Preface

In the University of Haifa library system, you will find the food section sandwiched between the ones on marriage and death. Readers can come up with their own witticisms here, but a classification system where food is the main course between coupling and our eventual demise is not all that irrational. As I write these sentences, my father-in-law is calling his wife, for what must be the fifth time now, to come downstairs and have lunch with him. Even as the food is getting cold, he will not eat it alone, nor would he want my mother-in-law to. (Although I suspect she would not mind it all that much; she has work to do and needs to get back to it.) From the daily meal to the wedding feast, food is a fundamental part of our lives and a central aspect of our social existence; far more than a source of fuel for the physical body, food – how we cook it, eat it and perhaps most importantly with whom we share it – is wrapped up in the many political, economic and social aspects of our lives.

That food is central to Chinese culture and civilization is a worn-out trope that will be repeated here only this once. Obtaining daily nourishment is the foundation for the development of cooking and preserving techniques upon which distinct flavors and regional kitchens evolved. High cuisine has long been an important indicator to differentiate important lords from members of the lower classes and diets as a crucial marker distinguishing "us and them." Food was a common figurative device to convey political lessons and philosophical metaphors (for an overview on these topics, see Sterckx 2004).

This Element is about food in Ancient China. Textual evidence, artistic representations and the rare preserved meal aid in reconstructing food and society for the better-known historical periods. Our main data source here will be archaeology, as it is the only one we have for the deep past and because it provides a fantastic set of tools and methods, for any time period, with which to reconstruct what people ate, how they ate and with whom. Readers with little prior knowledge in the field can find good overviews on Chinese history and archaeology in English in Liu and Chen (2012), Underhill (2013), Shelach (2015) and Goldin (2018). Whenever possible I have tried to include entries from the growing body of scientific work published in English-language journals, and those seeking original site reports and further elaboration in Chinese can consult their bibliographies as well as the aforementioned volumes.

