The Origins of Ancient Vietnam

NAM C. KIM

OXFORD STUDIES IN THE ARCHAEOLOGY OF ANCIENT STATES

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For Jane, and all her wonderful and unwavering support.

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PREFACE

ON APRIL 29, 1975, MY parents, carrying me as an infant, left Saigon on a helicopter just as the war was ending.[1] Though my parents had no idea where our journey would ultimately bring us, several months later we arrived in the United States as refugees. Over the years, I heard many stories from my parents about their experiences with war and realized how profoundly conflict had shaped the trajectories of our family's life histories. This realization left an indelible mark. The Korean conflict had dramatically altered the course of my father's life, while conflict and political turmoil in Vietnam had similarly impacted my mother's life. All of this served to pique my interest in warfare, spurring me to begin studying the phenomenon, attempting to understand its myriad social contexts, causes, and consequences. With a desire to understand the cultural factors behind decisions to engage in violence, and how the phenomenon has changed over time, I was drawn to anthropology and archaeology.

Through a combination of readings and anecdotes from my mother's side of the family, I became familiar with the site of Co Loa, which enjoyed a legendary standing in early Vietnamese history. Vietnamese folklore described the founding of the site, but its history was obscured behind a veneer of myth and magic. Because of my ancestral heritage, I found myself intrigued by this protohistoric period of Vietnamese civilization, which many Vietnamese today consider the foundation of their nation and culture. I quickly realized that, although the

[1] See "Flight from Saigon," by Terry Wilson, *Chicago Tribune*, April 26, 1995.

scientific, archaeological investigation of Co Loa had begun during the past few decades, there were numerous and diverse research questions yet to be answered. An understanding of Co Loa has tremendous implications, not only for early Vietnamese history, but also for Southeast Asian archaeology and for the anthropological discipline. Co Loa represents one of the earliest cases of state-level emergence and urbanism in mainland Southeast Asia. The massive settlement is evidence of the role that power, coercion, and military force may have played, among other factors, in fostering tremendous social and political change in the region during the Iron Age. Accordingly, I knew that in the Red River plain of Vietnam, I had found an ideal setting for fieldwork.

Unfortunately, the number of American archaeologists working in Vietnam, and vice versa, was and remains relatively small, as diplomatic relations were only normalized in 1995. In some places, the painful scars of war are still evident. However, this situation has been changing. Since 2005, I have had the honor of working closely with colleagues from the Vietnam Institute of Archaeology (VIA), and our ongoing collaborations have helped strengthen scholarly exchange between Vietnam and the United States. I have had the honor of co-directing field investigations at Co Loa, being the first foreigner ever permitted to excavate at the site. Our fieldwork on Co Loa's fortification system constitutes the first full-scale, systematic investigation of the enclosures.

This volume offers the current state of archaeological knowledge regarding this ancient settlement, and the various implications of the research for Vietnamese history and anthropological theory. It has truly been a privilege to be able to return to Vietnam decades after our original departure from Saigon, and to work with such wonderful Vietnamese colleagues on the early history of Vietnamese civilization. It has been gratifying beyond words to have had the opportunity to return to my land of birth and to engage questions pertinent to an important part of my own ancestry and cultural heritage.

ACKNOWLEDGMENTS

AS WITH ANY COMPLEX PROJECT, the writing of this book has involved years of work and the help of countless wonderful people. I would like to acknowledge as many as I can, and I apologize to those I may have inadvertently forgotten to mention.

For encouraging me to begin a lifelong journey into the world of anthropology, I offer my sincere appreciation to Bob Carneiro. For training me to use the archaeological record to answer many of my intellectual questions, I am indebted to Larry Keeley. I would also like to acknowledge the guidance of Laura Junker and Chap Kusimba, both of whom shaped much of my early thinking on topics germane to this book. There are several other folks from my days in Chicago to whom I am grateful, since the early stages of my research in Vietnam would not have been possible without their help. These include faculty, colleagues, and friends at the University of Illinois at Chicago and the Field Museum, such as Brian Bauer, Ben Bronson, Jonathan Haas, Bob Hasenstab, Vince LaMotta, Mike Lieber, Mark Liechty, John Monaghan, Joel Palka, Billy Parkinson, Jim Phillips, Jack Prost, Anna Roosevelt, Anne Underhill, Cameron Wesson, and Ryan Williams.

Throughout the course of this book project, I have received research advice from numerous scholars, both in the United States and abroad, on a diverse array of topics. For my many questions about textual sources on early Vietnam, I received generous guidance from Erica Brindley, Liam Kelley, Marilynn Larew, Victor Mair, Keith Taylor, Hue-Tam Ho Tai, and Michele Thompson. Many scholars offered insights on various archaeological topics related to East and Southeast Asian archaeology, as well as theories on early cities, states, and civilizations.

For that, I wish to thank Judith Cameron, Rod Campbell, TzeHuey Chiou-Peng, Rowan Flad, Ian Glover, Charles Higham, Miriam Stark, and Alice Yao. My special thanks go to Roland Fletcher, who has encouraged me to think in novel ways about the Co Loa settlement as a city. For similar reasons, and for his initial encouragement in producing this book, I would like to thank Tim Pauketat. My deep appreciation goes to Francis Allard for not only being a valued discussant over the years, but for providing invaluable comments and critiques on an early version of the manuscript. In recent years, several colleagues at the University of Wisconsin–Madison also helped shape my thinking on many of the topics explored in this volume, including Ian Baird, Danielle Benden, Henry Bunn, Jim Burton, Sarah Clayton, Mark Kenoyer, Herb Lewis, Sissel Schroeder, Jim Stoltman, and the late Neil Whitehead. Of course, during my time at UW-Madison I have had many conversations with students that have also made strong impressions. I would like to thank all my students for hours of stimulating conversation. I also wish to particularly thank Tegan McGillivray and Jina Heo for help in compiling research pertinent to the book. Also to be thanked are Kim Phan for help in translation efforts and Ryan Nelson for generously sharing research on Dongson drums.

The logistical process of completing this book would not have been possible without the efforts of several individuals. In addition to completing research on Dongson sites, Tegan also produced many of the map figures. Some of the satellite imagery was provided by DigitalGlobe and ArchaeoTerra, for which I have Brad Votava and Bernadette Cap to thank. I am especially grateful for Alison Carter's herculean efforts in formatting and proofreading the manuscript.

I would also like to thank colleagues, editorial staff, and production team members at Oxford University Press for the opportunity and their support, especially Stefan Vranka, Sarah Pirovitz, and Heather Sieve. In addition, my appreciation goes to Li Liu, Dan Potts, Deborah Nichols, and Friederike Fless, who are serving as editors for a wonderful series on ancient states, which this book has the privilege of calling home.

Generous funding for various facets of research that ultimately found their way into this volume came from numerous institutions. They include: the American Council of Learned Societies and the Henry Luce Foundation, the American Philosophical Society, the George Franklin Dales Foundation, the National Science Foundation, both the Provost's Office and the Graduate College of the University of Illinois at Chicago (UIC), the Graduate School of UW-Madison, and the Woodrow Wilson Fellowship Foundation.

In Vietnam, I have many colleagues and friends to thank for making my fieldwork possible. I owe a debt of gratitude to the Thang Long–Hanoi Heritage Conservation Center (TLHHCC), and I especially appreciate the support of its director, Nguyen Van Son. The Vietnam Institute of Archaeology and its many

members (past and present) have been very hospitable and generous, including Tong Trung Tin, Nguyen Giang Hai, Bui Van Liem, Nguyen Gia Doi, Le Thi Lien, Nguyen Quang Mien, Pham Minh Huyen, Pham Thi Ninh, Trinh Sinh, and Tuyet Nga Dao. I would also like to acknowledge the members of my excavation teams at Co Loa. My thanks go to my co-directors of the Middle Wall project, Lai Van Toi and Trinh Hoang Hiep, the latter of whom also served as co-director on the Outer Wall and Inner Wall projects. For the Middle Wall project, I would also like to thank Nguyen Dang Cuong, Nguyen Thi Thuy, Do Danh Huan, Laura Junker, Larry Keeley, and Deb Green. I also want to thank members of the field crew for the 2012 Outer Wall project, including Tegan McGillivray, Nguyen Dang Cuong, Nguyen Thi Hao, and Pham Thanh Son. Representatives from the TLHHCC also provided support and consultation, including Nguyen Van Son, Hoang Cong Huy, Nguyen Van Xuan, Nguyen Thi Nha, and Do Duc Thue. I would be remiss not to also acknowledge the wonderful support my colleagues and I received in our fieldwork from the Vietnamese Ministry of Sports, Culture, and Tourism; the Dong Anh District; and the Co Loa Commune. Special thanks go to former president Tran Duc Luong for his support of our fieldwork. Of course, the tireless efforts of local residents of Co Loa who worked on our project must be acknowledged as well. Thank you for countless hours of hard work and much laughter.

Finally, I wish to thank my family for all their support and encouragement, including my parents, brothers, my wife's parents, and her sister and brother-in-law. Most of all, I wish to thank my wife, Jane, whose companionship, encouragement, patience, and support throughout the years have combined to be the singularly most significant reason I have achieved anything of import. The sacrifices she has made, and the faith that she and our two lovely daughters—Amelia and Ramona—have placed in me, inspire me every day.

CHAPTER 1

IN SEARCH OF A PREHISTORIC STATE

THIS BOOK IS CONCERNED with the underpinnings of civilization in the Red River Delta of what is today the nation-state known as the Socialist Republic of Vietnam. It provides an overview of current knowledge for one of the region's earliest state-level societies that can be reliably documented by the material record. Central to this argument is the Co Loa settlement, located across the Red River (known as *Song Hong* in Vietnam) from the core area of Hanoi, Vietnam's current political capital (see Figures 1.1 and 1.2). The Red River is a major artery of modern Vietnam's Bac Bo (formerly Tonkin) region, the northern portion of the country. Thousands of years ago and during the Iron Age of this region, Co Loa functioned as a political capital in its own right, albeit for a very different society and resident population. The use of this area as a locus of political power over several centuries underscores the cultural and historical significance this locality holds, especially when considering questions about Vietnamese ethnogenesis and emergent identity. For many Vietnamese today, the area's Iron Age represents a foundational period for Vietnamese civilization, with legendary and semi-historical accounts detailing the existence of powerful, local kingdoms. According to these narratives, it is within this period over two thousand years ago that we see the creation of a territorial political state or states, with high levels of technical and artistic sophistication, and "the first flowering of native Vietnamese genius" (Glover 2006: 26). In essence, a full grasp of Vietnamese history must include an understanding of the Red River Delta's prehistory.

In his seminal volume entitled *The Birth of Vietnam*, eminent historian Keith Taylor (1983) adroitly synthesized various textual sources in reconstructing the early history of "Vietnam," from the misty beginnings of the proto- and historic period in the third century BC, through independence from Sinitic domination in the tenth century AD, with the concomitant establishment of an independent

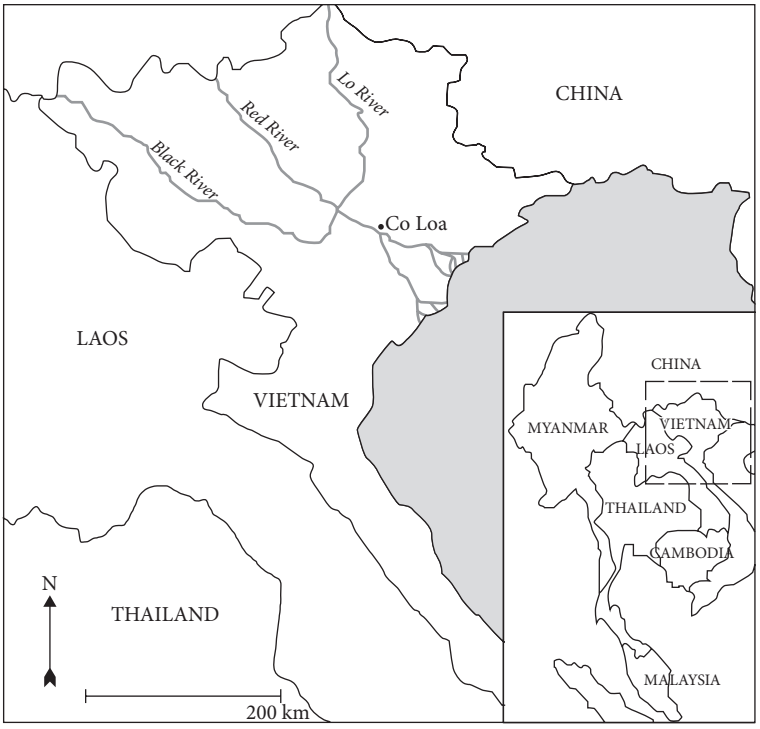

FIGURE 1.1.
Map of Bac Bo. The Bac Bo region of Vietnam, and the Red (Song) River, which stretches 1200 kilometers from its origin in the Yunnan area before emptying in the Gulf of Bac Bo. Map produced by Tegan McGillivray.

Vietnamese polity. In a more recent volume (2013), Taylor continues his research, providing what may be the most authoritative scholarly work on the full range of Vietnamese history. In some respects, my book might be considered a prelude of sorts to Taylor's monumental works, in that it reviews the momentous cultural changes of the mid- to late–first millennium BC. Against a backdrop of textual accounts and claims contained within historical narratives, I focus primarily on the archaeological record to fully consider the region's pre- and proto-histories. Specifically, I examine the trajectories and trends of cultural change and sociopolitical developments that resulted in the formation of a nascent state on the eve of Sinitic arrival. In doing so, I offer interpretations of this record for a reevaluation of this early phase of Vietnamese history.

Following Taylor (2013), this book offers discussion of "Vietnamese" history and prehistory insofar as it describes societies and cultural patterns that occurred in an area inhabited today by Vietnamese, and that has long been considered

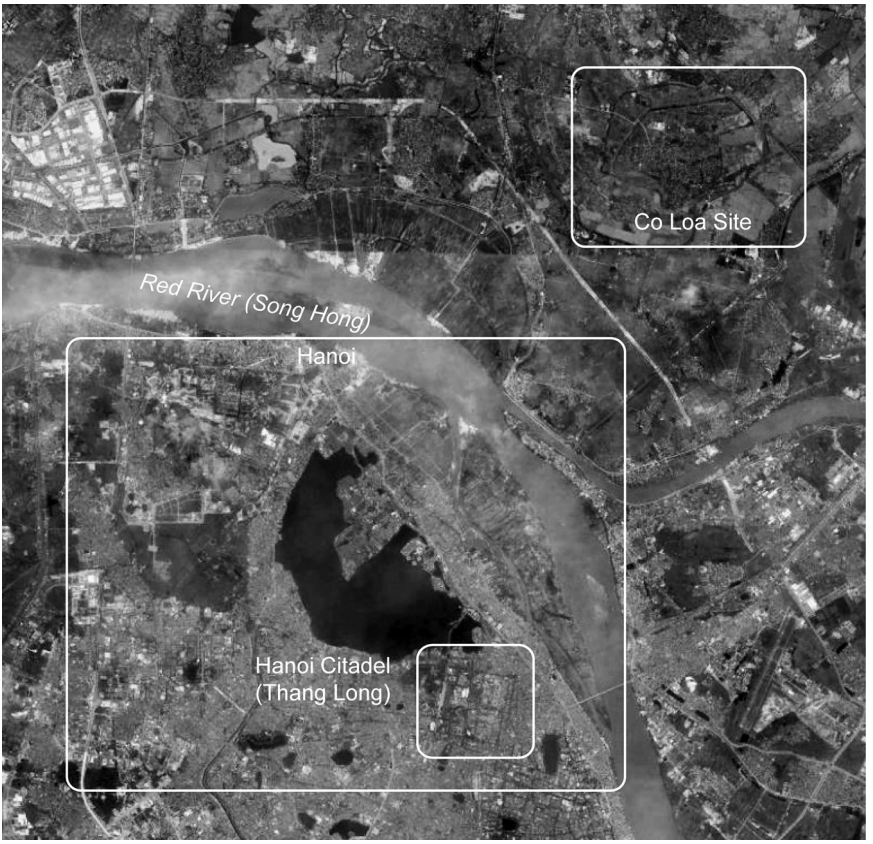

FIGURE 1.2.
Co Loa and Hanoi. The ancient capital city of Co Loa, located less than 20 kilometers across the Red River from the modern capital city of Hanoi.
Map Data 2013 Google, Digital Earth.

the geographic origins of Vietnamese civilization. To be sure, there are different possibilities for what might qualify as the first "state" of a "Vietnamese" or "proto-Vietnamese" (O'Harrow 1979) civilization, and there are several challenges associated with the search for the first such entity. Vietnam today comprises over 50 ethnic groups. How do we explain the origins of a Vietnamese identity and civilization when today's diversity in language, culture, religion, and ethnicity makes it difficult to agree on what is, or has historically been, "Vietnamese"? The full territorial extent of modern Vietnam, which includes its central and southern regions, was not reached until recent centuries. With that expansion, the historical backdrops of "Vietnam" became all the more intricate. To compound the situation, when we are dealing with an archaeological society of the distant past,

particularly one extant over two millennia ago and that left no written accounts, we can say very little about language and ethnicity. What threads of cultural continuity exist between the Red River Delta's population of the first millennium BC and that of today?

Further complicating the story is the rather significant matter of Sinitic intrusion. Vietnamese and Chinese civilizations have had a long and complicated history of interaction, extending to this day. One of the most substantial parts of this history are the periods of Chinese domination (collectively known as *bac thuoc*) over the Red River Delta, a process that began in fits and starts during the last centuries BC and first centuries AD, solidifying with the arrival of Han armies at AD 43, and then lasting almost continuously for a millennium. We have reliable information indicating very high population levels in the area during the closing centuries BC prior to the arrival of the Han Empire, and it is highly feasible that many cultural aspects of the area's pre-Han, indigenous societies remained intact despite Sinitic intrusion. This likelihood notwithstanding, how much of the original and indigenous aspects of early or proto-Vietnamese civilization remained intact throughout a millennium of foreign control? To what extent did foreign imposition of political power result in the new cultural practices? Because of all of the aforementioned complications, this book deals, not with the origins of the "Vietnamese" state, but rather with an ancient state in Vietnam, populated by people who may be considered distant ancestors of later Vietnamese but who were not necessarily "Vietnamese." Undoubtedly, the topic is of significance for an understanding of the foundations upon which embryonic and early Vietnamese civilization and culture would later emerge, much in the same way as the study of ancient Gaul would be for understanding early French civilization, or the study of Jomon or Yayoi society would be for modern Japanese national identity, despite the relatively tenuous and sometimes dubious connections drawn between the communities of the ancient past and those of the current era.

The study of the past can be particularly important for those living in the present, and the consequences of such research programs can be felt by various constituencies. Recent decades of archaeological fieldwork and conservation efforts have significantly affected local tourist economies in areas with important archaeological sites, such as Angkor in Cambodia or Tikal in Guatemala. In particular, the exploration of the ancient past can be an especially substantial enterprise for countries with a recent history of colonization and foreign intrusion. For many cases in Southeast Asia, twentieth-century independence and post-colonial moments saw an increased interest in promoting the grandeur of the past, wherein societies sought to identify the ancient and precolonial roots of their civilizations and ethnic identities. Vietnam was no exception, and this sort of motivation contributed to greater scholarly attention being directed to the origins of Vietnamese

civilization after independence from French colonial rule in 1954 (see Cherry 2009). Involving both Vietnamese historians and archaeologists, many of these studies were focused on the textual evidence for early kingdoms of the Red River Valley, such as the legendary and semi-historical kingdoms of Van Lang and Au Lac (Nguyen and Vu 2007; Tran 1969). Many Vietnamese scholars, in fact, have traced a sense of national identity as far back as the Neolithic era.

Archaeological researchers took up the task of finding the material correlates for these polities and their contemporary communities in the late 1960s and early 1970s, with the appearance of numerous publications devoted to examination and reexamination of all available textual and material evidence concerning these kingdoms shrouded in myth, along with various archaeological sites within the ancestral homeland, known as *Tay-vu*, of Bac Bo (see Dao 1969; Do 1969; Nguyen 1969; Pham 1969; Tran and Do 1970). Over recent decades, Vietnamese researchers have performed many archaeological investigations at Neolithic and Metal Age sites scattered throughout northern Vietnam. The mounting data have served to refine our understanding of the region's prehistory, resulting in important ramifications for the underpinnings of civilization in Bac Bo.

