Heroic Age’ and an ‘Iron Age’.

It now appears simplistic to speak about the ‘Bronze Age’ as something conditioned only by technological advancement. Although not stated explicitly in much of the literature, a number of preconditions need to be met for bronze production in basic socio-economic terms. First, there is the exploitation of the raw materials, a ready access to cupric ores, as well as other alloying elements, most notably tin and arsenic, sourced through direct mining or trade. The relative scarcity of tin sources in particular meant that almost all bronze production required long distance and complex trade networks. Then there are the all-important components in the smelting and firing process such as charcoal, along with the building of kilns or smelters, all of which supposes that significant portions of the community pooled resources in an organized manner. More elusive on the archaeological record is the abstract knowledge, the technical expertise of miners, smelters, craftsmen, traders and others whose skills kept bronze production going. The chaîne opératoire of metal production required many steps, including but not limited to specialist mining, smelting, casting, annealing, and recasting. As many archaeologists have noticed,⁴ such technical ‘specialization’ presumes that the community produced enough surplus food to allow a portion of the population to engage in specialized and

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² The presence of Chalcolithic cultures in the North America likewise questions whether the Chalcolithic was a typically transitional phenomenon inevitably leading to a Bronze Age.
³ See the discussion in Heizer (1962).
⁴ See the discussions in Chant and Goodman (1999) or Underhill (2002).
dedicated craft activities not linked to subsistence. The extensive trade involved in moving these necessary materials means that almost all Bronze Age cultures produced or participated in intense exchange networks over vast distances, linking sources of copper and tin with production centres and consumers to distribute the raw metals or manufactured metallic objects. Bronze production is rarely an ‘island’ and thus the Bronze Age appears like a webbed network, linking disparate communities, and bringing with it new ideas, identities, and political formations.

**Bronze Age or Bronze Ages**

The term ‘Bronze Age’ has different utilities in different regional disciplines. A further factor in this assessment must be the differing use and prevalence of bronze objects in each society. To speak of a society as suddenly entering the Bronze Age due to the archaeological presence of bronze objects or bronze alloying in the local metallurgical process would be overly reductive – there must be some typological difference between societies which were simply integrated into Bronze Age networks and those which were central producers and manufactures of raw bronze and bronze objects (see Higham 2023, this volume). The chronological differentiation between Bronze Age societies across the world has meant that ‘accession’ to the Bronze Age was hardly an inevitable or rapid affair. Early dates for the Balkan Bronze Age (Radivojevic et al. 2021), with some data from Serbia and Bulgaria going as far back as the Fifth Millennium BCE, shows us that bronze metallurgical processes pioneered in specific nodes involved in the extraction of raw materials and production of bronze objects did not always disseminate to outlying areas. This ‘short lived tin-bronze horizon’ in the Balkans did not create a widespread Bronze Age across Europe.

Furthermore, one might stress social dimensions of bronze use within each culture. Bronze metal and bronze trade remains firmly in the hands of elite in many societies for long periods of time before bronze tools become commonplace. Thus in many places we find bronze objects typifying elite funerary assemblages rather than something used as tools in domestic contexts (Wicks 2023, this volume). This is of course partly attributable to sealed archaeological contexts and the recyclability of metals, but in many cultures there is a delay from the accession of bronze in the record to its widespread use as material for basic tools and implements. There is then differences in demand and intensity by which a culture experienced the Bronze Age; indeed it may even be reductive to call such cultures that only
used bronze in elite consumption and trade exotica as ‘Bronze Age’ societies. Archaeologists typically use a set material horizon or culture as their referent, but if only a select portion of such a society is included in the manufacture and consumption of bronze objects, can we justifiably label it a truly ‘Bronze Age’ society?

Networks and ‘Bronzization’

Theorizing on the newfound connectivity of the Bronze Age, Vandkilde (2016) created the term ‘Bronzization’ to describe a putative globalization of the world within these newly formed networks c. Third Millennium BCE. This ‘Bronzization’ is typified by increase in connectivity, under which disparate cultures came under more intense contact. The question perhaps to be asked here is whether this newfound connectivity was causal to, or an effect of, bronze production, transportation, and metallurgy. Whatever the case, in most regions of the world, archaeologists have been able to relate the spatial and quantitative intensification of exchange and trade networks with the capacity to shift materials over extremely wide distances. Apart from moving metals and other trade exotica, these networks were instrumental for the growth of bronze metallurgical practices as well as producing truly trans-national and ‘entangled’ material cultures. For some scholars, the connectivity concomitant with bronze manufacture is so intimately connected with the ‘Bronze Age’ that it is one of its defining attributes:

Among the characteristics that might compel archaeologists to label the Bronze Age a ‘formative epoch’ in European history, the density and extent of the era’s exchange and communication networks should perhaps be regarded as the most significant.


Not limited to trade goods, art and decorative patterns, this turbo-charging of networks also brought with it the movement of people and ideas across large spaces.

The Bronze Age and Social Complexity

One way scholars have framed the archaeology and history of the ‘Bronze Age’ is through associating and framing Bronze Age societies in terms of their social
complexity’, a vaguely and varyingly defined framework in archaeological and anthropological research. The idea is often linked with, but not readily defined by, the emergence of ‘complex’ vertical hierarchies (inequality), urbanism, specialist economic occupations, and territorial states, which are only imperfectly manifested in the material and archaeological record (see most recently, Daems 2021). With greater resolution in archaeological and anthropological research of non-state societies, it is becoming difficult to define just what a socially complex society is when the obverse negative definition, a non-socially complex or ‘simple’ society, seems properly elusive. The label of ‘social complexity’ is applied frequently to such Bronze Age societies which exhibit embedded vertical hierarchies of rulers, officials, and bureaucracies, functioning as part of a ‘territorial state’. As a result, the term ‘social complexity’ is often linked to any sites or culture which can show a high-degree of stratification or organization (cf. Graeber & Wengrow 2021:360–361).

Given that many non-bronze using, non-state, and non-urban societies, such as hunter-gatherers or nomadic pastoralists, have been defined as exhibiting social complexity (Ames 1994; Ames 2010) including complex social relations, internal hierarchies and heterarchies, and other archaeologically ‘less detectable’ manifestations of human organization, the idea that social complexity is a monopoly of Bronze Age urban societies emerging out of a ‘simple’ Neolithic seems to be unravelling. What is interesting here is how frequently social complexity is linked to the chronology of the Bronze Age and Bronze Age societies, oftentimes with the territorial state itself. The literature is by no means near any unanimity on these issues. Perhaps it would be better to frame the emergence of Bronze Age societies as having their own specific social complexity, ‘Bronze Age complexity’, a term that would allay some of these issues. At the very minimum, Bronze Age complexity would entail societies that could support the ‘complex’ economic networks of mineral exploitation and metallurgy.

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