1 Introduction

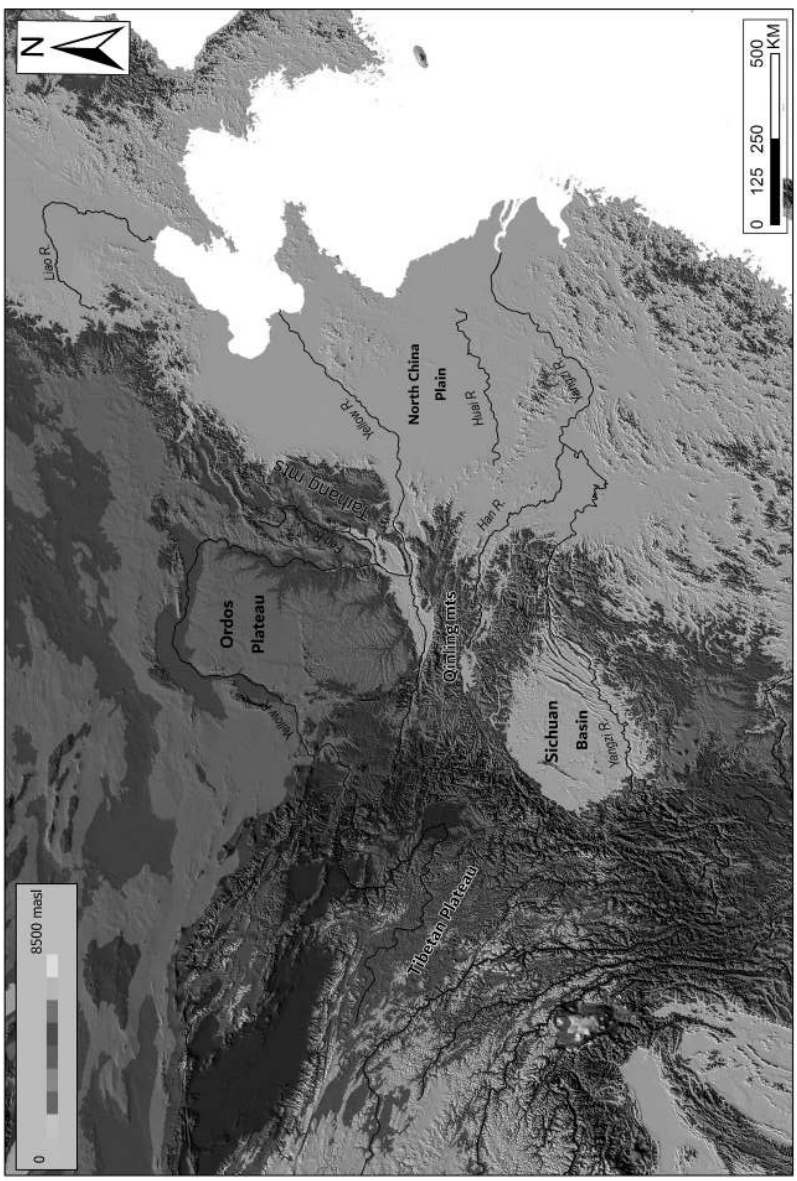
Ancient China: What, When and Where

What, when and where is Ancient China? Starting with this set of questions might seem odd, but the way we answer them directly shapes how we study food

in Ancient China. First off, the question of what is Ancient China is connected to the question of when is Ancient China, as in when did China emerge as the social and cultural entity we are more familiar with today? This question has a number of answers to be sure, and each depends on how we define China and its constitutive elements (language, artistic styles, food etc.) that subsequently enable us to assess where and when this or that element emerged. From a food and cuisine perspective we can think of certain hallmarks of Chinese cuisine and ask when they first appeared or were conceived. For example, when were chopsticks first used? But we quickly run into a second set of questions. How central, really, are chopsticks to our definition of China (does it stop being Chinese food when consumed with a fork)? Are chopsticks enough? In other words, if falafel balls are eaten with chopsticks, do they no longer count as Middle Eastern food?

The what and the when of Ancient China are further connected to the question of where Ancient China is. Simply using modern borders is not without issue either, as cultural zones and official political borders have shifted over time. Chinese polities have contracted and expanded considerably in the past, resulting in stark changes in the landmass they inhabited, influenced and controlled at different periods. Traditional narratives view Ancient China as developing in the Yellow River Valley and spreading out to engulf the surrounding regions that make up its modern-day boundaries (see Map 1). These models were later supplanted by ones espousing multiple endemic and independent lines of development, each in a different geographic area. Only later, around the late second or first millennium BCE (aka the Bronze Age), had they converged to form a single all-important center from which Chinese civilization eventually emerged. This is an especially important period in the development of Chinese civilization – historical texts describe the pre-imperial time as one of a succession of dynasties – the Xia, Shang and Zhou – their dates roughly corresponding to the first and second millennia BCE. Consequently, the term "Ancient China" has different meanings: the period of time prior to the aforementioned three dynasties (i.e., pre second millennium BCE), or as beginning in the second millennium BCE and extending into the first as in up until the end of the Zhou period and the start of the imperial era (at 221 BCE with the Qin unification). Often, the late Shang, but mainly the Zhou period, or the first millennium BCE, marks the starting point of Chinese civilization as it is when many hallmarks of later Chinese culture, art and style and, importantly, a developed written language, can be identified for the first time (see discussions in Goldin 2018, Liu & Chen 2012, Shelach 2015 and Underhill 2013).

A recent survey of publication trends in Chinese archaeology shows that these periods, and the cultures and sites they reflect, are still the most intensively



Map 1 Physical map of China

researched and published (Wei et al. 2022). Accordingly, the geographic areas where the three dynasties are thought to have emerged and later developed receive more attention as well, notably the Yellow and Yangzi River valley plains – China's two great river systems – in the provinces of (in alphabetical order) Henan, Hubei, Jiangsu, Shaanxi, Shandong and Shanxi. The geography of China is also at the center of the many regional and macro cuisines that make China the modern tapestry of foods and flavors it is today. They are as much the products of cultural traditions and the desire or ability to engage with foreign influences, as they are those of environmental conditions available to the people inhabiting its diverse ecological zones.