Of singular research importance, the settlement of Co Loa may have functioned as the capital of a complex polity during the first millennium BC, as attested to by Vietnamese traditions, textual sources, and legendary accounts (Bellwood 1992: 125; Miksic 2000; Tessitore 1989: 36; Wheatley 1983: 91–93) (see Figure 1.3). According to such narratives, the Au Lac kingdom was established through conquest by a man named An Duong Vuong (also known as Thuc Phan) during the third century BC, who became king and then proceeded to construct a large citadel in Tay-vu known as *Co Loa Thanh* as his seat of power (see Taylor 1983: 21). The name, meaning "old snail city," comes from the fact that the walls appear to be laid out in concentric rings of earthen ramparts reminiscent of a snail shell (see Lockhart and Duiker 2006: 74; Taylor 1983: 21) (see Figure 1.4). Legendary accounts about An Duong Vuong were recorded in later Chinese and Vietnamese textual sources, describing his possession of a mystical crossbow, produced by a military advisor or holy man named Cao Lo (also known as Cao Thong) (see Larew 2003; Taylor 1983: Appendix F, for details). According to the myth, the crossbow utilized a magic trigger made from a turtle claw, supposedly giving the king power to defeat all enemies. As described in one account, Cao Lo is quoted as saying: "He who is able to hold this crossbow rules the realm; he who is not able to hold this crossbow will perish" (see Taylor 1983: 25). Wrapped in legends and marked by supernatural invocations, these romanticized tales of An Duong Vuong, along with Co Loa and the crossbow, conjure up imagery not unlike other cases born of folklore and literary inventions, such as England's Arthurian legends and tales of Camelot and Excalibur (see Figure 1.5).

FIGURE 1.3.
Satellite image of Co Loa. Current satellite image of the Co Loa site, with the three rampart enclosures still intact in various states of disrepair.
Imagery provided by DigitalGlobe and ArchaeoTerra.

The alleged capital of the Au Lac kingdom, Co Loa has become emblematic of an important foundational era for Vietnamese civilization, and even today, national festivals are held at Co Loa annually to commemorate the site and its legendary history (see Figure 1.6). The massive scale and nature of Co Loa, whose monumental system of fortification features still dominates the landscape today, covering some 600 hectares of territory, suggest the presence of significant complexity and consolidated authority at the time of construction. Although Vietnamese traditions assert that the capital site was founded during the third century BC, until very recently, this claim had little substantiation by material evidence.

FIGURE 1.4.
Photograph of the rampart at Co Loa. Much of the ramparts still remains standing today. Photograph by author.

Complicating our understanding of Co Loa and the region's protohistory are Chinese textual accounts, which suggest that the Han Empire "civilized" the local barbarians. To the Han, the indigenous inhabitants of the Red River plain lacked agricultural, metallurgical, and political sophistication (see O'Harrow 1979). Unsurprisingly, much debate revolves around when the site was constructed, by whom, and under what kinds of conditions. Claims that Co Loa was the first capital of the Vietnamese or proto-Vietnamese civilization have conventionally been based on Vietnamese traditions that were recorded several centuries after the site was purportedly founded, and under sometimes-nationalistic circumstances. As for the Sinitic accounts, arguably some degree of bias colored the perceptions and perspectives of the Chinese as they described local societies. Consequently, archaeological findings constitute a key component of holistic research that can clarify our understanding of the region's cultural history, while helping to resolve ongoing debates. Such data are presented in this volume.

As noted by Stark (2006a: 422), mainland Southeast Asia is an excellent and underutilized region for comparative studies of early state formation, with great

FIGURE 1.5.
Statue of Cao Lo at Co Loa. The statue commemorates the legendary military advisor or holy man who produced the mythical crossbow for An Duong Vuong.
Photograph by author.

potential for examining changing spatial configurations of human–environment relations through time. This book aims to also address archaeological theories germane to the evolution of early cities and states in Southeast Asia. Beyond implications for the early history of Vietnam, research on Co Loa is also salient for the archaeology of a wider geographic expanse. The intensive archaeology of mainland Southeast Asia is a relatively recent development, and the examination of the region's prehistoric sociopolitical complexity is in its early stages (O'Reilly 2003: 300). Although the French began archaeological research in Vietnam and elsewhere in French Indochina over a century ago with the establishment of the *Ecole francaise d'Extreme-Orient* (EFEO), war and political instabilities throughout the twentieth century severely interrupted archaeological research. The archaeological study of Southeast Asia has grown only in recent decades with the advent of more peaceful conditions (Higham 2011a: 652).

A host of theoretical models has been offered to explain the rise of archaic states, based on case studies from around the globe. Unfortunately, the formulation of general, cross-cultural theories has largely overlooked data from Southeast Asia. New research from the region has had far less impact in the West than research from other regions such as the Near East, Mesoamerica, and East Asia. Despite some notable exceptions (Bayard 1992; Bentley 1986; Higham 2002; Higham and

FIGURE 1.6.
Entrance to the Thuong Temple, located within the innermost area of Co Loa. This temple, known as Den Thuong, is dedicated to An Duong Vuong.
Photograph by author.

Thosarat 2000; Manguin 2004; Miksic 1991; Mudar 1999; O'Reilly 2000, 2003; Wheatley 1983; White 1995; Christie 1995), many cross-cultural, synthetic treatments of social change, state formation, and the emergence of early cities still overlook much of the region (Cowgill 2004; Glover 1992: 7; Junker 2006; Miksic 2000; Stark 2006a: 408). Moreover, even when cases from the region are discussed, they usually consist only of Common Era, historically known societies such as Angkor, Champa, or Srivijaya. Comparatively understudied are earlier, pre- or proto-historic cases that can offer important clues about long-term trajectories of cultural change. In this regard, Co Loa's standing as an Iron Age settlement offers implications for early forms of Southeast Asian complexity, and speaks to a larger theoretical literature on the rise of social inequality and the genesis of cities.

Ultimately, there are two main objectives for this book. First, I aim to demonstrate that the society responsible for founding the Co Loa settlement, the Co Loa Polity, was a centralized, state-level society with enduring political institutions, one of the earliest not only for Bac Bo but for Southeast Asia. The second objective is to offer an explanation for this development process, highlighting the

main cultural trends and historical trajectories leading to the emergence of the Co Loa Polity. As will be discussed, important cultural changes were occurring throughout the Late Neolithic and into the Metal Age for northern Vietnam and the wider region, thus setting the stage for the momentous developments of the mid–first millennium BC. A package of long-range factors contributed to the rise of social ranking and asymmetries of wealth, while a crucial set of proximate variables pertaining to competition, ideology, warfare, and coercive strategies led to the consolidation of political authority and the initial establishment of permanent, centralized authority and power. In this sense, the roots of civilization in Vietnam lie well within northern Vietnam's prehistoric past, culminating in the florescence of an ancient state during the closing centuries BC.

CHAPTER 2

RESEARCH SETTING

THE MAINLAND OF SOUTHEAST Asia consists of upland terrain separated by a number of very long river valleys, most rising in the eastern fringes of the Himalayas and following a generally north–south direction (Bellwood 2006: 108). Among the most significant of these rivers are the Chao Phraya, the Irrawaddy, the Mekong, the Red, and the Salween, each of which operated as a key passageway for the movement of people, materials, and ideas throughout prehistory. Along with coastal travel, these waterways would have facilitated mobility and interaction between disparate communities. Strong material evidence to support such use of rivers comes from the Neolithic period and later, wherein distinctive artifacts with shared characteristics appear at sites located within the major river valleys. The inherent connectivity of this region, coupled with its topography, terrain, and resources, all served as backdrop for important cultural changes that would occur during the Metal Age.

Located at the termini for these riverine conduits, societies in deltas would have benefitted from access to diverse environmental resources as well as opportunities for interconnections. Deltas are vital centers of human populations carrying out various economic development activities, with Asian examples representing good cases of deltas evolving in close relationship with human activities and climate changes (Li et al. 2006: 4–5).

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Northern Vietnam Climate, Natural Features, and Agricultural Potential

The modern-day country of Vietnam is home to a range of environmental settings, including tropical lowlands, hills, and densely forested highlands. Level terrain in Vietnam accounts for no more than 20 percent of the area

(see Figure 2.1). Vietnam's mountainous areas consist of its northern and central regions, while a quarter of its terrain sits below an elevation of 20 meters, primarily the delta regions and the narrow coastal plains of the central region (Sterling et al. 2006: 4–5). The country is generally divided into three regions, Bac Bo (north), Trung Bo (central), and Nam Bo (south); and in terms of agricultural productivity, there are two main areas, namely the deltas of the Red River and the Mekong (in Nam Bo). Both delta regions lie only a few meters above sea level, are heavily populated, and largely agricultural (Sterling et al. 2006: 5).

The highlands and plain of the Red River are located in the north in Bac Bo. The area to its north, also known as the *Viet Bac* ("Northern Viet"), comprises the provinces north and northeast of the Red River Delta, extending to the eastern section of the modern border with China (Lockhart and Duiker 2006: 2). West of the Red River, the Hoang Lien Son Range represents the southeastern extension of the Himalayas, running parallel to the river's course (Sterling et al. 2006: 5). This mountainous area would have been strategically significant in terms of political and economic interactions for various Vietnamese polities throughout the Common Era, and I argue the same can be said for prehistoric counterparts during the first millennium BC. This area would have been an important cultural frontier between various societies of what are today northern Vietnam and southern China, probably hosting a kaleidoscope of cultures connected with one another in a larger network during the late prehistoric period.

According to Nishimura (2005: 99), a pattern of population movement from highlands to lowlands, and seawards with delta building, has generally characterized the overall occupation history of this area, with sufficient evidence indicating that the geography of the riverine plain and the locations of prehistoric settlements would have been deeply influenced by postglacial and Holocene changes in sea level. Geological data clearly show the coastline was inundated during the mid-Holocene transgression and was located near present-day Hanoi, as is apparent from the absence of Neolithic sites across most of the Bac Bo region (Nishimura 2005: 99). Judging from the distribution of kitchen middens and archaeological sites, we can reasonably estimate the coastline at the end of the Neolithic (c. 1500 BC), which suggests the sea extended up the middle of the northern coastal plain nearly to Hanoi's location (Jamieson 1981: 191).

The Red River Delta is one of the largest in Southeast Asia, and is the northwestern landward continuation of the Gulf of Bac Bo (also known as Tonkin), which in turn is a broad shelf area at the northwestern edge of the South China Sea (Hanebuth et al. 2006: 121). The sedimentary basin, approximately 500 kilometers long and 50 to 60 kilometers wide, is filled with Neogene and Quaternary sediments with a thickness of more than 3 kilometers (Li et al. 2006: 6). The drainage area (160,000 square kilometers) is restricted to subtropical lowlands and some

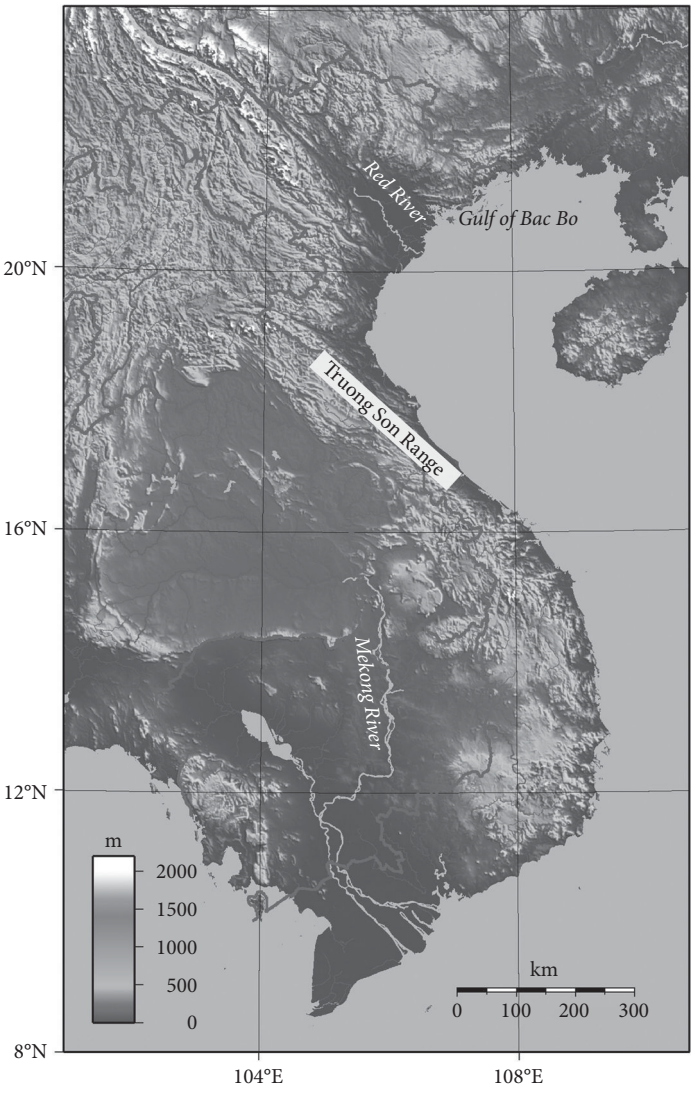

FIGURE 2.1.
Topographic map of Vietnam. Vietnam's stretch of mixed coastal and mountainous land is readily visible. The topography generally consists of hills and densely forested mountains, with level land covering less than 20 percent.

Adapted from a public domain topographic map of Vietnam made from publically released GLOBE data by Sadalmelik.

mountainous areas, but large, highly seasonal water (120 cubic kilometers/year) and sediment (100–130 million tons/year) discharges make it one of the major fluvial suppliers in Southeast Asia (Hanebuth et al. 2006: 121). The river originates in the mountainous Yunnan Province of China and the uplands of the Truong Son (or Annamese) Cordillera, flowing 1200 kilometers southeastward (Li et al. 2006: 5), with two main tributaries being the Song Lo (also the "Lo" or "Clear" River) and the Song Da (Black River). Apart from the coastal strip, the alluvial plains are almost completely surrounded by mountains (Nishimura 2005: 99). The center of the delta is very flat and lies mainly between 2 and 17 meters above mean sea level, with steep limestone karst-type formations occurring along the southwest and northeast flanks that form the myriad of islands that mark Ha Long Bay (Le and Le 2001: 5).

Owing to its shape, topography, and location along mainland Southeast Asia's eastern edge, Vietnam experiences several climatic regimes, and is associated with monsoons that produce two main seasons—a cool, dry winter and a warm, wet summer—all punctuated by short transitional periods (Sterling et al. 2006: 7). The climate of Vietnam varies from humid tropical in the southern lowlands to temperate in the northern highlands, and the Red River Delta is characterized by a tropical monsoonal climate with a pronounced maritime influence (Li et al. 2006: 6). The Red River Delta is located in the northern tropical semi-evergreen seasonal rain forest and moist rain forest zones, and the regional vegetation is typical of a tropical seasonal rain forest, mainly tropical, moist semi-evergreen and tropical evergreen forests (Li et al. 2006: 7). Seasonal change is more significant in Bac Bo than in the central or southern regions (Lockhart and Duiker 2006: 4). Average annual rainfall is 1300–1800 millimeters, 85 percent of which falls during the summer rainy season (April to October), with heaviest rainfall in August and September (Li et al. 2006: 6). Summers are warm and very humid, with average temperatures from 27 to 29 degrees Celsius, whereas winters are cool and dry, with mean monthly temperatures varying from 16.3 to 20.9 degrees Celsius (Li et al. 2006: 6–7). Annual flooding has long been a factor in social development in the area, and both ancient and modern agricultural populations have been concerned with water control (Nishimura 2005: 99).

Bac Bo's climate, coupled with its agriculturally fertile soils, makes the area extremely productive. As noted by Higham (2002: 170), the region is characterized by less extreme climate than most of low-lying mainland Southeast Asia, largely because the dry season is tempered by moist winds that move across the Gulf of Bac Bo. This moist climate permits several crops per annum on fertile soil. In particular, the lower Red River Valley and Delta comprise one of the most extensive tracts of flat agricultural land in Southeast Asia (Higham 2002: 278). In recent years, nearly a million hectares of the delta region have been devoted to agricultural

production (Le and Le 2001: 5). While the delta's diversified climate makes it suitable for the cultivation of tropical as well as some sub-tropical crops, the principal land use of the area is the cultivation of rice, and agriculture has been historically dominated by paddy rice cultivation, comprising 90 percent of total cultivated land and 80 percent of the value of all produced food crops (Le and Le 2001: 6). The rice-based farming systems also grow other crops such as maize, potato, sweet potato, jute, and legume crops (Le and Le 2001: 6). In modern times, the Bac Bo region comprises 54 percent of agricultural land in northern Vietnam and 70 percent of all Vietnamese crop production (Higham 1996: 73).

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Human–Environment Interaction and Population Density

The Red River Delta is among the oldest continuously modified landscapes in the world (Sterling et al. 2006: 23). One of the principal factors in the trajectory of cultural development in the Red River Delta has been the realization of its tremendous agricultural potential, leading to high population densities both in the past and at present. Though, by world standards, overall population densities are not high in Southeast Asian countries generally, they are very high in specific areas: Java-Bali in Indonesia, the Red River Delta in Vietnam, and the Visayan region of the Philippines (Jones 2013: 4). This makes the study of human–environmental interactions in the Red River plain very significant, especially when tracing cultural and technological changes that permitted tremendous population growth.

Hanoi is today home to some 6.5 million residents (see Figure 2.2). With the exception of Hanoi and the port city of Hai Phong, more than 80 percent of the population lives in rural areas, earning their livelihood by farming, and rural densities exceed 1,000 inhabitants per square kilometers in many places, reaching 1,300 inhabitants per square kilometers in some places such as the Thai Binh and Nam Dinh provinces (Le and Le 2001: 5). As attested to by historical and modern population levels, and increasingly by the archaeological record, the Red River Delta has long been one of the great "rice bowls" of the world. Findings from a recent palynological sequence obtained from cores drilled in the Red River Delta reveal an increase of large *Graminae granis* after 3340 calendar year BP (Li et al. 2006: 25). This indicates an increase of wet rice cultivation practices with the onset of settlements, especially after 2000 BC as the use of bronze tools became more pervasive.

Wet rice agriculture was first introduced to the delta during the Neolithic sometime after 2500 BC (Bellwood 2005: 131–133). The Bac Bo region became part of a widespread mainland Southeast Asian Neolithic expression between 2500 and 1500 BC, characterized by distinctive artifacts and a suite of domesticated

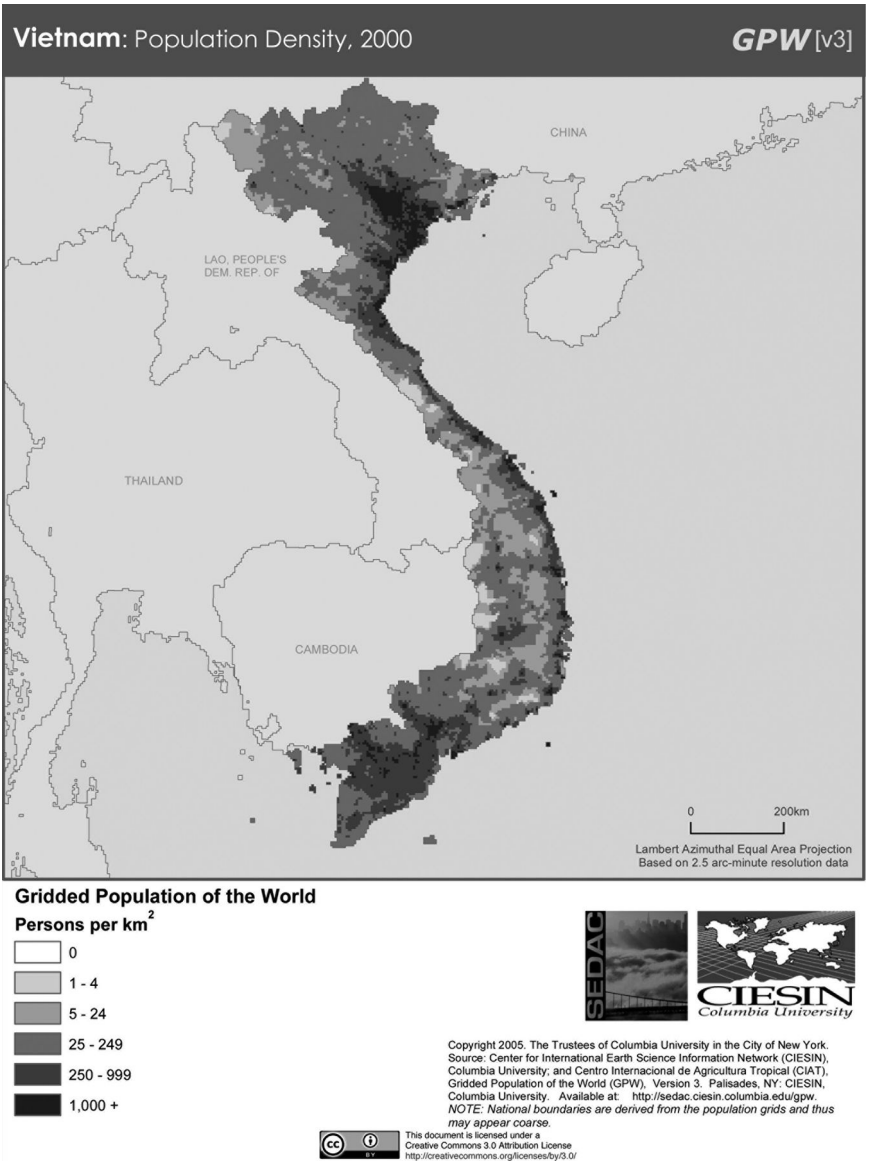

FIGURE 2.2.
Population density map for Vietnam.