China is a vast country (a subcontinent, really, and the fourth largest country in terms of landmass) comprised of a diverse array of ecological, environmental and topographic zones crisscrossed by numerous rivers and multiple mountain ranges (Map 1). In general, as one moves north, the climate gets colder and drier and the variation between the seasons greater. It is common to divide North and South China along a line that runs from east to west along the Qinling Mountains and separates the Yellow and Yangzi Rivers as well as their fertile valleys. The north is, on average, colder and drier than the hotter and more humid south, which receives annual rainfall averages of more than 1,000 mm (some places nearing 2,000 mm) and remains above freezing year-round. China can be further divided along an east–west axis where the flatter fertile loess lands, suitable for agricultural production, can be found in the east, a region where the climate is further mediated by the vicinity to the Pacific Ocean. In the west, the Tibetan Plateau abuts the fertile Sichuan Basin – China's other breadbasket. Beyond, in Gansu, Ningxia and Xinjiang to the northwest, barren deserts extend for hundreds of kilometers. In an even longer band that runs across China's northern edge, the steppe plains form a sea of grass so cold and dry it makes agriculture equally nearly impossible; here is where, later on, pastoral and seminomadic lifeways emerged.

Knowing which plants and animals existed in the past and would have been available for consumption is crucial. Yet here again we know that conditions in the past differed from those we observe today. The line defining the north–south divide shifted considerably over time and was influenced by the varying strength of the annual winter and summer monsoon rains, which in turn influenced which species of plants and animals could survive and thrive. Other changes were human-made. As China's population grew, forests were cleared and turned into agricultural lands at the expense of indigenous wildlife. Mark Elvin (2004) famously suggested that elephants, so abundant throughout what is now much of modern-day China, were gradually pushed south until, in the late nineteenth century, they almost became extinct (for an updated ecological history of China, see Lander 2021).

These changes are to be expected. Geographic conditions and climates have shifted. I ask readers to keep in mind that the economy, culture, social and political systems have changed as well. Fittingly, then, this is not an Element about ancient Chinese food, but one on food during ancient times in the area we now call China. We will be focusing on periods of human occupation in the Paleolithic era and end on the eve of historical China at the late second millennium BCE. Excellent works have focused on reconstructing the food of China during the later historical eras (e.g., Anderson 1988; Höllmann 2014; Sterckx 2004). Often, they turn to the available historical and imperial periods using the ample surviving texts, images and art historical data as guides for their studies (see Section 2). The lack of any contemporaneous texts for periods earlier than those of Shang Anyang (~1250–1050 BCE, where the famous oracle bones provide a wealth of inscriptional evidence) makes the reconstruction of the silent, deep past quite challenging. The salience afforded to narratives and basic information found in later historical texts, even those elaborating on prehistory, especially prior to the first millennium, is contentious and doubly so once we go further back in time to periods removed several millennia from any written record. Thankfully, archaeology provides a powerful lens to evaluate food in prehistoric periods. It has been steadily supplying unparalleled information on the foodstuffs comprising diets, how cuisine has evolved and how endemic cultivation practices, together with external influences, have continued to shape culinary developments.

Reconstructing Foodways in Ancient China: An Archaeological Approach

The stone rubbing pictured in Figure 1 depicts a busy Han dynasty kitchen. We see cooks skirting around large bubbling cauldrons, some placed on a stovetop, others on an open fire. A variety of animals are being prepared, large fowl hang from a rack and a cow's head is clearly visible. Cooks and assistants are busy mixing ingredients, adding liquids and stirring pots.

Recipes and dishes, their general ingredients and preparation methods, also survive. Some of the first are as early as the first half of the first millennium BCE. The *geng* meat soup enjoyed by commoners and nobles alike is at the center of moral discourses on matters of the state in this Zuozhuan passage (translation in Chang 1977, 51):

> Harmony may be illustrated by soup. You have the water and fire, vinegar, pickle, salt, and plums, with which to cook fish and meat. It is made to boil by the firewood, and then the cook mixes the ingredients, harmoniously equalizing the several flavors, so as to supply whatever is deficient and carry off whatever is in excess.