Adapted from a color map under a Creative Commons Attribution 3.0 license. Center for International Earth Science Information Network (CIESIN), Socioeconomic Data and Applications Center (SEDAC). 2005. Vietnam: Population Density, 2000. Lambert Azimuthal Equal Area Projection. From: Gridded Population of the World (GPW), Version 3. Palisades, NY: CIESIN. http://sedac.ciesin.columbia.edu/plue/gpw.

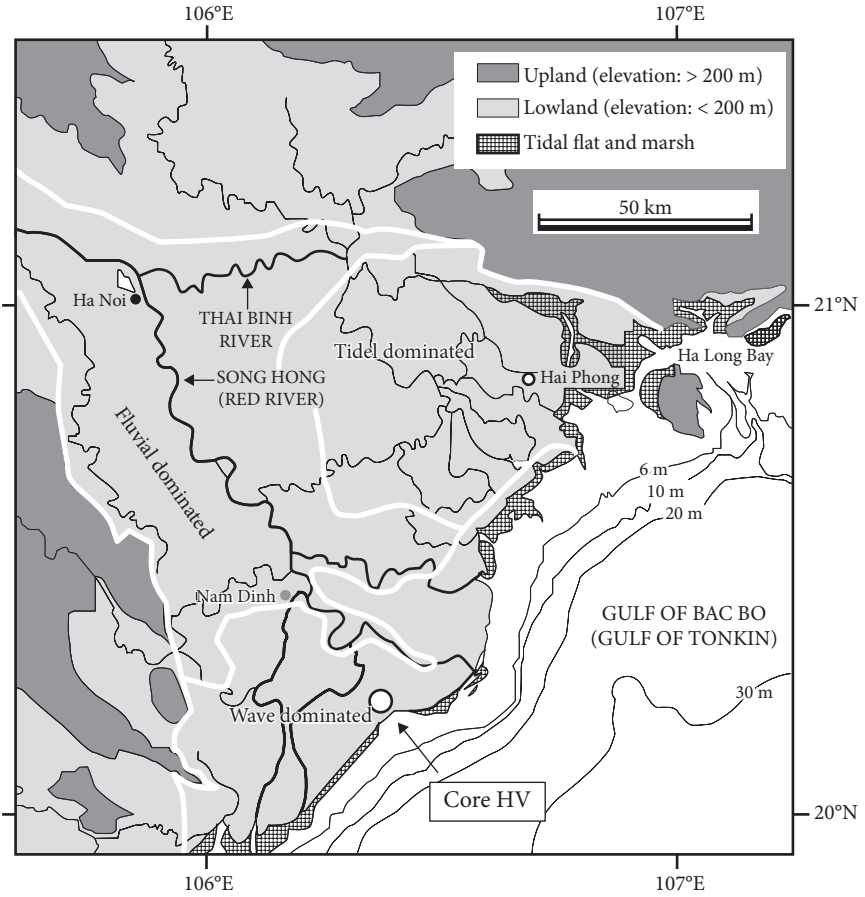

FIGURE 2.3.
Red River Delta with select modern sedimentary features.

Reprinted from *Quaternary Journal*, 145–146, Hanebuth et al., Sea Levels During Late Marine Isotope Stage 3 (or Older?) Reported from the Red River Delta (northern Vietnam) and Adjacent Regions, 119–134, 2006, with permission from Elsevier.

animal and plant species (Bellwood 2006: 109). Over time, as riziculture became more prominent, and as the fertile lowlands extended seawards through alluviation, concomitant shifts in the locations of settlements also occurred, and previously unused land on the fringe areas of the plain became incorporated into irrigated systems of the lowlands (Nishimura 2005: 99). As farming and animal domestication became more widespread, largely replacing hunting and gathering subsistence strategies in the lowland areas of the delta, communities became increasingly sedentary, and daily life began to have wider impacts on local

environments (Sterling et al. 2006: 26). From the late Neolithic onward, agricultural production and fuel requirements for pottery production resulted in greater degrees of forest clearance (Sterling et al. 2006: 26).

As the heart of Vietnam's northern region, the Red River Delta is home to several mythical and legendary figures associated with early Vietnamese culture and civilization during the late prehistoric period (Lockhart and Duiker 2006: 2). Due in no small part to its climate, terrain, and soil characteristics, it is little wonder that Bac Bo has been perceived, and actually served, as the nucleus of embryonic Vietnamese culture. The region is considered the "heartland" of Vietnamese civilization from the third millennium BC onwards (Higham 1989: 1; 1996: 73). Important prehistoric sites, such as Phung Nguyen, Dong Dau, Go Mun, and Dongson, are all located within 100–200 kilometers of Hanoi along the Red River. The Co Loa site is located in the Dong Anh District of Hanoi proper, at a geographic position of N 21.12° and E 105.88°, and is approximately 17 kilometers north of central Hanoi across the Red River (see Figure 2.3). Unquestionably, the geographic setting and natural features of the Red River Delta contributed to broad social and cultural changes throughout Vietnamese pre- and proto-history. The landscape, natural resources, water courses, climate, and agriculturally productive potential of the area surrounding Co Loa were vital components in allowing societies to establish far-ranging trade contacts, grow in population size, and eventually develop hierarchies of ranking and social stratification. As will be demonstrated in later chapters, the archaeological record of the region reveals trajectories of increased social differentiation from the late Neolithic (c. second millennium BC) onwards, with the florescence of an ancient state during the mid-to-late–first millennium BC.

CHAPTER 3

THE ARCHAEOLOGY OF COMPLEX SOCIETIES AND ANCIENT STATES

THE AGGREGATION OF HUMANS into social configurations of various scales of complexity has long been a research concern for social scientists across various disciplines. From the beginnings of academic social science in North America during the latter half of the 1800s, many investigations focused on the emergence of socioeconomic inequality, leadership, classes, states, and cities (Feinman 2004: 1). Of major concern is how societies change over time, with much research revolving around variables that precipitate the formation of sociopolitical complexity and the transformation of relatively egalitarian and acephalous communities into ranked, stratified, and politically centralized societies. For the majority of humanity's history, we have lived in non-centralized, smaller-scale communities generally lacking asymmetries in power, wealth, and social status. Occurring in different times and places of the world, the sociopolitical developments associated with the transition from autonomous villages to larger-scale, regional, more complex, and politically consolidated societies marked by major social differentiation constitute momentous events in the course of the human career.

What kinds of variables contributed to these profound changes? How did leaders and rulers emerge, consolidating power over populations and thereby changing the structure of their societies? To address these sorts of inquiries, researchers have developed a variety of theories concerning the origins of social or organizational complexity, each marked by assorted causal factors. In many of these theories, the concept of "complexity" is particularly associated with ancient cities, states, and civilizations, though it can also be applied to other societies marked by qualities of differentiation and the intricacy and interdependency of their parts and relationships (Adams 2001).

In anthropology and archaeology, researchers have relied on a mix of both synchronic and diachronic bodies of data in efforts to elucidate possible factors in the formation of complex societies. Bodies of data from the ethnographic present, the historically recent, and the archaeological past complement one another in offering a diverse set of information from which to formulate testable hypotheses about complexity. As noted by Goodenough (1999: 102), anthropology as a whole ought to consider the processes whose workings express themselves differently in the contingencies affecting the history of specific human groups, but attention must also be paid to how the archaeological record can complement ethnographic cases. Given the nature of its diachronic data, archaeology is uniquely positioned to examine variables over immense stretches of time. "The material record of past societies not only reveals *how* cultures evolved, but also provides the contextual information necessary to evaluate our ideas about *why* cultures evolved in response to environmental and social variables" (Haas 2001b: 9, emphasis Haas's). Indeed, research on the origins of early complex societies "has long been a staple of fieldwork and comparative analysis in anthropological archaeology" (Smith 2012: 321). Given this powerful, complementary approach, it is little wonder that anthropological theories about emergent complexity have dealt with case studies of both present and past societies.

In very broad strokes, this chapter will review select categories of theory that account for the origins of complex societies: specifically those associated with political centralization, with emphasis on those that are relevant for the Co Loa phenomenon. At the risk of oversimplification, I submit that most theories can be very generally grouped into a few overall categories. In one category, researchers stress the importance of physical power, coercion, conflict, and warfare for the emergence of sociopolitical complexity. In contrast, researchers in a second category place greater emphasis on peaceful, voluntary, and cooperative models. Third, other scholars blur the lines between these traditions, employing a blend of interpretive frameworks that see how different, sometimes antithetical, perspectives can be synthesized to highlight the pathways by which complex societies are thought to have emerged.

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Conceptualization of Politically Centralized Societies

In considering politically centralized societies, many researchers note an inherent characteristic of *complexity*. "Complexity describes a process during which a social transformation occurs to a qualitatively and quantitatively different kind of economic, governmental, and religious interdependence among people living in close contact in a multisite society" (Rothman 2004: 76). In defining "complexity,"

I refer to societies characterized by many parts, implying social hierarchies or heterarchies, and/or occupational specialization (after Ames 2008: 490). Societies can become more or less complex over time, as well as expand and contract in population size, depending on various factors. As many have recognized, although the general increase in polity sizes since the Neolithic is apparent, this general trend was not unilinear, inevitable, innate, or constant in tempo (Feinman 1998: 112). For instance, complexity did not necessarily develop unilinearly for societies of the Jomon Culture (c. 14,500–400 BC) in northeastern Japan, where organizational complexity in subsistence and settlement reached its high point during the Middle Jomon period, followed by a decline (Underhill and Habu 2006: 121).

Broad patterns of sociopolitical change cannot be explained by an anthropological archaeology that only builds rigid evolutionary typologies and that sees cultural evolution in terms of one political process, namely centralization (Blanton 1998: 171). However, political centralization is often tied to highly complex social configurations, and is thus a key notion for my analysis of the Co Loa phenomenon. According to Haas (2001c: 242), centralization, as a cross-cultural process, is not unilinear in the sense of being an inexorable trend toward greater and greater concentration of power in the hands of fewer and fewer people. Societies in different times and places have pursued variable political strategies that have fallen along multiple organizational spectra: corporate versus network; heterarchy versus hierarchy; wealth versus staple finance; coercive versus beneficent government; powerful versus weak rulers (Haas 2001c: 242). In that sense, it is important to explore changing patterns of cultural practice and decision-making that can lead to centralization.

While acknowledging the high variability and many transformations of polities over time and space, it must still be conceded that typological schemes and conceptualizations remain indispensable for efforts to develop cross-cultural theories about culture change, so long as we do not use them within a simplistic, neo-evolutionary-stage context. One useful way to delineate categories of social configurations is to differentiate between politically centralized and uncentralized societies. Generally speaking, smaller-scale and relatively egalitarian societies with populations in the tens or hundreds have been traditionally referred to as "bands" or "mobile hunter-gatherer groups" with less sociopolitical complexity and an absence of political centralization (Carneiro 1970; Johnson and Earle 2000; Service 1975). Of course, this category does not include some forms of hunting and gathering societies marked by greater degrees of sedentism and higher population levels, societies that exhibit gradations of organizational complexity (e.g. White 2013). In recent decades, for instance, researchers have demonstrated social inequality was common among populations whose subsistence economies did not include the exploitation of domesticated plants or animals (Sassaman

2004: 228). However, beyond issues of subsistence, this general category of politically uncentralized society is commonly marked by relatively egalitarian or informal forms of leadership, where social members are usually kinsfolk related by descent or marriage, and where there are fewer potential social and political relationships between people because of the smaller population size. Most importantly, these societies tend to lack considerable differentiation in economic or social status.

In terms of politically centralized societies, we are dealing with those marked by larger population sizes and greater scales of organizational complexity. As the scale and size of societies expand, new levels of integration are needed to centralize, or at least syncretize, human political action (Earle 2001: 105). Some of these larger societies have been typically referred to in anthropology and archaeology as "stratified" or "middle-range" societies, "regional polities," "supravillage polities," "chiefdoms," or "states" (Carneiro 1981, 1998; Fried 1967; Haas 1982; Johnson and Earle 2000; Oberg 1955; Service 1975). "Chiefdoms" can vary greatly in size, from a few thousand persons to tens of thousands. In general, chiefdoms appear to operate on the principle of ranking and prestige. However, political institutions may not persist beyond a generation or so, and these middle-range societies lack the kinds of permanent, bureaucratic structures more often associated with states. "Transitory leaders achieve their authority by building charisma and trust within a particular arena of expertise" (Kantner 2010: 256). In contrast with state-level societies, this kind of authority or political power is not institutionalized and can be somewhat fleeting. Larger-scale, more complex polities, often marked by enduring laws, institutions, and bureaucracies, have been referred to as "archaic states," "city-states," "territorial states," and "empires" (Haas 2001b; Trigger 2003; Yoffee 2005).

To be sure, ambiguities and overlap exist between forms of politically centralized societies, and for some researchers, using categories such as "chiefdom" does not allow archaeologists to fully appreciate the historical and local variations inherent in every ancient society (see Pauketat 2007). That being said, the use of concepts and classifications is still vital in any cross-cultural and cross-temporal efforts to formulate and test hypotheses about the formation of politically centralized societies. For the case of the Co Loa Polity, the phenomena commonly subsumed within a grouping of "state" are most relevant.

Archaic States

Researchers have offered countless criteria for forms of ancient states (Carneiro 1970, 1998, 2003; Childe 1950a; Cowgill 2004; Earle 1987, 1991; Fried 1967; Haas

1982, 2001b; Kirch 1991; Morgan 1877; Pauketat 2007; Service 1962, 1975; Stanish 2004; Trigger 2003; Tylor 1871; Yoffee 2005). Despite the range of definitions, many of which are based on quite varied cases from around the world, there are certain major features that most researchers would include in a conceptualization of the state. Kin relationships typically play a lesser role in political interactions, and there is marked differentiation of populations within social strata and classes. In general, most researchers tend to agree that "states" represent highly centralized polities that govern substantially large populations of people, and that they possess a legitimized monopoly over certain capabilities such as the application of deadly force.

According to Carneiro (1981: 69), a "state is an autonomous political unit, encompassing many communities within its territory and having a centralized government with the power to draft men for war or work, levy and collect taxes, and decree and enforce laws." For Trigger (2003: 92), states are politically organized societies regarded by those who live in them as sovereign or politically independent, and have leaders who control their social, political, legal, economic, and cultural activities. Possehl (1998: 264) emphasizes the large-scale economies of states, marked by considerable specialization in craft and career tracks. In his view, archaic states have a strong focus on kingship, or centralized leadership, that is in all likelihood given to the aggrandizement of the individuals who rise to these offices, and the economies of states tend to be centralized and heavily (not exclusively) controlled by its leadership (Possehl 1998: 264).

As Yoffee (2005: 16) notes, archaeologists have tended to separate "states" from "non-states" in the archaeological record by referring to a dichotomy between complex societies and their less complex counterparts, wherein differences exist in the degree and nature of social differentiation. Whereas in less complex societies major roles are allocated on an ascriptive basis, and division of labor is based on family and kin ties, in complex societies, "a central authority develops in order to bring relatively autonomous subsystems within the contours of a larger institutional system" (Yoffee 2005: 16). This central authority comprises key members who are recruited by reason of competence, and not exclusively on the basis of some ascriptive status (Yoffee 2005: 16). In Yoffee's estimation (2005: 17), a state can be seen as a governmental center acting through a generalized structure of authority, making certain decisions in disputes between members of differentiated groups, maintaining central symbols of society, and undertaking the defense and expansion of the society.

Another important distinction when dealing with ancient states is the dichotomy between "pristine/primary" and "secondary" states. Few examples of true primary state formation have been offered by researchers (see Cowgill 2004; Kenoyer 2010; Service 1975; Spencer and Redmond 2004; Trigger 2003),

meaning that the majority of cases for state formation in the world involved varying degrees of interaction with existing state-level neighbors. As argued by Parkinson and Galaty (2007: 114), the vast majority of ancient state societies were, in some sense, secondary or derivative. Recent research has shifted focus from an earlier concern with primary state formation toward more synchronic analyses of both primary and secondary states (Stein 2001b: 356). In some models, secondary states may have formed as remnants of larger entities that broke up after florescence, or potentially as competing polities that developed at the edge of more mature complex societies (Parkinson and Galaty 2007: 125). Ultimately, groups established authority through either brute force, gift exchange, or ideological mechanisms that served to legitimate authority (Parkinson and Galaty 2007: 125).

Given the geographic and temporal context for Co Loa, I would stress the importance of models addressing secondary state formation. Consequently, it is necessary to consider various levels of analysis. On one hand, and to the extent that it is archaeologically feasible, the more micro-level scale of agent or faction decision-making should be considered, elucidating intrapolitical interactions of societies. On the other hand, a supraregional or macro-level scale is equally important to consider. A state, even a pristine one, does not emerge in a complete social or environmental vacuum, and interpolitical interactions are likely to be instrumental in shaping the policies and strategies of leaders as they centralize and consolidate power and authority. As I will discuss in a Chapter 10, the Co Loa Polity's proximity to models of statehood to the north probably resulted in emulative strategies for local leaders and rulers.

For all of the variation in definitions offered, some consensus is broadly discernible, revolving around significant levels of organizational complexity, institutionalized authority, and social stratification or inequality. Other areas of agreement include the state's ability to enforce laws, its legitimate use of force in both intra-societal (policing) and extra-societal interactions (warfare), and an ability to collect tribute or tax in the form of agricultural surplus, prestige goods, or services such as craft manufacture or *corvée* labor. Billman (2002: 372–373) offers a comprehensive summation where the state is a general form of social organization that possesses:

1. relatively permanent institutionalized forms of leadership (not ephemeral rule by charismatic leaders);
2. specialized, hierarchical administrative structures;
3. fixed territories organized on the basis of land, not just kinship;
4. the means for tax or tribute collection to finance political activities; and
5. political control through the use of positive and negative sanctions.

To Billman's comprehensive summation, I would add that most states would exhibit some form of population nucleation, often in the form of incipient urbanism.

This last point, involving demography and scale, is an important and tricky one. There is less agreement than one might expect in the literature regarding the size and scale of the archaic state (Feinman 1998: 97). Is there a minimum demographic threshold for an archaic state? Feinman (1998: 97–98) points out the varying viewpoints as to what constitutes "a state" in terms of both population size and territorial extent. Accordingly, it may be helpful in some cases to place more emphasis on qualitative criteria than on quantitative ones. Nonetheless, demography cannot be overlooked, and some argue state societies are generally marked by social inequality and dominance behavior as correlated with early farming and rising populations, and that the advent of larger group sizes and greater densities of interpersonal interactions was intertwined with new and complex social arrangements (Price and Feinman 2010: 3). Of course, the formation of a complex, stratified society requires a sufficient number of people, and for Claessen (2004: 77), the necessary number of administrators, servants, courtiers, priests, soldiers, agriculturalists, traders, and so on, can be found only in a population numbering in the thousands.

When it comes to the study of complex societies, the global archaeological database has increasingly yielded data marked by astonishing variability along cultural, geographic, and historical dimensions. Given this vast range of diversity, the use of a term such as "state" is not without its problems (see Campbell 2009). Nevertheless, the concept is not without utility, as it offers at a minimum the means through which archaeologists can commonly refer to certain forms of large-scale, complex polities that share rough commonalities, thus engaging in useful cross-cultural comparison. If theoretical formulation via cross-cultural comparison is to be a chief objective, then perhaps an archaeological conceptualization of "state" needs to be relatively broad and open, thus allowing full appraisal of the enormous variety we might recognize from the material record.

In this spirit, Stark (2006c: 146, following Feinman 1998) broadly defines a state as "a polity characterized by at least two classes of social strata, in which the government is centralized and specialized." Using this inclusive definition, I would add an element of institutionalized durability, marked by multigenerational permanence and longevity. For my argument, then, a state is characterized at its most basic level by social stratification and institutionalized power, and the latter constitutes consolidated and durable political authority that is widely recognized and accepted both within the political center and along its peripheral areas. This authority is marked by possession of a preponderance of coercive power over some territorial base. Accordingly, its authority and leadership are not

"situational" (Stanish 2010: 97), fleeting, or ephemeral. Fundamentally encapsulated in this conceptualization is a sense of durability, wherein institutionalized and legitimate power exists over control of resources, the use of deadly force, and other aspects of society. For many cases, multigenerational and durable governance is necessary to keep a polity from undergoing volatile periods of cycling between integration and decentralization (Tejada 2008: 88) or between consolidation and dissolution (Marcus 1998). Accordingly, the conceptualization of "state" favored in this study pertains to a socially stratified society, in which political authority and governance are centralized, institutionalized, and permanent, and where rulers hold a preponderance of coercive power with a territorial base. As I argue in this book, defined in this way, the term "state" can be aptly applied to the sociopolitical configuration associated with the Co Loa settlement in northern Vietnam.

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Theories for Emergent Complex Societies

Whether for primary or secondary state formation, theoretical models have been offered based on an array of case studies to account for the transformations associated with political centralized, complex societies. These models are focused on a variety of ecological, demographic, economic, social, and ideological factors in offering explanations for emergent complexity in different world regions. Generally speaking, the models delineate an assortment of variables such as environmental conditions (Kirch 1991; LeBlanc 2003) or agent decision-making (Dornan 2002; Pauketat 2001; Stanish 2004) and intentionality (Hodder 2000) in effectuating changes in social structure. Some researchers also stress the importance of coercion and warfare as factors leading to political centralization (Carneiro 1970; Billman 2002; Gilman 1991; Haas 2001a; Marcus 1998; Spencer and Redmond 2004; Webster 1998), while others postulate that social stratification can stem from long-distance trade (Rathje 1972; Johnson and Earle 2000: 31–32; Junker 1999), economic efficiency due to specialization (Bronson 1996; Earle 1987, 1996), or inter- or intraregional interaction between societies (Renfrew 1996; Stein 2002). In some cases, researchers cite different exclusionary and corporate types of power strategies employed by various agents within societies, strategies that can actively promote sociopolitical changes within a dual-processual approach (Blanton et al. 1996). In still other examples, researchers stress the importance of ideology and its materialization as vital factors in power strategies that reconfigure sociopolitical systems (DeMarrais et al. 1996; Earle 1997). Given the enormous range of theoretical models and explanatory frameworks, it is imperative that several lines of evidence and manifold

cross-cultural cases be evaluated in ongoing attempts to develop universal theories that elucidate how and why humans began to live in socially stratified and politically centralized societies.

Very broadly speaking, and at the risk of oversimplification, the majority of current theories can be divided into two major categories of thought—voluntaristic or coercive. The voluntaristic category generally includes integration or adaptationist theories, and its proponents tend to view social evolution as resulting from increasing levels of integration within societies. Integration occurs because societies are adapting to new problems of risk, technological advance, and trade, and redistributive functions are concentrated in the hands of leaders for a society's overall benefit. Variants of managerial theory fall within this class of theories. On the other side, coercive types of theories generally include explanations rooted in conflict, control, and physical power. Social inequalities and disparities are enhanced and legitimized by those who are at the top of a social hierarchy. In terms of conflict types, theorists stress either intra-polity (between social classes) or inter-polity (i.e. conquest warfare) conflicts, or threat of conflict, as causal factors for greater levels of social inequality and differentiation. For the voluntary tradition, the state emerges as a new level of complex integration as a society continues to develop institutions and mechanisms to efficiently support its growing population. Within the coercive group, the state is formed when some groups of people maintain social, political, and economic domination over others.

As noted by Kantner (2010: 249), adaptationist perspectives emerging in the 1970s and early 1980s "regarded the emergence of leadership positions as necessary sociocultural adjustments to environmental or demographic crisis." Kantner (2010: 249) further observes that, in the following decades, researchers began to subscribe to contrasting archaeological models to account for the evolution of sociopolitical differentiation, ones that tended to emphasize an inherently competitive nature for humanity, "describing processes of self-aggrandizement and political factionalism as rampant in small-scale societies and inexorably pushing them to greater levels of social and political differentiation." At the crux of the dichotomy is, under certain conditions, whether humans are more likely to cooperate or compete, and whether group interest or self-interest is given greater primacy. As will be demonstrated, the two traditions deal with the same research questions but arrive at different, sometimes contradictory, conclusions. However, of interest are the areas where the two sides are actually complementary. Ultimately, I argue it is far more productive to consider human agents and groups as decision-makers and decision-making units whose choices and strategies shift over time and in response to changing social and environmental conditions.

Population Pressure and Social Complexity

Before addressing the major categories of cooperative and coercive theories, it must first be mentioned that many frameworks have relied on, whether directly or indirectly, external movers or efficient or material conditions, such as population pressure, climate, and ecology. Interestingly, regardless of where they fall on the conflict versus integration continuum, most theories acknowledge some role for population growth as an important independent variable, sometimes in association with population pressure and sedentism. As will be demonstrated in discussions of both cooperative and coercive theories, sufficient population size is almost always a prerequisite for social complexity. While various theories may disagree on the primacy or degree of importance of demography, what is very clear to all is that states cannot exist without substantial numbers of people aggregating and interacting within a society. Consequently, population growth and pressure stemming from ecological conditions have often been cited as significant factors, if not prime movers, for social complexity. For instance, archaeologists interested in Mesopotamian complexity often consider the nature of interactions between individuals and groups, where times of greater complexity saw societies characterized by an expansion in the intensity and diversity of relations (Ur 2010: 388).

While researchers have yet to provide an irrefutable causal link between population pressure and emergent sociopolitical complexity, few deny the strong correlation between the two. "The strong association between demographic and socioeconomic complexity also suggests that any claims for the prehistoric development of complexity *unaccompanied* by increases in population pressure are to be treated with extreme skepticism" (Keeley 1988: 395). Although this does not mean that population pressure alone is a sufficient condition for state development, the archaeological record does strongly indicate that population pressure has played a significant role as part of a larger causal package (Carneiro 2003: 205). Without enough people and the resultant myriad of possible relationships and interactions between them, larger-scale complexity simply would not be feasible.

Conflict, Coercion, and Conquest Approaches

Some explanatory frameworks have explored how certain conditions lead to conflict, coercion, and conquest, thereby resulting in, and maintaining or augmenting, the asymmetries of power, wealth, and status that mark the existence of highly complex societies. In conceptualizing coercion, I adopt Schaub's (2004: 390) description, wherein *coercion* "denotes an attempt to influence the behavior of another by using force, or the threat of force, to reduce the scope

of the adversary's options and/or affect its assessment of the costs and benefits of its options—in particular, the options that do not accord with the coercer's wishes." It may be useful to think of coercion as occupying a part of a spectrum marked by consent at one end and control at the other, reflecting a political actor's expectations of the responsiveness of potential adversaries, and thus the necessity to use force (Freedman 1998: 16). Of course, this type of strategy can be used to compel the behavior of those within the coercer's society, or without. There has been considerable research on the role of competition, coercion, violence, and warfare in political consolidation and the formation of chiefdoms and states. Judging from the many cases where we have evidence for conflict in the material record, there is a clear correlation between complex societies and organized violence, though the exact causal relationship has been subject to much debate.

INTRA-POLITY CONFLICT

Examining themes of internal class conflict and coercion, Gilman (1981, 1991) notes the onset of stratification in Bronze Age Europe and argues that the possibility of exploitation cannot be overlooked. He sees the rise of elites as stemming from exploitation of capital-intensive food producers. With exploitation, the managerial capacity of elites is no longer a cause for stratification and centralization for power; rather, it is more of an indication. Specialized technologies such as metallurgy, and trade in luxuries should be viewed as indications rather than as causes of the emergence of stratification (1981: 8). According to Gilman (1981: 7), capital-intensification of subsistence clearly precedes the emergence of elites in later prehistoric Europe. In general, the cases cited by Gilman indicate stratification had already begun in societies prior to the emergence of centers for higher-order regulation. Gilman (1991: 147) notes that the central difficulty of the managerial account of the development of hierarchical social systems is that it fails to explain why the elites inherit their privileges. Prior to social stratification, leaders had always achieved their positions through service to their followers. Accordingly, the shift to hereditary statuses cannot therefore have given rise to new possibilities of control by leaders. Rather, increasingly complex economies must have allowed new possibilities for control by leaders, and new opportunities for long-term, stable exploitation by leaders must have preceded the rise of superordinate statuses (Gilman 1991: 148). Although Gilman provides a strong argument for the importance of control by leaders in effectuating social change, the framework does not completely account for the agendas and actions of others. Approaches emphasizing factional competition (see Brumfiel 1994), for instance, may provide additional insights to consider, and I explore such notions in a later section.

INTER-POLITY CONFLICT

In areas experiencing growing populations, the possibility exists not only for intra-group conflict but also for the increased frequency of conflict between autonomous or sovereign groups. Some theorists deny the prevalence of warfare prior to the rise of states (Fried 1967; Service 1962), or the role warfare can play in state formation (Otterbein 2004). Otterbein (2004: 96), for instance, holds that the absence of war is a prerequisite both for the domestication of plants and, later, for the development of centralized political systems. In his model for state formation, warfare does not operate as a significant factor for social change until well after the emergence of stratification, ruling classes, and states (Otterbein 2004: 15), despite there being competition and conflict between leaders that led to internal power struggles (Otterbein 2004: 13). In this view, stratification arose prior to state development, where wealth differences in village life allowed the more dominant, wealthier class to provide leaders (Otterbein 2004: 13).

In my view, the position that warfare was largely insignificant or absent altogether prior to the existence of states is untenable. My argument is based on the notion that warfare is not restricted to actual physical violence between groups, but can also encompass various strategies and practices related to coercive power and threats. There is substantial archaeological evidence pointing to considerable warfare among non-state societies in many parts of the world (Arkush 2006; Bamforth 2006; Carman and Harding 1999a; Emerson 2007; Guilaine and Zammit 2001; Keeley 1996, 2001; Kim and Kusimba 2008; Lambert 2002, 2007; LeBlanc 2001, 2003; Webster 1998), and how this warfare affected settlement patterns (Arkush and Stanish 2005; Haas 2001a; Milner 2007; Rice 2001) and sociopolitical evolution (Carneiro 1970, 1981; Haas 2001b, 2001c). For many archaeologists, there is little question about the prevalence of warfare among the interactions of both smaller-scale and middle-range non-state societies. "The archaeological records of chiefdoms and emergent state societies in every major world area are replete with markers of conflict, warriors, military activities, defense, and weaponry" (Haas 2001a: 340). With increasing amounts of material evidence being offered indicating pre- and non-state warfare in the archaeological and ethnohistorical records of smaller-scale, non-state societies, the next logical question pertains to the extent that leaders and polities used coercive power, military force, or warfare to consolidate, maintain, and expand authority; to transform, whether intentionally or unintentionally, relatively egalitarian and uncentralized societies into politically consolidated societies.

A brief survey of world regions separated by time and space affords a glimpse into the significance of warfare for cultural change among non-state societies. In the north Pacific Rim region, for instance, there is ample evidence demonstrating

the role of warfare in the history and development of complex hunter-gatherer societies, where wars were waged between islands over 700 kilometers apart and included dozens of villages within and between ethnic groups (Maschner and Reedy-Maschner 1998). Offshore refuges and hidden or inaccessible site locations are found in the region (Maschner and Reedy-Maschner 1998: 25). These wars were generally fought for revenge, status, over women, and (rarely) over critical resources, and warfare was so ubiquitous in the later prehistoric sequence that some feel it ought to be considered central to the development and organization of north Pacific society (Maschner and Reedy-Maschner 1998). Webster (1998) provides an overview of material evidence demonstrating the role of warfare in political change and state formation for Mayan and Polynesian societies. In Europe, Kristiansen (1999) notes the prevalence of a chiefly elite culture, its spread as a cultural package, and its promotion of warfare interactions. Given the presence of warrior aristocracies in combination with certain ecological conditions during Iron Age Europe, one of the ways to increase political power was not via production, but via warfare (Kristiansen 1999: 183). For interactions between chiefdoms of the pre-Hispanic Philippines, Junker (1999) notes the prevalence of conflict in the archaeological and ethnohistorical records. In search of new revenues, chiefs sought to expand their territorial control by conquest. The formation of states and empires involved the extension of political domination, usually by conquest, to a still larger area. Citing archaeological data, Marcus (1998: 92) holds that states formed in the context of competing chiefdoms, where one succeeded in subjugating the others, turning them into provinces of a larger, unitary state. In this manner, warfare was an important means and political strategy for the consolidation of power and the maintenance and growth of polities.

Carneiro offers a similar explanation, holding that centralized polities such as chiefdoms emerged when especially effective war leaders, initially the chiefs of single villages, defeated several neighboring villages and incorporated them (Carneiro 1998: 21). Revising his circumscription model as described in an earlier publication (Carneiro 1970), Carneiro (1998) recognized an additional possibility. Instead of chiefs' taking authority and power by force in forming a chiefdom-level polity, war leaders may have been elected or nominated into a chief's position with temporary or ad hoc authority over several autonomous villages in order to lead a war campaign. The ethnographic record strongly supports the existence of military alliances between autonomous villages, alliances that did not involve any centralized leadership (Carneiro 1998: 22). In this scenario, a war leader would be given temporary power until the war campaign was completed. In cases where the war leader decided not to relinquish authority and was successful in maintaining his position, the "flashpoint" of chiefdom formation would have been reached (Carneiro 1998: 25).

Thus not all chiefdoms are necessarily born out of outright conquest, though coercive physical power, along with its potential application (i.e., threat), are still quite important in the process of centralization. Seen in this light, Carneiro's model (1998) actually blends conquest theory with managerial theory. In this case, it is the management of warfare as an activity, one helping to ensure the survival of a society, which confers authority and status upon a chief. A combination of certain conditions related to a leader's personal traits (e.g., aggressiveness, ambition, and charisma) with exogenous factors (e.g., environmental or social circumscription) could lead to the establishment of politically centralized societies.

Similarly, Billman (2001: 180) also discusses the importance of power, and his research on political centralization in the Andes sees the significance of different types of power bases; namely, economic, ideological, and military. Although control of economic resources can yield considerable power to an aspiring leader, the circumstances under which economic control can be achieved are limited, and to gain such power, leaders must be able to intensify or monopolize the production or distribution of resources (Billman 2001: 181). This, then, requires a combination of ideological and military power. Some leaders are able to inspire or persuade followers, or even manipulate and create belief systems, thus controlling behavior through words and material symbols, thereby using an ideological power base (Billman 2001: 182). The materialization of ideology can help transmit ideas, myths, beliefs, and the like over time and space, and can foster the use of these objects in ceremony and ritual (DeMarrais et al. 1996). However, a leader's ability to maintain and finance political organizations will also require a military force in order to regularize the collection of goods and labor (Billman 2001: 185).

Manifold case studies from various settings demonstrate a strong correlation between coercive power and political centralization. For Mesoamerican prehistory, Flannery and Marcus (1996) outline the origins of the Zapotec state and civilization, demonstrating how chiefdoms arose through the coercion and subjugation of neighboring autonomous villages. Supporting this view, Spencer and Redmond (2004) argue that "aggressive territorial expansion" played a role very early in the process of Zapotec primary state formation at Monte Alban. In South America, Billman (2002) acknowledges the likely role of warfare, among a combination of determinants, in the formation of the southern Moche State. Looking at Mayan civilization, Aoyama (2005) examines use of weaponry; namely, spear, dart, and arrow points used by the Classic Maya elites, to help illustrate the roles of specific classes of people in warfare and social change. By analyzing the temporal and spatial distribution patterns in and around sites such as Copan, Honduras, Aoyama (2005) is able to posit that both the royal family and elite scribes and artists at Aguateca used spear and dart points for intergroup human conflict as well as for artistic and craft production under enemy threat. One important

implication from this is that the ruler and elite scribes/artists were also warriors. Moreover, the unusually high concentrations of identifiable weaponry at certain sites, along with other lines of evidence, indicate that warfare was critical in the development and downfall of Classic Maya civilization at Copan.

For Mesopotamian civilization, Adams (2004: 48–51) sees power and coercion as particularly salient for increasing levels of complexity and social stratification. In southern Mesopotamian prehistory, a major consequence of the operation of growing differentials in rank, status, and above all, access to coercive power, was a persistent institutional segmentation of the elite (Adams 2004: 51). In a consideration of the origins of complexity and urbanism for northern Mesopotamia in the period from the mid–fifth to the fourth millennium BC, Ur (2010: 393) discusses evidence for large-scale feasting, religious institutions, mass production of ceramics, and nucleated high-density settlement, coinciding with organized violence. Based on the available material indicators, the process of urbanization, along with its associated social and political changes, was not without conflict (Ur 2010: 397). In addition to burned structures, recent excavations near the site of Brak suggest a possible massacre event.

Elsewhere, the formation of two large primary centers in ancient China, Erlitou and Yanshi, in the mid–second millennium BC, indicates competition between regional polities and the use of control strategies, where warfare and class conflict were part of a package of driving forces that fostered changes in social complexity (Lee 2004). In southern Africa, polities such as Mapungubwe and Great Zimbabwe emerged through a combination of factors that included the use of coercive power (Kim and Kusimba 2008). For Eastern Inner Asia, Rogers (2007: 262) discusses how control of key resources was critical for the emergence and stability of steppe polities and political centralization. In some instances, trade, or the coercive alternatives of raiding and warfare, provided access to exotic products that served a fundamental role in a prestige-goods system intended to continually reaffirm and solidify authority (Rogers 2007: 262). On the Korean peninsula, increases in population during the Mumun Culture period (c. 1500–300 BC), combined with growing social complexity, resulted in scarcity of land and other vital resources, thus leading to social conflict and warfare (Rhee et al. 2007: 415; Song 2000: 142–144).

Overall, it appears the emergence of state-level society in many regions is highly correlated with the increased frequency and intensity of collective violence. In a seminal treatment of the origins of the state, Carneiro (1970) maintained that the transition from autonomous village life to societies marked by supracommunity or supravillage aggregation occurred through a combination of factors. Conditions of environmental and social circumscription, combined with resource concentration, led to warfare over territory. The outcome was political integration

beyond the village level. Although Carneiro's circumscription theory emphasized ecological factors, he did note concomitant endogenous political changes that occurred as villages were aggregated through either conquest or threat of conquest. New communities and territories had to be administered, and it was this necessity that catalyzed internal political changes. According to Carneiro (1992), state formation thus involved reciprocal interplay between an aggregative phase and an integrative phase.

Interestingly, in addressing the emergence of sociopolitical complexity, LeBlanc (2006: 448) discusses a possible domino effect. If a polity in a region attains a more complex social organization, even if briefly, it could motivate adjacent polities to follow suit, with the impetus being that the larger polity with the more complex organization would have a significant military advantage resulting in risk and threat for smaller-scale societies. Thus, all polities in a region did not need to evolve from conquest directly, and warfare in one area that led to an increase in complexity may have been enough to cause it in an entire region (LeBlanc 2006: 448). This observation is significant for ideas on secondary state formation. If a state were to emerge in a region, especially one backed by military power, then a ripple effect could occur for surrounding, smaller-scale societies in the region, an effect that could catalyze profound social and political changes within these communities.

In a recent study, Turchin and colleagues (2013) propose an interesting model that quantitatively demonstrates a causal link between military technologies, warfare competition strategies, and the persistence of state institutions. Their quantitative model complements theoretical discussions about the effects of conflict on the formation of state-level organizations. The researchers look at data and cases of large-scale societies in the Old World during a period from 1500 BC to AD 1500, and test the model's ability to predict the historical distributions of these polities. Essentially, the theoretical prediction offered by the authors is that selection for social complexity is greater where warfare between societies is more intense (Turchin et al. 2013: 2). Although their model deals with aggregate data and macro-level observations, the authors do make a strong case for considering the importance of military power as a factor for social change across time and space.

Summary for Conflict, Coercion, and Conquest Approaches

Archaeological data clearly demonstrate the prevalence of warfare during the Holocene epoch in many parts of the world, if not earlier. Indeed, as a factor in culture change, warfare and cultural practices related to organized violence had enormous consequences even before the emergence of state-level societies. For

many Neolithic settlements, the practice or threat of warfare resulted in community aggregation and shifts in settlement patterns (Haas 2001a: 339–342). In this respect, warfare has had a long relationship with culture change. Looking at Mayan civilization, for instance, one can recognize the impact of warfare on everyday life at the micro-level, as well as on the development and collapse of sociopolitical systems at the macro-level. Significant Mayan populations were displaced as refugees during periods of conflict and war (O'Mansky and Demarest 2007: 30).

Although warfare has profound social and cultural consequences, increased complexity and political centralization are not always part of these outcomes. To be sure, there are negative cases demonstrating that a prevalence of warfare and competition among chief-led societies does not always lead to state formation. Kirch (1991) offers such an example when discussing Marquesan society. Increasing population, pervasive environmental hazards (especially drought), ecological degradation, and acute competition over productive resources fostered rivalry between inherently contradictory hereditary and achieved status positions (Kirch 1991: 143–144). However, the result was an involuted cycle of prestige rivalry, competition, and warfare, all without the development of a state. Hence it would be prudent for researchers to consider warfare as part of a larger causal package that can lead to state formation. In other words, while conditions of warfare among non-state polities might represent a necessary condition for political centralization, warfare alone is not a sufficient condition. Warfare among non-state or chiefdom-level societies does not always lead to political consolidation and the emergence of states.