Figure 1 Kitchen scene from Dahuting tomb, Henan. Eastern Han dynasty (25–220 BCE) (Wang & Yu 1972, 61)

The lively picture provides invaluable insight into Han dynasty high-elite kitchen life, and political philosophy treatises conjure up dishes so vividly one's mouth begins to water. These are some of the earliest imagery and textual evidence we have for food in China, and while it is tempting to use this as a guide for earlier periods in this Element, we will not turn to them for several reasons. First, a number of excellent sources in English on this topic can already be consulted. K. C. Chang's (1977) edited volume is still a first-rate account of food in Ancient China from a traditional perspective. When dealing with earlier periods, especially the Neolithic era (and rarely earlier), however, there is much less to say, and studies often rely heavily on later historical information to reconstruct the less-known deeper past. This is perfectly acceptable if we are interested in understanding when stir-fry was first practiced or if we are trying to pin down the earliest evidence we have for the centrality of oyster sauce in Chinese cuisine. Yet this can often be counterproductive as it espouses continuity and little change in China's past and potentially overlooks the many ways different foods were enjoyed. In fact, the period of time prior to the Zhou has seen far more studies pertaining to food, cuisine and diet – a result of explicit research foci, themselves shaped by the existence of larger amounts of textual evidence during this period (with most dated to the later centuries).

Unexpected and even unimaginable realities are uncovered once we unburden ourselves of the need to fit early data into models and narratives of later pasts. Only recently have scholars shown that during the Paleolithic era, and for thousands of years before agriculture was on anyone's mind, acorns, the fruit of the oak tree, were an important meal item being gathered, consumed and even stored in bulk

(Section 2). Some later historical texts and narratives have also clouded the way we reconstruct cuisines in the past. To the north of China's traditionally viewed "central zones" is an area often described in historical texts as inhabited by nomadic pastoralists, whose diets centered around ruminant meat and fat and very little grain. This might have been the staple cuisine of the Xiongnu, China's off-and-on-again enemies throughout the later Han dynasty, but recent work has shown that the diet of the people who inhabited this region before them was more varied and complex than this simple characterization (Section 5).

The plants and animals available to the ancients formed the building blocks of their cuisines. Thankfully, this is something archaeologists can identify more readily in the material record – bones and seeds can often be found in archaeological sites and provide direct evidence for the grains grown and the animals they hunted or raised. As we will see, millet and rice were indeed grown in different ecological zones, but some communities during the Neolithic era chose or had to grow both (Section 3), while others welcomed the introduction of barley and wheat, which enabled them to inhabit less forgiving climates (Section 5).

Ingredients on their own can take us only so far. Anyone flying commercial knows that chicken or beef is as much a question of availability as it is a matter of taste and preference. It is true that a society subsisting on wheat as opposed to one centered around rice will further require different farming strategies for planting, harvesting and storing, as well as processing and consuming the grain – all of which will in turn influence and shape the seasonal and annual rhythms of community life, as well as structure familial and social relationships and even political and economic systems. But we would undoubtedly deride future archaeologists if they were to lump all European cuisines together when they discovered that most were centered around wheat consumption. Wheat is used to bake bread, cakes and pies, boil pasta and whole grain gruel in an endless array of tastes and traditions that are at the heart of local, regional or national identities. Still, pasta is often made of durum wheat, unlike the hardy winter wheat used to make traditional German bread, providing the clues that archaeologists often have access to, but they can be used in more ways than one. The way grain is milled into flour or rough semolina to make pasta or finely ground to bake bread is the main difference between the cuisines and dishes in our example. In fact, semolina is used to make pasta, cakes, porridge, dumplings, couscous or, my favorite, kibbeh (the Kurdish kind, boiled in a sweet-and-sour soup, thank you!) – a small selection that begins to get at the myriad ways in which the same grain can be used to distinguish innumerable cuisines (and, of course, one can always just boil the berries and add them to a salad – I hope this point is clear).

Moving from ingredients to cuisine is challenging, but whenever possible I present studies that engage with foodways. There are a number of ways to define the term *foodways*. For our purposes here, I employ Reed's (2021) broad definition of food systems, one that encapsulates all the activities and aspects involved in feeding a society, including, but not limited to, growing, harvesting, storing, processing, transporting, cooking, consuming and discarding food. All of these components are related to and entangled in social, political, economic and ritual aspects (to name a few), which involve, in turn, a range of actors and institutions at differing levels and scales. Additionally, what is added to each dish, how it is prepared and spiced, when it is served and who gets to eat it, as well as how often, join to create different foodways.