Also important to consider is that, despite ample evidence indicating that state formation requires coercive power and either the application of military force or the threat of it, there are cases of state development where the available evidence does not suggest significant pre-state warfare. For instance, Underhill's research (2006) on early state formation in China shows a general absence of much evidence of warfare prior to centralization. Presently, the hypothesis that warfare was a major causal factor for the initial emergence of states in northern China is not supported by the archaeological data (Underhill 2006: 278). This is not to say that warfare did not occur, and it may be that future investigations will uncover evidence of warfare as a key factor in the emergence of early Chinese states.

Elsewhere, the Harappan civilization of the Indus Valley also suggests state formation without a significant role played by warfare. Some Indus settlements, such as Harappa, had massive walls and gateways, but they appear to have been used as control mechanisms to facilitate taxation and limit commercial access or exit from the cities, more than for military defense (Kenoyer 1997: 263). However, while there is no direct evidence for warfare during the Mature Harappan phase

(c. 2500–1900 BC), this does not mean all of the peoples of the greater Indus region were peaceful (Possehl 1998: 269). Researchers have suggested that forms of conflict may have occurred during the mature phase (see Cork 2005). Possehl (1998: 271–272) points out evidence of large-scale burning episodes for several sites associated with the Early/Mature Harappan conjunction, further hinting at the presence of conflict. There were surely confrontations between the diverse peoples of the region, though it is not clear what form these confrontations took, and what effect they had, if any, on forming Harappan civilization (Possehl 1998: 269). According to Kenoyer (1998: 82), the absence of images depicting human conflict cannot be taken to indicate a utopian society in which everyone worked together without warfare, since battles and political confrontations may not have been preserved in the archaeological record. "We have to assume that there were periodic struggles for control and conflicts within a city as well as between cities" (Kenoyer 1998: 82). Kenoyer (2003: 378) also notes that large cities such as Mohenjo-Daro and Harappa may have been too enormous to attack directly, and that any conflict may have happened in the hinterland, a pattern that is well documented throughout history.

Ultimately, although there are examples to the contrary, a considerable amount of evidence from many cases suggests state formation often involved some element of coercion, military power, and, in some cases, outright violence, as key ingredients. These temporally, geographically, culturally, and historically varied cases repeatedly demonstrate how physical power and force, or at least the existence of a credible threat of the use of force, are important facets of emergent centralization. This is not to deny the prevalence or importance of other variables of a non-coercive nature in contributing to social inequalities, factors that are varied and can be of greater or lesser impact depending on the case. However, I would argue that it is imperative to consider the use of coercion and warfare as a strategic means to both garner power and keep it. Coercive power and physical force likely constitute an important catalyst in the formation of state-level societies, as I will argue was the case for the Co Loa Polity.

Voluntaristic Approaches

In general, these theories account for the aggregation of humans into increasingly complex groupings through non-coercive and essentially voluntaristic means. Community members chose to establish or passively accept some degree of ranking because they perceived and then experienced the potential benefits of such political formations. One major class of theories within the voluntaristic tradition of thought is the managerial, and these theories generally hold that leaders emerge because societies need them. The general population confers upon leaders the

responsibility, authority, and power to make decisions and delegate tasks, an act precipitated by the need to manage and coordinate large-scale activities with large numbers of people. In this fashion, a significant step towards political centralization and greater sociopolitical complexity has taken place, and it has taken place under largely non-coercive and non-threatening conditions. In downplaying the effects of coercion, many managerial or cooperative theories tend to emphasize sharing and cooperation.

Along these lines, researchers have often cited agricultural intensification as an important variable leading to complexity. A certain degree of management is necessary to coordinate any large-scale enterprises related to agricultural intensification. For Earle (1987: 294), emerging social complexity is tied to the mobilization and use of surpluses to finance the emerging elites, their associated institutions, and their directed enterprises. In essence, then, Earle (1987, 1991, 1997) sees the control over the political economy as a key to emerging differences in rank and stratification. With larger-scale societies, there might be many complex public problems that need solutions and attention, thus necessitating the need for hierarchy, management, and leadership.

A prototypical example of managerial theory is Rathje's long-distance trade model (1972), where management of trade facilitated Mayan state formation. The model sees voluntary decision-making as responsible for integration and centralization, leading eventually to social stratification and the state. In this model, autonomous communities and villages recognized the need for certain commodities and goods for continued subsistence, non-local basic resource items that were not immediately available (Rathje 1972: 373). Certain lines of long-distance trade thus had to be established. As a result, those who could control the long-distance trade garnered political, economic, and social power. Eventually, these individuals possessed differential access to basic resources being imported, and thus differences in wealth and status resulted in emerging stratification and organization.

Although positing long-distance trade as a causal factor has been criticized, researchers have continued to explore the ways in which trade activities can contribute to state development. For example, researchers working in southern Africa have stressed the importance of intraregional as well as transoceanic trade in accounting for the rise of polities such as Mapungubwe and Great Zimbabwe (Huffman 1972; Kim and Kusimba 2008; Pikirayi 2001). However, these more recent considerations of trade stimuli have tended to acknowledge a causal package of conditions in addition to long-distance trade.

Related to trade and exchange is the notion that craft specialization and the exchange of prestige goods may have been important factors in political integration for early sociopolitically complex polities (Trigger 2003: 342). This was especially so when the exchange and production of prestige goods were encouraged

by politically motivated demands of the upper social strata within a society. In researching political economies of pre-Hispanic polities in the Philippines, Junker (1999) presents evidence indicating different strategies employed by rulers in attempts to gain control over exotic symbols already associated with high status and political authority among a foreign elite. Having control over prestige goods, whether obtained through foreign exchange or produced locally by attached specialists, is an important way for sociopolitical elites to maintain and expand political power in chiefdoms (Junker 1999: 5–6). Regarding craft specialization, Bronson (1996) addresses the impact of metallurgy in East and Southeast Asian prehistory, where a number of substantial metallurgical industries existed and were closely linked with the growth and maintenance of political authority. The rise of certain East Asian states was causally linked with the growth of metal production, and a prime example is China during the Warring States period of the mid–first millennium BC.

Another managerial theory is the "hydraulic" hypothesis. An early proponent of this type of explanation for the rise of social complexity was Steward (1949, 1955), who offered theories about state evolution for civilizations in arid or semiarid environments. In these "irrigation civilizations," labor-intensive agricultural systems were an adaptation to dense population concentrations, and these systems required a complex political structure for their operation. Much in agreement, Wittfogel (1957) put forth the hydraulic hypothesis to account for the rise of civilizations throughout the world. In dry areas of the world, where autonomous villages had survived by building small-scale, local irrigation systems, they came to realize a potential mutual benefit by setting aside individual sovereignties and integrating local systems into a single network of canals. Societies thus created a body of officials to manage the enterprise, thereby bringing into existence the core institutions of the state.

Over the years, a number of researchers have tested the causal relationship postulated in the hydraulic hypothesis through the examination of both ethnographic and archaeological data. In some cases, the managerial requirements of irrigation did seem to play a significant role in the centralization of political power (Emerson 1990). In many others, however, the model appears unsuccessful, and researchers citing numerous negative cases have criticized the hydraulic hypothesis (Adams 1960, 1966; Billman 2002; Chang 1980, 1986). Looking at the system of "water temples" in Bali, Lansing (1987) has demonstrated how irrigation efforts were organized and managed by groups separate from any state. Instead of being centrally organized in the hands of a state apparatus, control over the system was held by local-level farmer's associations (Lansing 1987: 326).

Overall, much of the evidence garnered from the archaeological record tends to refute managerial theories regarding irrigation systems (Johnson and Earle

2000: 287). However, although managerial theory has been criticized, some researchers have attempted to salvage some of its component parts. The reason for the continued interest in theories of the managerial tradition is a belief that cooperative interactions for the greater benefit of societies may be at the root of complexity. For instance, Stanish (1994) argues that wholesale dismissal of all possibility of a causal link between intensive agriculture and the development of elite organization is unwarranted. In examining archaeological data from the Lake Titicaca basin in southern Peru, looking specifically at the presence of raised fields that are believed to be related to cultivation enterprises, Stanish (1994: 328) maintains that settlement data from the region support a causal link between political complexity and agricultural intensification, and that intensive raised-field agriculture is best understood as an economic strategy employed by elite groups to maximize wealth extraction from subject populations. Furthermore, Stanish (2004: 7) argues that the ethnographic record illustrates how commoners in non-state societies are not always forced into relationships with their elite, especially within areas where families are able to transfer their allegiance to other elites without serious cost. Accordingly, Stanish maintains that a model of humans as conditional cooperators is the best assumption for normative human behavior in modeling the origins of rank. In Stanish's (2004: 8) argument, people make strategic political decisions to either create or not create the necessary surplus that permits the emergence of an elite group, and it is precisely the creation of this economic surplus by a bounded group of people that is a central factor in political evolution. Blending cooperative and coercive approaches in the study of political evolution is a promising research avenue, one that I will return to in a later section.

Summary for Voluntaristic Approaches

Theories emphasizing cooperative and voluntaristic strategies and interactions encompass a wide range of models and frameworks, stressing a host of different variables. For the most part, researchers have either revised earlier managerial models or have sought alternative explanations, although theorists levying criticisms against managerial theory have not abandoned the idea that interactions of a generally cooperative nature can contribute to greater levels of social complexity. The most pertinent shortcoming I see with explanations rooted largely in cooperation is non-recognition of the importance of physical power. While managerial theory might offer clues to why certain conditions can lead to the need for leaders to be nominated to address certain societal problems, it does not explain the means by which the newly appointed managers are able to accumulate wealth, exaggerate social differences, and perpetuate their political rule

indefinitely. Whereas in some cases integration through voluntary means and cooperative strategies can lead to both mutual benefit and some degree of social ranking, how do these changes become permanent? How do asymmetries in rank, status, wealth, and power become entrenched, hereditary, or institutionalized? The presence of some element or form of social power (Mann 1986) or structural power (Wolf 1990), especially if physical or ideological in nature, is still necessary to maintain unequal distribution of wealth and power, to institutionalize centralized political decision-making and authority, and to ensure that these inequities persist over generations. Coercive power, even before the emergence of states, must have been a key ingredient for culture change.

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Synthesis of Approaches

Beyond voluntary and coercive approaches to emergent complexity, there are many frameworks that tend to blur the lines, stressing the potential of humans to employ shifting strategies as social topographies and environmental conditions change. These strategies will involve diverse goals for different people, who accordingly will use different means to achieve them. In some cases, then, the interplay of these interactions between people can result in emergent social ranking and stratification, sometimes leading to centralized, complex polities.

While acknowledging the significance of relationships of dominance and subordination between societies, Renfrew's peer polity interaction model (1996) focuses on a range of interaction between polities in his approach to culture change and state formation.

> Peer polity interaction designates the full range of interchanges taking place (including imitation and emulation, competition, warfare, and the exchange of material goods and information) between autonomous (i.e. self-governing and in that sense politically independent) socio-political units which are situated beside or close to each other within a single geographic region, or in some cases more widely. (Renfrew 1996: 114)

In contrast to forms of managerial theory that stress the importance of endogenous social and political changes leading to integration and complexity, Renfrew's model considers an overall regional context, and how interactions between polities can catalyze growth in complexity. The kinds of interaction taking place between these polities range from economic interchange, to competition, to warfare.

In evaluating interregional interaction as a structuring factor and catalyst for political change, Stein (2002: 903) argues that such interactions have taken a

variety of forms, and in addition to exchange and emulation, outright conquest can occur. Additionally, the emphasis on trade interaction reinforces the possibility that warfare plays a role in state development. As demonstrated by Keeley (1996), alternating sequences of peaceful and warlike relations can occur in cycles between neighboring societies. Finally, the two interactive models also place an emphasis on how exogenous relationships between polities can affect and influence the endogenous activities related to the political economy of the polities, thereby leading to social complexity.

Following along this line of thought, other perspectives tend to blur the lines between cooperation and coercion even further. In discussing complexity, urbanism, and possible state formation during the Longshan Culture period of China, Dematte (1999: 144) sees a complementary role for both competition and cooperation. Archaeological and textual evidence support the hypothesis that both competitive and cooperative interaction resulted in the emergence of centers of power, which eventually took the shape of politico-religious urban polities.

Blanton and colleagues (1996) offer a dual-processual theory for the evolution of complex society in Mesoamerica. The authors argue that current neoevolutionary theory is inadequate for fully capturing the social dynamics and behaviors within a society. Accordingly, the authors maintain that the dual-processual model more adequately addresses different exclusionary and corporate types of power strategies employed by various agents within societies, strategies that actively promote sociopolitical changes. In offering this perspective, the researchers charge that neoevolutionary theory is far too reliant upon socioenvironmental stresses as drivers leading chiefdoms and states to respond and adapt, thereby increasing political centralization (Blanton et al. 1996: 1). In the dual-processualist model, key actors can employ both cooperative and coercive strategies in efforts to centralize and consolidate power. Similarly, Stanish (2010) argues that the emergence of leadership positions in various kinds of intermediate societies stems both from cooperative strategies that yield mutual benefits as well as from coercion. With respect to state-level societies, Stanish (2010: 116) sees the coercive nature of political change thus: "political elites assume policing powers and other forms of subordination, both material and ideological, over the rest of the population."

Parkinson and Galaty (2007) advocate using an approach that draws equally from processual and post-processual schools of thought. In their examination of secondary state emergence in the prehistoric Aegean, Parkinson and Galaty (2007: 113) use a methodology that integrates aspects of traditional, neoevolutionary approaches that emphasize notions of hierarchy (e.g., Flannery 1995) with Marcus's (1998) dynamic model of state formation, world-systems theory (Stein 1999), and dual-processual approaches that incorporate notions of both heterarchy and factional competition (e.g., Blanton et al. 1996; Crumley 1995; Feinman

2000). As noted by Crumley (1995: 4), power relations can be predicated on systems of values that are ranked and reranked in their importance by individuals, groups, and organizations as conditions change. Building on this notion, it is useful to consider the sometimes fluid nature of social structure, and how societies may undergo transformations leading to hierarchical or heterarchical relationships over time.

Blanton and Fargher (2008) offer an alternative to neoevolutionary perspectives, and instead of emphasizing political domination, they stress the importance of cooperation in the form of collective action as adopted from rational choice theory. The basic proposition of collective action theory, as applied to state study, is simply that a collective polity is built on cooperation between individuals and groups making up a political community (Blanton and Fargher 2008: 12). By "collective polity," the researchers mean a complex society in which the government (rulers) provides services (public goods) in exchange for the revenues (including labor) provided by compliant taxpayers (Blanton and Fargher 2008: 13). Although collective action theory acknowledges the significance of cooperation between rulers and taxpayers, the authors maintain that not all polities will develop as a result of cooperation. Rather, the degree to which cooperation will occur depends on the agency of rulers and taxpayers. The more constraints on their choices, the greater the likelihood that parties will engage in negotiations and bargaining. However, to the degree that rulers are less dependent upon taxpayers to fulfill revenue goals, they are less likely to engage in bargaining, and elite domination can result (Blanton and Fargher 2008: 14). Elsewhere, the researchers propose that:

> a processual theory of state formation based on collective action theory will transcend logical oppositions such as Western versus non-Western. Instead, depending on the nature of revenue sources, the rational behavior of social actors, both rulers and taxpayers, [is] seen to prompt systems of collective action that are played out in a variety of cultural and geographical conditions. (Fargher and Blanton 2007: 877)

Agency

Whether by cooperative or coercive means, researchers also emphasize factors at the microlevel unit of analysis. Kardulias and Hall (2008: 572) point out that there is a continuing debate in archaeology and anthropology about the value of generalizing approaches, with argument occurring over the fundamental nature of explanation as either bottom-up or top-down. In this debate, the basic divide in the disciplines is between those who support a scientific approach and those who

espouse a perspective that privileges individual, unique developments. Espousing the continued use of a modified and updated version of Wallerstein's (1974, 2004) world-systems theory, Kardulias and Hall (2008: 573) argue that employing generalization provides useful insights, but it should be done while retaining an understanding of individual action.

Whereas some theorists highlight more exogenous variables for state formation, other researchers point out more proximate decision-making and leadership strategies associated with individual agents in effectuating changes in culture and social structure (Blanton and Fargher 2008; DeMarrais et al. 1996; Dornan 2002; Earle 1997; Hayden 2001; Hodder 2000; Junker 1999; Parkinson and Galaty 2007; Pauketat 2004; Stanish 2004). The means and choices available to leaders will vary, depending on historical and geographical circumstances. However, in cases where leaders are able to effectively control multiple sources of power, strong central authorities are often the result (Earle 1997: 210). Similarly, Pauketat (2004: 26) advocates use of a micro-level approach, emphasizing the need to study political economies from the ground up, analyzing the cultural practices of people who shaped the histories of specific localities. In Pauketat's estimation (2004: 26), the central economy of Mississippian complex polities, for example, was nothing more than a conglomeration of practices; and to understand economic processes, researchers must study cultural practices.

In recent years, there has been an increased emphasis on agency theory in the examination of micro-level behaviors (Dobres and Robb 2000; Dornan 2002; Johnson 2000; Pauketat 2001; Stein 2002; Stanish 2004). Hodder (2000) points out the radically different scales that archaeologists find themselves working with; namely, the processes that stretch over immense spans of time that are difficult or impossible for individual actors to comprehend or perceive, and the smaller-, micro-scale traces of actions and behaviors discernible with sherds and debitage. Despite the dual nature of archaeological data, Hodder (2000: 21) maintains that in recent decades, archaeologists have generally eschewed the small scale in favor of long-term trends. For much of its data, archaeology can only give a general systemic view, such as in describing the flow of cultures or systems, the rise of complexity, state collapse, and interregional networks of exchange (Hodder 2000: 31). However, there are instances when very rich and detailed information is found, such as with the Otzi found in the Austrian Alps, Pompeii, or Shang tombs (Hodder 2000: 31). Archaeologists can reconstruct in great detail flint knapping, making and firing pots, and other kinds of micro-level activity, and it is in these instances that archaeologists can direct attention to the intentionality and uncertainty of daily life (Hodder 2000: 31). Still, while agency approaches can be a very productive way to augment our understanding of the past, researchers working in this kind of conceptual framework must balance a concern with local agency with

recognition that there are broader-scale processes in political economy that go beyond, and even fly in the face of, human intentionality (Stein 2002: 914).

Applications of the agency theory are extremely varied, and probably the biggest divide among agency proponents has been between those who stress agency as the intentional actions of agents and those who stress its non-discursive qualities (Dobres and Robb 2000: 10). Regarding intentionality, micro-level analyses are exceedingly difficult to conduct in general, and nearly impossible with limited archaeological data. Even historians, who have access to copious amounts of textual data, find the reconstruction of the decision-making processes and intentions of individuals or groups of agents very challenging. Agency approaches, I argue, can only be applied if there is sufficient archaeological evidence of a certain kind—material remains that can offer opportunities to deduce possible intentions or overall strategic choices. For archaeologists working within the constraints of the oft-muted material record, this task is comparatively difficult and can only be accomplished through very careful means. To illustrate: in some cases, oral traditions and folklore may be available, thereby offering an independent and additional, albeit hazy, means to corroborate archaeological interpretations of past events and behavior. In other cases, a combination of evidentiary strands must be utilized to tease out possible intentions and strategies to determine how individuals or small groups contributed to larger-scale social processes (Dobres and Robb 2000: 6). Moving beyond the assumption of political actors being motivated by a presumed and uniform desire or ambition for power, archaeologists can examine other kinds of motivations for various segments of a given society. These intentions can sometimes be discernible within, and reflected by, different ideological and cultural belief systems, as constituted in architectural styles, decorative motifs on artifacts, burial practices, and other material signatures.

Difficulties in determining intentions notwithstanding, agency approaches can be employed when examining strategies and decision-making. For Bronze Age Mesopotamia, recent efforts by the Modeling Ancient Settlement Systems (MASS) group brought together data from cuneiform texts, archaeology, landscape studies, and environment proxy records, analyzing them within an agent-based modeling framework to explore the behavior of small communities at the onset of urbanization (see Wilkinson et al. 2007).

One approach to agency in early ancient societies is factionalism, which explores the ways in which conflict and alliance building can occur within and between classes. According to Brumfiel (1994: 4), factions are "structurally and functionally similar groups which, by virtue of their similarity, compete for resources and positions of power and prestige." Implicit within this perspective is the importance of social identities within these groups, and as noted by Clayton (2011: 31), social identities are constituted through human interaction and are thus

most effectively approached at the scales at which social interaction frequently occurs. To the extent that they can be archaeologically studied, the activities and decision-making processes of agents and small groups can enhance our understanding of political strategies. A major focus of factionalism pertains to relations and conflicts within political elites, where alliances between classes are possible (Bernbeck 2008: 540). Bernbeck (2008: 540) points out how faction leaders not only establish ties across classes, but also create regional networks with external elites in efforts to enhance their prestige and increase the number of adherents. In the end, finer-grained analyses focused on agents can advance our theoretical understanding of how early states emerged.

Ideology

The accumulation and application of power is an important ingredient in the formation of complex polities. Ideological power is based on control over symbols that have religious or supernatural significance to the general population, and such control might be manifested archaeologically in the concentration of religious symbols in iconography or particular sites or portions of sites (Haas 1982: 160). According to Wolf (1999), beliefs concerning religion, cosmology, and the supernatural probably play an important role in conferring some form of authority on certain individuals or classes. Imaginary worlds can have an important effect on social struggles and transformations (Wolf 1999: 282–283). Foundational ideas for a society or civilization can be a potent source of common beliefs, ideas that can have enormous social consequences and functions. They can be shown to justify and legitimize forms of rulership (Wolf 1999: 283). In prescribing ideals of behavior and social interaction, such beliefs thus offer rewards and punishments, thereby granting the experts in or mediators of religion or ideology tremendous power. In this fashion, ideology can underwrite and fortify the motivations of the ruling cadre, anchoring rulership in a cultural structure of imaginings (Wolf 1999: 283).

The use of ideology associated with cosmology as a means of legitimization and empowerment is illustrated with kingship in various civilizations. Some of the most prominent features of the built environment in Mayan cities were pyramidal structures presumed to contain the remains of deified royal ancestors, and the city's public sculptures glorified the rulers and their ancestors, both as spiritually powerful maintainers of celestial and cosmic order and as militarily successful protectors of terrestrial political order (Yaeger 2003: 133). These functional roles were all essential to the ideology that justified the ruler's place at the apex of the sociopolitical structure (Yaeger 2003: 133). Employment of ideology in this fashion is seen in many cases of state-level societies in the historic world,

and can be inferred through material remains for many prehistoric cases. In the development of complex polities of Iron Age southern Africa, Mapungubwe and Great Zimbabwe achieved and maintained economic, political, and ideological hegemony through a combination of both peaceful and coercive means (Kim and Kusimba 2008). Holding authority and influence over religious and belief systems and their associated rituals and ceremonies, as well as possessing exclusive access to supernatural power in some cases, provides actual and aspiring rulers with a tremendous means to legitimize their positions. Use of ideology, through oral traditions or symbolic clothing, architecture, or objects, can decrease the need for a preponderance of military force.

Ideology can be codified and distributed throughout a society in order to promote ideals and norms of behavior, and research has demonstrated the use of manipulable materials and symbols. DeMarrais and colleagues (1996) offer evidence from Neolithic and Bronze Age Denmark, as well as from Moche and Inca contexts in South America, to illustrate the potential role of ideology and how it can be materialized and then manipulated, controlled, and extended beyond the local group. Thus, when given material form, ideology can be a source of social power controlled by a dominant group, and can function as an integral part of power strategies that configure sociopolitical systems. According to Brumfiel (1998), ideology can sometimes work in concert with coercion and violence as instruments of power and control, enhancing the unity of coalitions and sustaining state power. For Bronze Age China, the Shang case illustrates how a combination of control over writing and divination rituals underwrote the ideological power of the king and elite retainers (Flad 2008). For Aldenderfer (2010: 77), religions can play a very important role in the emergence of persistent social inequality and in forms of resistance to it, where social actors of all kinds live within a framework in part created and directed by religious practice and belief.

One final thought on ideology relates to its role in fostering a sense of identity among societies, especially in highly populous states that have a significant urbanized component. In many state-level societies, there may be a geographic, social, political, and economic dichotomy between the urban center and its surrounding hinterland, where lifeways and daily practices are quite distinct. However, the notion of a shared experience or identity, as encapsulated within a polity's ideological tenets, can connect all members of a given society, regardless of socioeconomic status or class. In this light, the political and urban centers of societies function as a nexus of social and political relationships, linking the city and its hinterland (Yaeger 2003: 123). These networks are continually reconstituted through the social practices of its members, including the residents in the city and those living in the surrounding hinterland, making the city a potent

unifying symbol (Yaeger 2003: 123). Accordingly, a shared identity develops, stemming from an ideology of imagined community (Anderson 1991).

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Evaluating Models and Approaches

The literature dealing with the origins of sociopolitical complexity, particularly with respect to highly centralized polities, is abundant and varied. Just as no two researchers share exactly the same theoretical perspective, so no two complex polities have developed along exactly the same lines or circumstances. Complex polities are unique, and each example has its specific historical trajectory, consisting of individuals and groups who harbor their own cultural beliefs about the people and world around them. However, the numerous cases do exemplify broad, discernible patterns indicating general embryonic conditions, and it is a matter of interpretation to decide which theoretical frameworks best fit the majority of cases.

In accounting for the origins of sociopolitically complex societies such as chiefdoms and states, I would argue that cooperative theories are successful, to a certain degree, in demonstrating how forms of sociopolitical organizations can arise to address specific societal problems and challenges. However, they generally cannot account for a permanent shift to institutionalized forms of inequality and political differentiation. In some sense, a population's voluntary cession of autonomy allowing leaders to emerge may represent a starting point down a slippery slope. Moving down this slope, leaders are presented with new opportunities to entrench their power and deflect would-be usurpers, but only through more coercive and exploitative means. While voluntary, functional, and managerial types of theories might be able to explain how some leaders may have been able to secure temporary positions of power, it is difficult to see how these positions were maintained long enough and with any sense of permanence for long-term transitions into more socially stratified societies with institutionalized hierarchical differences. For example, various economic strategies related to irrigation agriculture, external trade, or craft specialization can provide opportunities for investment and control for some individuals. Judged from that standpoint, voluntaristic theories do not adequately account for how leaders are able to augment their power and entrench their positions, thus resulting in enduring political changes.

Beyond understanding how leadership is able to emerge in the first place, therefore, of further significance is how newly integrated, complex polities are able to maintain themselves, to keep from fragmentation. Only by averting fragmentation can states truly develop. In general, managerial theories relying on non-coercive models to explain the rise *and persistence* of ranking and complexity have not

been successful. Some element of coercion or authority backed by force is necessary. In creating and maintaining institutions of marked social and political differences, leaders and rulers probably needed to ensure acceptance and compliance either through coercion or compulsion. In either case, physical force is a necessary ingredient, both in direct application or threat of its use. Coercive physical power is necessary for internal and external functions in order for middle-range societies to maintain themselves and develop even greater levels of state-like complexity and permanent centralized control—what some have called "scaling up" (Turchin et al. 2013). Internally, mechanisms of coercion have to be available for rulers and surrounding retinues of elites to entrench their positions of power, and to continue exacting benefits, usually at the expense of those lower in rank. Internally, for complex polities, hierarchies of stratification and private property are only made permanent through bureaucratic institutions, which can encompass legal codes, and a legitimized recourse to monopolized, policing force to protect institutions and laws. Externally, the presence of physical force readily deployed in territorial conquest or military defense of the polity's borders and trade interests is necessary to prevent societal fragmentation and collapse (Carneiro 1992: 91; Tainter 1988; Yoffee 2005; Yoffee and Cowgill 1988).

Successful transitions into state-level polities depend upon a host of interacting conditions. That this necessary causal foundation is highly complex explains why the formation of primary or "pristine" states has been a comparatively rare event. To the extent that data can be segmented and variables can be tested in isolation or in groups, perhaps we can begin to demonstrate which packages of factors are most conducive for state formation. In efforts to model state origins, Peregrine and colleagues (2007: 84) state that, whereas most existing work on state origins focuses on a single "prime mover" variable, no simple prime movers exist. Essentially, the researchers see cultural evolution as apparently multicausal, and multivariate statistical techniques should be employed (Peregrine et al. 2007: 84). Accordingly, ongoing research efforts should aim to consider all possibilities while also attempting to determine which variables carry greater causal weight. A search for the causes of societal change must surely consider all possibilities, and a century's worth of anthropological theory-building has already laid down a powerful base of ideas upon which ongoing and future research efforts can build.

In sum, most if not all of the theories addressed above agree that control of labor, long-distance trade, and certain forms of craft production are measures of sociopolitical complexity. They also share consensus on the use of labor and food resources for large-scale projects and operations, such as monumental constructions. Finally, most of the theories agree that coercive power is at least a possible means of state formation. Rather than simply seeing the emergence of institutionalized forms of authority and rulership as an endpoint or way station along a

neoevolutionary path, I propose individuals and groups play significant roles in perceiving social and physical landscapes, in turn making decisions that determine the course of social action and culture change. Part of this calculus must include forms of coercive power, as they constitute important means for effectuating desired outcomes.

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Archaeological Recognition of Complex Societies

The archaeological record shows ancient state institutions were multivalent in their routines and spheres of action and authority (Adams 2004: 47). The chronological depth of the archaeological record is particularly well suited to the study of long-term evolutionary change and complex cultural systems (Haas 2001b: 9). Primary states, especially those that arose from interacting non-state societies, "rarely had the capacity to record the discursive accounts of their genesis and operation" (Wright 1998a: 173). The same could be said for many other instances of ancient polities. Hence, an understanding of how these polities worked and what contributed to cultural change lies within the domain of archaeologists.

In the absence of textual records, or to complement and challenge textual sources that may be incomplete or potentially biased, archaeologists rely on a number of material signatures to identify the complex societies. The archaeological visibility of such polities often depends upon the presence of a package of indicators, and the greater the amount of evidence, the stronger the visibility. It must be noted, though, that extreme care must be taken with chronological control for given archaeological cases, as societies undergo transformations through time. Peregrine (2012: 166) rightly asserts that states are not monolithic and immutable, but vary and are subject to change over time. He also points out that leadership strategies will at times lend themselves to easy archaeological recognition of stately authority, but at other times political leaders may choose to mask their authority.

While it might be difficult to archaeologically identify the actions of leaders or decision-making groups, researchers ought to be cognizant of the shifting strategies actors and groups will employ in their sociopolitical relationships. For instance, some societies may be hierarchically organized at one time, but less so or heterarchically at another (Crumley 2001); or a society may actually have alternative power centers coexisting simultaneously (Stein 2001a). There appears to be no inexorable trajectory towards increasing levels of complexity for any case study, and societies may vacillate between higher and lower degrees of complexity (i.e., scaling up or down). In sum, political interactions that affect social

configurations can operate very fluidly, sometimes with ecological factors playing a role, wherein individuals or factions adapt, respond, and engage one another in a variety of ways.

Despite these challenges, there are several broad categories of archaeological indicators that can be used as a starting point to identify highly complex societies. Individually, these traits might only hint at the possible presence of complexity, but when present in signature clusters, such traits would strongly imply the presence of a complex society.

Unequal Distribution of Wealth

Ranking, stratification, and unequal distribution of wealth can be potential indicators for complexity, where a society is divided into socioeconomic levels, groups, or classes. A defining feature of all early civilizations was the institutionalized appropriation by a small ruling group of most of the wealth produced by lower classes, and the most common and economically important forms of wealth were agricultural surpluses (Trigger 2003: 375). To identify stratification archaeologically, it is important to note that a society's population will consist of those with greater or exclusive access to basic resources and luxury items, versus those with less, restricted, or no access. Stratification can be inferred by asymmetrical access to either necessary or adaptively advantageous goods or foodstuffs, which might be seen through differential distribution of such materials. Such forms of social asymmetry or differential status can be demonstrated through status gradations evident in mortuary settings, home sizes, furnishings and architecture, land holdings, and ownership of prestige or exotic goods acquired through taxation, tribute, or long-distance trade. For instance, one might see unequal access to building materials and labor necessary for construction projects, some of which may be monumental in scale and effort.

Craft Specialization

The presence of craft specialization is another potential material indicator for complexity, as it may have functioned as an important driver of major cultural change (Bronson 1996; Brumfiel and Earle 1987; Costin 2004; Hruby and Flad 2010; Kenoyer et al. 1991, 1997). In contrast with the part-time production by individuals or families during agricultural slack periods of the year, the production associated with full-time specialists produced high-quality goods, such as metal tools that other people needed but lacked the equipment, raw materials,

and technological expertise to produce for themselves (Trigger 2003: 358). At the top of the craft hierarchy were the elite craft workers who specialized in producing goods of exceptional quality and value for the elites and most powerful (Trigger 2003: 358). To illustrate, the Shang Culture capital of Anyang during the late–second millennium BC was characterized by elite-sponsored production of prestige goods, such as bronze wares, jade items, lacquered goods inlaid with mother-of-pearl, and silk textiles (Underhill and Fang 2004: 143). Ancient China and Japan, along with parts of Southeast Asia, also saw specialized production in bronze and iron farming implements and weapons intimately linked with emergent stratification and political authority (Bronson 1996: 181). The efficiency and mass production of such metal goods supported greater levels of agricultural production, population growth, and competition. Elsewhere, the Middle Formative period (c. 1300–500 BC) of the Titicaca Basin saw elites in emergent chiefdoms using a variety of strategies to maintain specialized labor production in the creation of fineware pottery wares used in politically ritualized feasts, where elites distributed exotic or mass-produced goods to followers (Stanish 2004: 23). In another example, the scale of textile production carried on under strict state control during the Early Dynastic city-states of Mesopotamia clearly demonstrates the extent of authoritarian power that was exercised (Adams 2004: 53).

Though household-based production remains viable in complex societies, in many cases, a centralized authority might have a monopoly over the production of the most powerful, politically and ideologically loaded goods, whose successful crafting required an understanding of the full spectrum of iconic meanings and how to deploy them (Costin 2004: 219). With such instances, it is likely that production would be limited to the elite or to attached specialists. In contrast, Costin (2004: 219) cites evidence from Andean cultural contexts, such as Moche, Tiwanaku, and Chimu, wherein neither state institutions nor elites intervened directly in the production of all goods made in the corporate style. Essentially, the state institutions tolerated the production of goods that carried important social and political messages outside of their direct control, providing a cost-effective measure through which to disseminate state ideologies. In either case, the presence of specialized craft workshops and specially crafted products can be a useful sign of political complexity.

Centralized Control or Governance

Signs of centralized decision-making, control, or governance can also reflect political power's being heavily consolidated, institutionalized, and concentrated in the

hands of very few people. Material signatures can come in the form of administrative centers and buildings, palaces, or temples. Centralized or integrated control can also be exhibited by the use of *corvée* labor, collection and redistribution of taxes, tributary payments, and agricultural surplus. Accordingly, storage and redistribution centers might exist in the material record. Complex polities often possessed centralized control over physical power and the application of coercive sanctions, as manifested by a military or policing force and the manufacture of weapons.

Monumental construction is discernible across culturally, spatially, and temporally disparate societies, and the presence of large-scale, labor-intensive monumental architectural features also indicates centralized control, possibly over slave or *corvée* labor. Such large-scale constructions can include palaces, temples, elite residences, fortifications, citadels, or some combination of these buildings (see Flannery 1998). The discovery of a multi-tiered settlement hierarchy, especially if it forms a central-place lattice around a major city, can be a clue to the presence of a state (Flannery 1998: 21). As an example, a four-tiered settlement size hierarchy has been identified, in combination with marked population nucleation and economic integration between rural areas and urban centers in the Yiluo Region of central north China, suggesting a state-level political centralization at the site of Erlitou during the first half of the second millennium BC (Liu et al. 2002–2004).

It must be noted, however, that caution must be exercised when interpreting the presence of monumental architecture. For instance, although monumental buildings have been found at Harappa and Mohenjo-Daro in the Indus Valley, there is a general absence of identified centralized ritual or political structures, such as temples, palaces, or royal burials (Kenoyer 1997: 263). This suggests that perhaps no single individual or dynasty dominated the cities for very long, and that centers may have been controlled by several competing groups of elites—i.e., land owners, merchants, or ritual specialists (Kenoyer 1994)—and collectively, these communities appear to have established and maintained order and hierarchy among the many different social classes and economic groups that would have been present in the large cities (Kenoyer 1997: 263). Accordingly, archaeologists ought to be cognizant of shifting political relationships over more micro-temporal scales.

Beyond monumental architecture, political complexity and incipient urbanism can also be detected through identification of landscape modification. Kealhofer and Grave (2008) argue that "land use" and agricultural development strategies can be strong indicators for directed and centralized efforts that are indicative of complex societies. In this manner, the scale of cultural alteration of surrounding landscapes can hint at both population size and complexity.

Urbanism and Early Cities

The spatial organization of settlements on either a regional or a local level can indicate complexity. It is generally accepted that power elites and social differentiation in rank were necessary for the formation of urban communities (Fletcher 1995: 189). Cowgill (2004: 527) maintains that cities are typically political, economic, and religious centers for a surrounding territory, and loci for wider ranges of specialized production and services than are found elsewhere in the region. Cowgill (2004) cautions, however, that the occurrence of ancient urbanism does not necessarily equal the presence of states, a viewpoint shared by Fletcher (1995: 189) when he argues that we should not expect specific sociopolitical forms of organization, such as states, to be deterministically linked with the size or stability of settlements. For example, some researchers question whether the urban sites of Indus Civilization polities qualify as "states" (Possehl 1998; Smith 2003b). Along these lines, Smith (2003a: 12) argues that the relationship between urban form and political authority is complex, since cities can be found within a variety of political parameters: as entities comprising urban functions in an otherwise politically unorganized landscape, as units that integrate within the countryside to form a small state, or as a primate city or as one among many cities within the expansive territory of a single state. Echoing this sentiment, Trigger (2003: 197) argues that administrative relationships between urban centers of state-level societies and the rural hinterlands were shaped by the numerical dominance of the center. In many of cases of city-state polities, urban centers were often surrounded by secondary administrative centers and rural communities whose leaders were affiliated with the political leadership in the capital (Trigger 2003: 197).

In many instances of sociopolitically complex societies, their early settlements or cities would exhibit signs of the collection of tribute. In the early city, the size often depended primarily on the ruler's power to exact tribute and command resources and labor from the surrounding hinterland (Kusimba et al. 2006: 158). This observation makes it clear that studies ought to fully consider the interactions between inhabitants of cities and those of surrounding areas, thus contemplating the larger, regional political economies of complex societies. For Chinese prehistory, Liu (2006: 188) maintains that the hinterland played an active role in the formation of the early state by producing and extracting both subsistence goods and elite goods for the urban center, wherein sub-regional centers in rural areas constituted focal points in regional economic systems. In early Southern Mesopotamia (c. fourth millennium BC), the first sites with clearly urban proportions were identifiable mainly by their size (over 50 hectares), their monumental constructions, and the relative wealth and diversity of their material remains (Adams 2004: 45).

According to Stein (2004: 61), urbanism as an economic system and states as political systems are often closely intertwined. For many cases, these local or regional centers of population feature sizeable central gathering areas or plazas, and often exhibit a large number of discrete residences. Related to this is a tendency for higher population densities, as might be indicated by the sizes and number of homes in an urban or proto-urban area. More often than not, such population centers will also exhibit signs of intensified agriculture and land use, cultivation that would be likely to result in surpluses. Centralized planning and control, combined with larger population pools, probably led to greater economies of scale in such areas. Economies of scale are particularly important in irrigation agriculture, wherein large amounts of land, capital, and labor enable greater efficiencies in production (Stein 2004: 77). Accordingly, the surrounding landscape may show major capital improvements or investments, including irrigation canals, flood control, terraces, and drainages (Johnson and Earle 2000: 249). The physical terrain would thus be radically transformed by intensification and the extraction of resources, as evinced by cleared forests, plowed meadows, drained swamps, and artificial facilities. This new class of urban settlements, viewed as the nuclei of emergent states, fostered the development of tremendous economies of scale that allowed unprecedented concentrations of population both as military forces and as labor *corvées* to construct civic, defensive, and irrigation works (Adams 2004: 45).

For ancient and premodern cities of mainland and island Southeast Asia, Miksic (2000) cautions against the application of definitions of "urbanization" based on early archaeological work in the Mediterranean and Southwest Asia. Accordingly, Miksic (2000: 118–119) advocates the adoption of a polythetic functional model of urbanization, and holds that a complete classification system of cities should include specific historical and geographical variables, including environmental factors, warfare, range of occupations, and population density.

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Summary

As demonstrated by the preceding discussion, there are several ways archaeologists can begin to identify significant sociopolitical complexity. Recognizing that agents in different scales of social configurations will employ various strategies and practices when interacting within and between societies, archaeologists have to be mindful of how these decisions can interplay with the surrounding physical environments to result in different social outcomes, all of which may leave a wide range of durable, material markers on the landscape and in the ground. Packages of these material signatures are highly suggestive of complexity. To summarize very

broadly, the material signatures associated with unequal distribution of wealth, craft specialization, centralized control or governance, and the specific settlement patterns and high population densities usually associated with urbanism can all be instrumental in indicating the presence of complexity. Markers include status gradations evident in burials, home sizes, furnishings, architecture, and the possession of prestige, exotic, or luxury goods. The presence of specialized workshops for craft production, especially if they are located in relatively restricted sectors of a palace precinct or administrative center, can be very suggestive of state-level complexity. Similarly, centralized control over the mass production of specialized goods, such as weaponry, also suggests state-level authority, as does the presence of monumental constructions, which require vast labor and material resources to coordinate. Moreover, state-level complexity can also be identified by large-scale landscape modification for agricultural intensification and settlement growth; especially as such alterations can be strong indicators for centralized planning and direction. It would seem that large-scale labor forces for labor-intensive and -extensive projects are utilized by many complex polities, regardless of how the labor was recruited, supplied, or directed.