Can archaeology provide information on these (or at least some) of these aspects? Absolutely (see Hastorf 2016, Twiss 2019)! The tried and true staples of environmental archaeology, zooarchaeology and archaeobotany (the study of ancient plant and animal remains) together with paleoclimatology (the study of past climates) help us reconstruct past environments and the flora and fauna available to ancient societies. Reconstructing ancient landscapes and environments is an ongoing endeavor and insights into changing climatic conditions can be gauged by tracking the habitation extent of wildlife, for example. When *Hystrix*, a genus of porcupines adapted to warmer climates, are identified, they can be taken to preclude arctic conditions in the past (Tong 2008). Careful excavation and documentation of wildlife remains aids in the reconstruction of the types of plants and animals humans exploited, as well as their relative dietary proportion. The introduction of new techniques, geometric morphometrics, characterization of peptide sequences of protein biomarkers (aka ZooMS), ancient DNA studies and microscopic starch and phytolith analysis provide archaeologists with evidence for food ingredients even when macroscopic remains are limited. The combination of organic residue analysis and use-alteration inspection of flint tools, ceramic vessels, stone grinding implements and agricultural equipment reveal how food was grown, harvested and processed, and even cooked and served. For example, millet, which is today mostly consumed as cooked porridge or steamed into buns, can also be ground into flour and shaped into noodles, possibly enjoyed as early as the Middle Neolithic era (Section 5).

Archaeology can also provide excellent understandings on how food growing, eating and discarding shaped social and political systems as well as the identities of the people who practiced them. Cooking and eating are inextricably involved in gender norms, shaping and maintaining group identities, rank and just plain old taste. The tools used to hunt, gather and process food were quite diverse during the Paleolithic era. Some developments suggest technological progress and processing efficiency; others reflect local knapping traditions.

Frequently, diets varied in accordance to local tastes and preferences (Section 2). Alcohol and meat were often widely shared, but sometimes restricted, fostering community solidarity as well as deepening social divides (Section 4). Food moved great distances across the ancient landscapes, finding its way to the tables of commoners and elites alike (Section 5).

In this Element, we will mostly be moving forward in time, from Paleolithic beginnings up until the very start of China's historical periods: the Zhou of the first millennium BCE. Each section is further divided into subsections providing an outline of important developments, such as plant domestication or the invention of pottery, and overviews of foodway systems, such as urban provisioning and the social utility of feasts. This will not be an exhaustive account by any means. My aim is not only to present the diets and cuisines of the past, but to argue that food is a powerful way to study the development of ancient societies as well. Focusing on how foodways changed and how they in turn continually shaped people and communities in the past is to review many of the central aspects of economic and political growth and the major milestones in the development of human societies that made up China's ancient landscape.

A final word on dates, names and locations: the names of important sites (and some cultures) are accented in bold and their location is described via modern-day provincial settings (e.g., **Anyang** is found in modern-day Henan) – anything beyond that would burden you the reader as it would require several maps drawn to different scales (Map 2 and Table 1).

I provide names in the Pinyin transliteration from Chinese into Latin letters. Dates are presented in the form of BCE (Before the Common Era) only for most sites and periods even when calibrated BP or dates exist, since many do not have such information. In the first subsection of Section 2, "Paleolithic Beginnings," dates are also given in KYA (thousands of years ago). I believe together they will help readers keep track of both time and place while avoiding encumbering readers with too many details.

No single Element can comprehensively cover the entirety of twenty-first-century archaeology in China. The sites and remains addressed in this Element have been selected due to their representation of some of the most significant and well-known findings from their respective periods and regions. Many of these sites have undergone extensive study and have been efficiently documented, making them suitable for in-depth investigations related to food presented in this Element. Certain sites were chosen as they offer the earliest examples of specific food-related or culinary practices, or serve as exemplars showcasing the diversity within what may initially appear to be a homogeneous landscape of dietary or culinary traditions. The data presented in this Element, although not exhaustive, collectively provide a comprehensive overview of the

Map 2 Administrative map of mainland China. Main provinces overviewed in the text are highlighted in color.