CHAPTER 4

FORMS OF COMPLEXITY IN SOUTHEAST ASIA

THERE IS CLEAR EVIDENCE from textual and archaeological sources for the existence of complex societies during the Common Era of Southeast Asia, with examples such as Angkor, Bagan (or Pagan), Champa, and Srivijaya. This chapter highlights the growing evidence of societies organized in complex ways throughout the region during the late second and first millennia BC. Recent decades of fieldwork across the region have expanded our database, indicating many societies with high degrees of social differentiation.

Since the 1960s there has been unprecedented growth of archaeological activity in Southeast Asia, both by nationals of the region and by foreign-based researchers (Glover 1992: 7). Nevertheless, in the early 1990s, Glover (1992: 7) pointed out that of the densely populated parts of the world, Southeast Asia was still archaeologically the least known, and new research there had far less impact on the awareness of the general public in the West, and of the international academic community, than had the research undertaken in such areas as the Near East, China, and Mesoamerica over the same period. A long history of colonialism, combined with diffusionist models of the early twentieth century, meant that, prior to the last few decades of the past century, theories of complexity and state development did not include much of East and Southeast Asia, especially areas outside of China (Morrison 1994: 189). In recent years, the situation has improved, but general, synthetic treatments still tend to overlook much of Southeast Asia, generally, and northern Vietnam, specifically (Cowgill 2004; Miksic 2000; Stark 2006a: 408; White 1995). While examinations of complexity in Southeast Asia have been increasing, those putting together synthetic perspectives have yet to capitalize on newly available data and ideas. This is especially true for northern Vietnam as it was the setting for significant political

development during the first millennium BC, well before many of the historically known states and civilizations of Southeast Asia. For many researchers, state formation is chronologically tied to developments dating to the Common Era (Higham and Higham 2009: 125; Stark 2006a: 407). According to Stark (2006a: 407), Southeast Asia's earliest states emerged during the first millennium AD, and developments during this time laid the groundwork for the florescence of the region's later and better-known civilizations such as Angkor and Bagan. What I argue in this book, however, is that northern Vietnam may have witnessed momentous cultural changes associated with state formation even earlier.

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Traditional Perspectives of Extraregional Influences

Before the mid-1960s, researchers seeking to account for the development of complex societies in Southeast Asia offered a very simple explanation for incipient civilizations; namely, influence from one of the advanced civilizations of India and China, and transmission of advanced technology and political models by diffusion, migration, or simple military and cultural imposition (Bayard 1992: 13). For northern Vietnam, the rise of civilization and urbanism were explained through "Sinicization" models (see Wheatley 1979). Elsewhere, early archaeological work by the French in Indochina saw the vast city of Angkor as resulting largely from a process of "Indianization" (Higham 2012: 265). Early perspectives essentially saw a gradual and unidirectional process of Indianization as largely responsible for cultural advancement of many Southeast Asian societies (Gupta 2005). These sorts of perspectives are not all that dissimilar from those found elsewhere in which past researchers attempted to explain the emergence of civilizations, such as the Egyptian, Mayan, or Zimbabwean, by appeals to migration and cultural diffusion. In a sense, then, a diffusionist view for the development of culture in Southeast Asia is analogous to such arguments elsewhere, and should not be surprising, given the political history of colonization in Southeast Asia during more recent eras.

There is no question that propinquity with neighboring regions played a role in the cultural and political development of Southeast Asia. However, such unidirectional models do not accurately depict the actual events and patterns of sociocultural change. Stark (2006a: 410) notes that although the first–millennium AD complex polities and civilizations of Southeast Asia have been generally perceived to have experienced significant influence by Chinese and Indian civilizations, settlement hierarchies or heterarchies were already

forming far earlier, during the first millennium BC, in almost all regions where complex polities and civilizations would subsequently emerge. Archaeological data from recent decades have shown strictly diffusionist positions to be untenable. While various communities all over Southeast Asia were certainly in either direct or indirect contact with one another and with the neighboring societies of emergent India and China, the modes of interaction and the resulting social and political consequences were complex, multilateral, and multidirectional. Throughout the Neolithic and Metal Age periods, leading into the edges of recorded history, societies were engaged in significant forms of connectivity and interaction that included extensive long-distance trade; the movement of peoples, goods, and ideas; and warfare.

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Recent Archaeological Research

In recent years, researchers have increasingly begun to address Southeast Asian emergent complexity within the rubric of both hierarchical (Higham 1989; Higham and Higham 2009) and heterarchical perspectives (O'Reilly 2003; White 1995), and to consider forms of complexity not only in "top-down" models but also with "bottom-up" approaches that explore flexible strategies for sociopolitical interaction (White and Eyre 2011: 62). For the latter, an example is O'Reilly's (2014) examination of increasing complexity for Iron Age sites in Thailand that discusses local leadership strategies of emergent elites as related to water management. Another example is Junker's (2004) research on generally "decentralized" political structures wherein strategies involved cultivating ties of personal loyalty through gift-giving and ceremonialism.

Before discussing northern Vietnam, I will first provide a very cursory survey of the existing body of data showing forms of complexity for other parts of Southeast Asia. Growing cultural, political, and economic ties were fostered by interregional exchange during the late Neolithic and early Bronze Age (c. the second and early first millennia BC). In some cases, the spread of agricultural and metallurgical innovations also worked to promote a wider transitional process in which autonomous villages began coalescing into complex, and sometimes centralized, regional polities. Those with better access to important resources or trade routes were able to garner greater prestige and wealth. While some degree of social ranking is discernible in burial data from different parts of the region during the Bronze Age, in most cases, significant forms of politically centralized societies did not emerge until the start of the Iron Age (c. 500 BC). In other cases still, significant levels of sociopolitical complexity are not obvious until the first millennium AD.

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General Survey of Cases for Southeast Asian Complexity

The expansion of early farming throughout Southeast Asia was a very complex process, with local hunting and gathering groups probably experimenting with plant domestication during the early Holocene (Kirch 2011: 568). Generally speaking, though, it appears from material evidence that pulses of movement from southern China into Southeast Asia by rice-farming communities, or at least farming practices, may have been underway during the late Neolithic. After rice-farming practices began to radiate out from areas located in southern China during the third and second millennia BC, communities in various parts of southwestern China and within mainland Southeast Asia experienced important social changes (Bellwood 2006; Higham et al. 2011), though not all of these changes were necessarily and directly attributable to migration from the north (see White and Eyre 2011). Whatever the reasons for change, it is clear from the material record that forms of social complexity characterized certain Metal Age societies in the region.

Referring to northeast Thailand, Higham (2012) recognizes two surges in social complexity occurring after the ingress of rice farmers from southern China. Both surges coincided with the availability of new exotic goods through exchange, with the first taking place in the early Bronze Age (c. 11th century BC) and the second occurring in the late Iron Age (Higham 2012). It is within this latter surge that Higham sees a foundation being laid for the genesis of early civilizations such as Angkor. According to Higham and Rispoli (2014), sites of northeast Thailand grew in size, and valuable materials were being ritually placed within burials of elites, during the Iron Age. In the Mun Valley and the Lopburi regions, the authors argue that powerful and wealthy communities are discernible in an early transition into states, citing evidence of population growth, agricultural intensification, conflict, and increased production and competition over salt and metal for exchange. This research is instructive, as these social developments can be compared to other cases throughout Southeast Asia.

In tracing the sociopolitical trajectory of major civilizations, such as Angkor, portions of prehistoric Thailand are perhaps among the best archaeologically documented areas of the region. There are archaeological cases hinting at emergent social ranking during the late Neolithic and Bronze Age. Over the centuries, broadly contemporaneous sites in Thailand, such as Ban Lum Khao, Ban Na Di, and Khok Phanom Di, shared a widely related mortuary tradition (O'Reilly 2007: 5). It must be noted, however, that while variations seen in grave wealth in mortuary remains for many Thai sites has revealed social differentiation, "unequivocal evidence for a discrete, apical, and enduring elite class or politically dominant lineage has not yet emerged" (White and Eyre 2011: 61). There is thus

an absence of permanent social inequality. That said, the data do strongly suggest degrees of fluctuating inequality and complex forms of social organization.

For the Neolithic period site of Khok Phanom Di (c. 2000–1500 BC) located in central Thailand, successive phases of burial data do indicate important social changes over time. One of the last phases of occupation saw unprecedented mortuary wealth wherein one woman, probably a potter, was interred in an unusually long and deep grave, and grave goods included over 100,000 exotic shell disc beads obtained from afar, along with a variety of other materials (Higham 2002: 68, 2004: 46). The grave beside her contained an infant with a virtually identical set of grave goods, and overall the very rich burials suggest wealth and prestige. The Khok Phanom Di case reveals how a society may have grown to be wealthy and socially graded on the basis of long-distance exchange, as reflected by the exotic shell ornaments (Higham 2002: 78).

The site of Ban Lum Khao (c. 1400–500 BC), located in the Upper Mun Valley, was originally settled during the late Neolithic. It was also used as a Bronze Age cemetery, in which 111 graves were uncovered (Higham 2014: 152; see Higham and O'Reilly 2004). Detailed analyses of the spatial and social dimensions of the cemetery have been illuminating, with 95 of the 111 burials being described as "poor" and only three found to be "rich" (O'Reilly 1999). Additionally, some infants at the site were shown to have had greater wealth in grave goods than other infants, thus further suggesting some degree of social ranking (Higham 2014: 154).

At the Bronze Age site of Ban Na Di of northeastern Thailand's Khorat Plateau area, men, women, infants, and children were interred in groups, and a variety of grave goods were found, including ceramic vessels with food in the form of bones, exotic shell and stone beads and bangles, bronze jewelry, and clay figurines of animals and people (Higham 2004: 53). One of two groups of interments included most of the exotic offerings found, all of the clay figurines, and most of the bronzes. Since both groups were interred over the same period of time, Higham (2004: 53) posits that one may have commanded rather higher wealth and status than the other, thus constituting possible evidence of social ranking.

While there are indications of incipient social ranking and gradation at some of these late Neolithic and Bronze Age sites within Thailand, researchers have stressed the absence of any clear evidence for centralization or hierarchical social structures for various sites such as Nong Nor, Khok Phanom Di, Ban Na Di, and Non Nok Tha (O'Reilly 2000, 2007: 5; White 1995). Interestingly, for many of these sites, production seems to have occurred at the household level, including copper mining and bronze casting (White 1995: 107; White and Pigott 1996: 165). Accordingly, a model of heterarchical complexity might be more applicable to political relationships in Bronze Age Thailand, with social differentiation

occurring along lines of age, sex, and social and economic roles, but with an absence of an elite class.

Though technically lying on the periphery of contemporary Southeast Asia, portions of southwestern China are of interest given their proximity. During the second half of the first millennium BC, societies collectively known as the Dian Culture of China's Yunnan Plateau exhibited very strong indications of both social ranking and political centralization above the level of autonomous villages (Allard 1998, 1999, 2006; Lee 2001; Murowchick 2001; Wright 1998b; Yao 2005, 2010). Although the Han Empire would refer to these communities in the vicinity of Lake Dian as "southwestern barbarians," the Han no doubt had knowledge of, and probably interest in, the sophisticated trading networks of Dian communities (Allard 2006: 244–245). Dian Culture materials bear striking stylistic affinities with Southeast Asian counterparts, such as the Samon in Myanmar (Moore 2010) and the Dongson in Vietnam, particularly with the famous large and ceremonial bronze kettledrums that have been found scattered throughout Southeast Asia. Through mortuary data, research indicates that significant social ranking and hierarchy marked Dian society. Furthermore, sophistication in metallurgy offered leaders in that area the means and options to garner considerable wealth and power. The material data suggest that possession of bronzes, and the control over the means to produce them, gave elites enormous power (Murowchick 2001: 133; Yao 2005, Yao 2010). There was probably a strong relationship between sophisticated bronze-working and the emergence of highly stratified, militaristic, and ritually oriented communities in the mid– to late–first millennium BC. Textual records also testify to some degree of centralization, as the Dian are said to have had towns and settlements, with a political center located near Lake Dian (Allard 2006: 245).

Moated Settlements

During the Iron Age, a general pattern is evident across the region with the appearance of moated settlements, many of which exhibit concerns over water management for various functions (Kim 2013a). As argued by O'Reilly (2008, 2014), such sites in northeast Thailand are contemporary with other developments, including expansion into new agricultural land, increases of ranking in burial, and the arrival of regional pottery industries. Interestingly, O'Reilly (2008) bases his arguments on analogies with forts of Britain from the Bronze to Iron Age transition, which are also seen as instruments of cultural change.

In the Upper Mun Valley, Ban Non Wat is a large prehistoric site that possessed multiple moats and embankments during the Metal Age. Lying on the Khorat Plateau, its position gives easy communication and exchange by the Mun Valley

to the Mekong River in the east, and there appears to have been occupation from the Neolithic through the Bronze and Iron Ages (Higham and Higham 2009: 126). A total of 637 human graves have been identified, together with much evidence for industrial and domestic activities, including bronze casting. Researchers note clear mortuary evidence for social inequality and wealth differentiation during the Bronze Age (see Bentley et al. 2009; and Higham and Higham 2009). Based on the mortuary data, Higham (2011) argues that social aggrandizers may have been seeking prestige and status through controlling and displaying exotic materials. Interestingly, the evidence for inequality around the tenth century BC stands in contrast with contemporaneous mortuary data from nearby Ban Lum Khao, suggesting that neither egalitarianism nor social inequality were universal throughout the area at that time (Bentley et al. 2009: 80).

According to Higham and Higham (2009: 138), with the later Bronze and early Iron Ages, the dense packing of graves at Ban Non Wat is compatible with a longer duration of habitation, perhaps reflecting a sharp rise in the population. The site became a focus of iron forging, bronze casting, weaving, and pottery manufacture, and it also involved the processing of salt on a large scale. Higham and Higham (2009: 138) also maintain that social friction increased during the Iron Age, as seen in the production of iron weaponry and the construction of defensive banks and moats around settlements that were sometimes uncomfortably close to each other. Combined—growing populations, iron working, increasing wealth differentiation, and social friction, in the form of competition and warfare—all may have been factors underlying the rapid crystallization of early Southeast Asian states in the fourth and fifth centuries AD (Higham and Higham 2009: 138–139). These factors may have led to the early foundations of Angkor civilization.

Nearby in the Upper Mun River Valley, the site of Noen U-Loke appears to span the Bronze and Iron Ages, and the site is ringed by as many as five moats and embankments (Higham 2014: 239; Higham and Higham 2009: 137; see Higham et al. 2007). Evidence from the crucial Iron Age period for the site and its surrounding areas suggests changes in social complexity, new technologies, and population growth (Cox et al. 2011). Mortuary data hint at social differentiation, with certain individuals possessing different grave goods, and others marked by the inclusion of large amounts of rice, though the basis for this social differentiation (whether related to prestige or immigration, for instance) is still open to debate (Cox et al. 2011: 666). Radiocarbon dates indicate that the encircling banks and water-laid deposits within the moats all fall in the period AD 1–500, suggesting that later Iron Age occupants were able to invest much energy in constructing earthworks, although their precise function is somewhat unclear (Higham 2002: 207). Higham and Higham (2009: 137) note that there was a surge in mortuary wealth in the later Iron Age, and it was probably during this slightly later juncture that

the water-control measures in the form of banks and moats were constructed round these settlements. These were substantial engineering works that would have entailed much labor, and their construction implies a high degree of control over resources. On the floodplain of the Chi River sits the moated site of Ban Chiang Hian, which incorporates a double set of moats, intervening banks, and a reservoir (Higham 2002: 187). The site's chronology is subject to much debate, but appears to span the Neolithic, Bronze, and Iron Ages. Its territorial extent is quite significant, by far exceeding the size of all other prehistoric settlements in the surveyed area, and was probably a special, central site (Higham 2002: 187). The construction of the moat and embankment system certainly hints at centralization and a large labor force.

Elsewhere, the late-prehistoric site of Khao Sam Kaeo, located in the Upper Thai-Malay Peninsula, also exhibits strong indicators for political and economic complexity, much of which is tied to ornament craft industries and maritime exchange networks (see Bellina 2014). The site was probably established in the closing centuries BC (Bellina 2014; Bellina-Pryce and Silapanth 2006; O'Reilly 2007: 53). Bearing some rough resemblance to the enclosures found at Co Loa, Khao Sam Kaeo's complex earthwork system, combined with specialized craft production and exchange, also suggests the presence of a significant early polity (Bellina-Pryce and Silapanth 2006: 286). Bellina-Pryce and Silapanth (2006: 285) argue that available evidence suggests the possible presence of early urbanism, perhaps the earliest for Southeast Asia. Production activities for prestige goods were carried out at the site, with some use of imported materials. Overall, the researchers argue Khao Sam Kaeo was a significant early polity bearing signs of urbanization and possibly centralization, and one involved in trans-Asiatic exchange with some indications of Indianized imprints (Bellina-Pryce and Silapanth 2006: 285). Archaeometallurgical analyses have been conducted on various artifacts from the site, and results support the notion of Khao Sam Kaeo's participation and importance in a trans-Asiatic trade network with possible links to material culture from late-prehistoric sites in Vietnam and the Philippines, and early historical sites in South Vietnam, the Indian subcontinent, and for the first time to Han dynasty China (Pryce et al. 2006: 311).

The archaeology of Myanmar (Burma), compared to the rest of Southeast Asia, has received only sporadic attention (Gutman and Hudson 2004: 149). Recent fieldwork has uncovered some indications of social ranking at Iron Age sites such as Nyaung Gon in the Samon River Valley, where grave goods accompanying some children and infants in jar burials include ornaments of shell, agate, glass and cornelian beads, copper wire bundles, and other materials in large quantity (Coupey 2013). The presence of these artifacts suggests the individuals came from wealthy families, though further fieldwork regarding the area's prehistoric period

is still needed. Although the prehistoric period is less understood, sites from the Common Era clearly demonstrate larger-scale, more complex social configurations. Scattered throughout Myanmar are dozens of walled sites from the first millennium AD, although there are certain Iron Age and Pyu sites with earlier occupation histories. For the late Iron Age, evidence of complexity comes mainly with evidence for early forms of urbanism. Myanmar's early urban sites are situated in the central zone and are generally dated from the end of the first millennium BC and are characterized by walls of burnt brick, often moated, rhomboid in the case of Beikthano and in other cases varying from round to oval, taking advantage of the local geography for defense and usually situated close to a river (Gutman and Hudson 2004: 157). Similar to a network of moated settlements that comprised a regional economic system in the central plain of Thailand and the Mun River Valley, early urban sites of Myanmar, such as Beikthano, Halin, Mongmao, Thayekittaya, Dhanyawadi, and Vesali, all had what appear to be elite enclosures within their outer walls (Gutman and Hudson 2004: 157). Interestingly, the Dhanyawadi site, dating from the early part of the first millennium until at least the tenth century AD, bears some resemblance to Co Loa, with an inner walled area somewhat rectangular in shape, surrounded by an irregular, curving, outer city wall with a stream forming part of the defensive boundary (Gutman and Hudson 2004: 162). According to royal inscriptions, several generations of kings ruled the site from the end of the fourth century.

Central and Southern Vietnam

Nguyen (2005) argues that increasing social complexity is visible in the archaeological record of the latter part of the first millennium BC and the first centuries AD, as evidenced by the emergence of elites and craft specialization throughout areas of what is today Vietnam. Within this period, there is extensive evidence of craft specialization, particularly with metallurgical industries. This is evident in different regions of the country, namely Bac Bo in the north with the Dongson Culture, Trung Bo (central Vietnam) with the Sa Huynh Culture, and Nam Bo (southern Vietnam) with the Dong Nai Culture.

In Vietnam's central coast areas, sites of the Sa Huynh Culture (c. 500 BC–AD 100) and the historic Cham civilization also show a transition into greater degrees of complexity. In recent years, archaeologists have sought to identify the origins of the early Champa states with the prehistoric Sa Huynh Culture (Glover et al. 1996; Southworth 2004: 212). Roughly contemporaneous with the Dongson Culture, Sa Huynh sequences are renowned for their jar-burial sites along the central coastline. The Sa Huynh sites show evidence of long-distance trade with both India and China, as well as possible periodic trade interactions with portions of the

Philippines (Junker 1999: 185; Lam 2009). Sa Huynh jar burials have been found along the coastal tract almost from the mouth of the Mekong to the southern boundaries of Bac Bo, and occupation also extends into offshore islands (Higham 2002: 180–181). Burial assemblages typically consist of large ovoid or cylindrical, thin-walled, lidded jars containing glass and semiprecious stone ornaments, iron and bronze tools, and small bowls, pots, and pedestal jars (Glover et al. 1996: 166).

By the end of the first millennium BC, many Sa Huynh communities occupied favorable tracts along the shores of central Vietnam, participating in the production and wide exchange of a variety of exotic glass and stone jewelry (Higham 2002: 181). The growth of regional exchange during the Iron Age is demonstrated by the distribution, for instance, of products such as the Sa Huynh bicephalous ornament and nephrite slotted earrings, which were probably status markers of some kind (Bellina and Glover 2009: 385). "These ornaments link Thailand with the Sa Huynh trading communities of central and southern coastal Vietnam, with northern Vietnam and China" (Bellina and Glover 2009: 385). Overall, the distribution of these sorts of products also reveals a strong maritime component with linkages to the Philippines and other parts of the region. To the west, the origin of the cremation cemeteries on the Plain of Jars in upland Laos may relate to Sa Huynh expansion across the Truong Son Mountain passes. The evidence also indicates that Sa Huynh communities interacted with neighboring communities in Thailand and Myanmar as well (Lam 2009: 74). The artifacts found in Vietnam's Thu Bon Valley suggest that contacts with the north, with Dongson and Han societies, were stronger in this region of central Vietnam than with India, especially in the early Sa Huynh stages from the fifth to second century BC (Lam 2009: 74). The material record also demonstrates a possible movement of Dongson people and cultural materials by sea towards the south, as exhibited by the distribution of jar burial sites that contain many Dongson bronze artifacts and extended inhumation burials, typical of Dongson societies, along the coasts of the Quang Nam and Quang Ngai provinces (Lam 2009: 74).

Internally, Sa Huynh societies also exhibit signs of social ranking and differentiation. In the Thu Bon valley, for instance, there are rich graves in Lai Nghi, Go Ma Voi, and Go Dua, all of which reflect the presence of an elite class that had long-distance, economic, cultural, political, and religious ties with India and China (Lam 2009: 74). The mortuary data from these sites show differences in the quantity and quality of grave goods, ranging from very poor to very rich (Lam 2009: 74). Moreover, there are cases of juvenile graves with valuable grave goods, thus showing possible ascribed status. In this manner, Sa Huynh Culture of central and southern Vietnam demonstrates incipient social ranking during the closing centuries BC, perhaps laying a foundation for the political centralization that was to emerge during the first millennium AD.

While Han annexation of northern Vietnam in the early first millennium AD was extended into parts of central Vietnam, foreign control was limited in duration and degree (Southworth 2004: 216). Overall, the early protohistoric states of Vietnam's central coast were founded on existing social structures and strongly influenced by Indian religious and political ideology, but remained economically dependent on trade with China (Southworth 2004: 216). One of these polities, the Champa, was a protohistoric kingdom founded by at least the fourth century AD, and is known largely from Chinese records and sparse inscriptions and, more recently, archaeological evidence (O'Reilly 2007: 127). Being located on the border with China's southernmost commandery, it is not surprising that most of the documentary evidence for the Chams is found in Chinese sources (Higham 2002: 270). Perhaps more accurately seen as a collection of polities, the roots of Champa are probably to be found in the Sa Huynh Culture, with the earliest Cham sites in Vietnam dating to the mid–first millennium AD and exhibiting continuity from the Sa Huynh (Glover et al. 1996; O'Reilly 2007: 129; Southworth 2004; Stark 2006a: 413). According to Chinese annals from the third century AD, the Cham state of "Linyi" was a major political force (or collection of polities) in the area (Stark 2006a: 413). The annals state that three kingdoms in the south sent tribute to China, namely Funan, Linyi, and Tangming, and this may be the earliest historical reference to individual kingdoms or states in Southeast Asia (Southworth 2004: 216). Glover and Yamagata (1995) see little evidence in the ceramic record to indicate a progression from the Sa Huynh Iron Age into the early state period, thus suggesting that the transition must have been very rapid (Higham 2002: 277). In sum, the documentary evidence describes the existence of various large and walled centers, and archaeological investigation has identified such sites (Higham 2002: 278).

In southern Cambodia and Vietnam, polities in the Mekong Delta played a central role in regional developments between 500 BC and AD 500, and documentary data suggest the delta reached its political apex during the third through seventh centuries (Stark 2006b). During this early historic period, iron was introduced and increasingly used for tools, farming implements, and warfare. Higham (2014: 218) argues that the Dong Nai area of the Mekong Delta was likely to have been a key region for emergent complexity, partly due to its geographic location and participation in long-distance exchange. Iron Age societies in the area show signs of social and wealth differentiation, at sites such as Go O Chua and Prohear (see Reinecke 2012 and Reinecke et al. 2009).

From the first to the eighth centuries AD, we see the emergence of the earliest states of Cambodia, complex societies that participated in international maritime trade and vied for power (Stark 2004: 97). The "Funan" and pre-Angkorian periods of Cambodia and southern Vietnam witnessed the emergence of a few

key sites such as Angkor Borei and Oc Eo (Stark 2006a, 2006b). The region's importance continued unabated throughout the pre-Angkorian period, suggesting that Funan arose largely through the intraregional and international maritime trade networks, and that various Funan rulers may have controlled parts of the Malay peninsula, central and southern Thailand, and the lower Irrawaddy valleys (Stark 2006b: 106). The Funan kingdom is known from Chinese written accounts, and a growing body of archaeological evidence supports the claim that Angkor Borei was a large regional center during the period associated with Funan (Stark 2006b: 106). Angkor Borei encompassed some 300 hectares with a 4-meter high wall enclosing most of the site (Stark 2004: 98). The wall may have been constructed in stages that may have originated with an earthen embankment that surrounded the settlement (Stark 2003). An estimated 350,000 cubic meters of soil were excavated from the moats, and close to 160,000 cubic meters of it were used in the walls, which are nearly 6 kilometers in circumference (Dega and Latinis 1996). Radiometric data indicate the site was occupied from as early as the fifth century BC, with the moats being constructed from the first to third centuries AD (O'Reilly 2007: 107). Importantly, Angkor Borei may have been linked by canals to Oc Eo in Vietnam.

The Oc Eo site encompasses an area of 450 hectares (Higham 2002: 236). The site has taken its name from the low knoll of Oc-eo nearby, situated about 25 kilometers from the sea (Wheatley 1983: 127). Oc Eo is bounded by 9 kilometers of multiple *enceintes* in the form of four ramparts and five ditches or moats (Wheatley 1983: 127). Excavations have revealed that the city's canals probably linked it, not only with other centers, such as Angkor Borei, but also with the sea. Roman coins from the first two centuries AD have been recovered at Oc Eo, as well as exotic materials from South Asia (Bellina and Glover 2009). The canals of the city may have been built to expedite drainage, but they also may have served other functions, such as linking settlements and conveying goods between population centers (Higham 2002: 238). Based on archaeological evidence provided to date, Oc Eo appears to have been an important trading *entrepôt*, and Chinese annals report that settlements in the region had ramparts that were palisaded with moats accommodating crocodiles (O'Reilly 2007: 103–104). Archaeological investigations at and around Oc Eo have revealed common features at over 90 sites, of which 20 have been excavated, yielding dates from 170 BC to 540 AD (O'Reilly 2007: 105). The majority of structural remains around Oc Eo seem to be Hindu, and burials attributed to Oc Eo Culture, dating from the third to sixth centuries AD, are often lined with bricks and filled with white sand, human ashes, and grave goods including gold leaf, coins, gemstones, and, infrequently, statuary (O'Reilly 2007: 105–106). Overall, it is apparent that the site was very significant

for far-ranging exchange during the late Iron Age and early historic period, and was likely to have witnessed considerable sociopolitical complexity.

Island Southeast Asia

Evidence for complexity is also clear for the archaeological records of Island (or Maritime) Southeast Asia. By 500 BC, objects crafted of iron, bronze, glass, and exotic stone first appeared in Island Southeast Asia and are therefore used as markers for the end of the Neolithic, and many of the exotic objects indicate the participation of Philippine societies in exchange networks that linked them with complex societies on the mainland (Thailand, Sa Huynh of Vietnam) and with other parts of Island Southeast Asia (Sarawak) (Bacus 2004: 263). Comparative studies of emergent complex societies elsewhere in the world show that the appearance of such exotica suggests the emergence of social elites who actively sought these items as social status markers and links with distant sources of knowledge, as well as for use in the creation of social and economic obligations (Bacus 2004: 263).

Archaeological data from the Philippines, derived mainly from mortuary contexts, do show emergent complex society beginning in the closing centuries BC. Patterns of long-distance exchange and emergent social complexity began to intensify by the mid–first millennium AD, and the subsequent period, sometimes referred to as the "Porcelain Period," is marked archaeologically by the presence of glazed tradewares from China, and later (during the fourteenth and fifteenth centuries) from Vietnam and Thailand (Bacus 2004: 266). This period of trade saw the further development of maritime-trade–oriented, complex polities in various lowland contexts, sometimes referred to as "chiefdoms" (Bacus 2004: 269; Junker, 1999). Archaeological patterning at the intrasite, regional, and interregional levels suggests that foreign prestige-goods wealth was circulated within and between Philippine polities by the tenth century, but these exchanges expanded in volume of foreign goods circulation and scale of social participation by the fifteenth century (Junker 1999: 378). According to Junker (1999: 385), the growth of foreign prestige-goods trade was one element in a complex and evolving chiefly political economies in the late–first-millennium to mid–second-millennium Philippines, in combination with other internal, sociopolitical dynamics.

Elsewhere, maritime exchange during the first few centuries BC and AD probably fostered the emergence of complex polities at the Melaka Strait on the west coast of Malaysia. The variety of archaeological assemblages from mound and burial contexts indicates imported artifacts from India and northern Vietnam (Manguin 2004: 285). The sophistication of the burials, their density, and their

richer array of imported goods than the contemporary slab-burial sites found further inland in the Malay peninsula indicate that they were left by distinctly ranked societies (Manguin 2004: 285). The human labor and contents associated with the slab graves of Perak and Selangor (c. first millennium AD) in Malaysia indicate a surplus generated through trade in valuable goods, and it is possible that the graves were built for hereditary chiefs or other prominent individuals who supervised regional trade (Bulbeck 2004: 322). The nearby Bernam Valley has contemporaneous sites that have yielded four of the eight Dongson bronze drums found in West Malaysia (Bulbeck 2004: 322). Such sites are not limited to western Malaysia, but have also been found on the southwestern coast of Peninsular Thailand and on the coasts of Indonesia (Manguin 2004: 286). For instance, Indian beads and Dongson artifacts have been found at the Pasemah megalithic sites, located at the coast of South Sumatra (c. first half of the first millennium AD) (Manguin 2004: 288).

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Summary

While conventional sources have long illustrated the presence in this part of the world of powerful kingdoms and states of various forms during the Common Era, it is only in recent decades that mounting archaeological data have been gathered to indicate variegated forms of social organization and complexity for earlier, proto- and prehistoric periods. Increasingly, archaeological studies have broadened and refined an understanding of trajectories toward complexity in Southeast Asia, beyond traditional diffusionist models. Communities throughout the region were certainly interacting with each other and their counterparts much further afield, but these relationships were not characterized by simple forms of unidirectional influence. The preceding brief survey of cases illustrating emergent complexity suggests that growing cultural, political, and economic ties were fomented by interregional exchange during the late Neolithic and early Bronze Age (c. second and early first millennia BC), among a range of trends. Before discussing such relevant factors contributing to complexity for northern Vietnam, I next highlight the currently available evidence for ancient conflict and forms of organized violence within Southeast Asia and its surrounding areas.

CHAPTER 5

WAR IN THE WORLD, WAR IN SOUTHEAST ASIA

IN A PAPER ENTITLED "War in the Southwest, War in the World," Lekson (2002) contemplates warfare in the ancient pueblos of the American Southwest in an effort to contribute to anthropological questions of warfare. In this spirit, and in somewhat reverse fashion, I offer in this chapter an overview of the global archaeological record of warfare as a backdrop to consider its presence and potential impact for Southeast Asia.

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War in the World

Warfare is, and has been, of profound interest to researchers across the social sciences (see Fry 2013; Pinker 2011). Decades ago, many researchers suggested that only politically centralized or state-level societies could cause and engage in warfare—thus either downplaying, or denying outright, the existence or significance of warfare among smaller-scale, non-state societies (see Keeley 1996). However, the situation changed in recent decades, and most anthropologists and archaeologists would today argue that organized violence conducted by non-state societies should not be conceptually separated from a broader category of "war" as practiced by more centralized polities (Ferguson 2006: 475; Otterbein 2004: 9; Whitehead 2000).

The majority of the earliest written records from all over the world are filled with reports of fighting and wars (Vencl 1984: 117), and the archaeological record documents the prevalence of warfare amongst various prehistoric societies (see Bamforth 2006; Emerson 2007; Keeley 1996; Kim and Kusimba 2008; Lambert 2007). Material signs of human aggression and violent death appear as early as

the Pleistocene (Guilaine and Zammit 2001; LeBlanc 2003; Otterbein 2004), although many of these instances are equivocal when it comes to evidence for organized violence and warfare (Kim 2012; see Haas and Piscitelli 2013). By the Holocene, however, the evidence supporting the presence of warfare becomes much less equivocal (Haas 2001a; Hill and Wileman 2002; Keeley 1996). Collectively, the body of evidence for warfare before the onset of agriculture and associated patterns of sedentism and surplus production is small but undeniable (Haas 2001a: 334). By the mid-Holocene, after the transition to agriculture and before the emergence of state-level societies, the evidence for warfare is much more widespread and compelling, and its material signatures appear in almost every area of the world (Haas 2001a: 335).

A growing body of datasets from around the world now documents the existence of organized conflict in variable environmental and social contexts, solidifying the notion that prehistoric warfare was of tremendous social importance for many regions (Allen and Arkush 2006; Carman and Harding 1999a; Keeley 1996; Kusimba 2006; Lambert 2002; LeBlanc 2003; 2006; Milner 2005; Underhill 2006; Verano 2007). The increasing amount of research has had two overall effects. One, research has focused discussions around common patterns of warfare discernible in various regions and times of prehistory, and these comparative analyses have contributed to theoretical considerations related to both the common conditions that can lead to warfare, as well as those that can result from it. Related to this, the second major effect has been to demonstrate just how culturally varied the manifestations of warfare can be over time and space. As a consequence, archaeologists are increasingly aware of two sides to the warfare coin. The richness of comparative studies has shown that some aspects of war, such as effective principles of fortification design and of battle tactics related to surprise and superior position, are fairly universal across cultures. However, in other aspects of warfare, such as ideas about warrior identities or the rituals that precede and succeed battle, there is considerable diversity across cultures (Arkush and Stanish 2005: 21).

For instance, in his research on prehistoric Mesoamerican warfare, Hassig (1992) notes that military practices, weapons, and tactics in the same regional area changed through time and between societies. During the early formative period, the earliest Mesoamericans were hunter-gatherers organized in relatively small extended families, and warfare was probably episodic and limited to raiding (Hassig 1992: 12). As more stable agricultural resources allowed increasingly larger groups to settle permanently in single locations, the first settled communities appeared between 2500 and 1400 BC, and occasional raids gave way to more serious conflicts, making settlement defense increasingly more important.

In another example, the nature of Mayan warfare appears to have undergone significant changes concomitant with transformations of sociopolitical

complexity. Warfare was always an aspect of Mayan political life, commencing as far back as the Preclassic period, and its role and importance not only changed over time but also varied regionally (O'Mansky and Demarest 2007: 32). Regional intensification of conflict in the seventh and eighth centuries AD derived largely from inter-elite competition for positions of prestige, access to status-reinforcing exotic trade goods, and tribute (O'Mansky and Demarest 2007). By the end of the Classic Maya system during the eighth to tenth centuries AD, the aim of warfare had shifted from operating as a means to compete with and eliminate rivals, to becoming part of a political-economic strategy for securing interregional trade routes and resources, such as salt and cacao.

Elsewhere, studies of Mississippian warfare (c. AD 900–1400) reveal that pre-contact-era hostilities resulted in the massacre and mutilation of hundreds of men, women, and children (Emerson 2007). Numerous transformations in warfare took place over time, from early cultural contexts associated with tribal communities through contexts subsequent to contact with Europeans (Dye 2006: 101). Similar to the other diachronic case studies, the case for the prehistoric American midcontinent indicates how the emergence of complex chiefdoms or incipient states, such as Cahokia, transformed regional conflict from short-lived and relatively small-scale interactions into formally organized, relatively large-scale, and vastly more intensive and bellicose patterns of internecine warfare (Emerson 2007).

In East Asia, warfare among societies of the Yellow River Valley in ancient China also underwent significant transformation over time, beginning with the Longshan Culture Period (c. 2600 BC) through Qin unification (c. 221 BC) (Underhill 2006). Warfare increased markedly with the emergence of state-level polities in the region, and the evidence indicates that advancements in military technology, such as the use of war chariots, new fortification techniques, and the institutionalization of effective military organizations, contributed to the transformation in the nature of the region's warfare (Underhill 2006). By the time of the Shang polity's emergence circa 1600 BC, violence was intimately tied to political authority and state power (see Campbell 2009).

In yet another example, warfare in Andean prehistory probably underwent transformation over time, as it was closely linked with changing sociopolitical structures. Recent studies of Andean skeletal collections have documented substantial regional and temporal variation in the evidence for violent injury, indicating that the frequency and intensity of armed conflict varied significantly across space and time (Verano 2007: 106). Arkush (2006) outlines a fundamental variation in the practice of raiding warfare versus true conquest warfare, and how these disparate forms occurred depending on social circumstances. Because warfare in the Andean highlands varied in intensity and scale over time, this gave rise

to both conquest states and small, fragmented, raiding polities. Thus, the importance of warfare in elite power ideology changed markedly throughout prehistoric sequences, even for the same environments and the same peoples, relying on the same subsistence and military technologies (Arkush 2006: 288).

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Conceptualizing Warfare

The archaeology of warfare requires, first and foremost, recognition of what constitutes "warfare." Various definitions have been proposed, and depending on the criteria, certain forms of organized violence are included, while others are excluded. At the outset, the view of warfare I use for this book makes a qualitative distinction between forms of organized violence among humans—marked by behaviorally modern cultural practices and symbolic cognition—versus general forms of intra-species, lethal intergroup or intercommunity violence and aggression, as may be seen among species such as chimpanzees (see Wrangham et al. 2006). For behaviorally modern humanity, some researchers maintain that we should make further qualitative distinctions between forms of warfare occurring along a continuum of different levels of political complexity. Brothwell (1999: 37) argues that "true" warfare depends on increasing population density, as well as the development of social hierarchies, with the differentiation of a professional military class. In this argument, as we move from less to more complex societies, at some point in the sequence, motivations of personal outrage and special commitment may fade, and participation may be more an act of duty to the group or act of solidarity. Beyond this level of dispute and fighting, we move to armed and organized conflict, and with the emergence of armies, personal frustrations and anger can be replaced by maladaptation and social pathology (Brothwell 1999: 37). Although Brothwell's point is well taken, such a perspective does run the risk of limiting the kinds of data researchers can examine in attempts to formulate more universal theories about warfare. In contrast to Brothwell's stance, many cultural anthropologists and archaeologists consider a wide range of forms as validly subsumed within a broader definition of warfare (Keeley 1996; Ember and Ember 1994a).

If we are to accept that warfare can occur between non-state societies, then a definition must include various types of tactics being used by societies of varying scales of complexity. Such tactics include revenge murders, raids, ambushes, sieges, and standing lines of warriors or soldiers. In essence, a definition must be careful not to be biased against certain types of warfare. Accordingly, Vencl (1984: 121) describes warfare as "intercommunity armed violence." Similarly, Webster (1998: 313) defines warfare as "organized and sanctioned group violence

that involves armed conflict, including confrontations that combatants recognize may result in deliberate killing." Ember and Ember (1994b: 190) define warfare as "socially organized armed combat between members of different territorial units (communities or aggregates of communities)." While these are good starting points, the problem with these definitions is that they may be overly inclusive. Some forms of organized violence are qualitatively different than others and should be excluded, such as organized violence between gangs who might be members of the same social unit or society. Within a society, outbreaks of violence can be policed in some way through the existence of an overarching political power, thus affecting the nature and scope of the conflict. A more useful definition would thus convey some sense of political autonomy. Malinowski (1968: 247) defines war as an "armed contest between two independent political units, by means of organized military force, in pursuit of a tribal or national policy." Using this definition as a point of departure, I would define warfare as *organized violence between two independent political units in pursuit of social, economic, or political gain*. This definition is very similar to ones by Otterbein (2004: 10), "armed combat between political communities," or by Thorpe (2003: 146), "organized aggression between autonomous political units."

Armed with such a concept of warfare, one can make distinctions between forms of organized violence. A careful review of the ethnographic literature shows that whereas raiding, ambushing, and even "formal" fights could take place almost continually or at least annually, massive attacks intent on the total destruction of one's enemy also occurred (LeBlanc 2001: 30). Moreover, a homicide might actually be a casualty within a wider context of inter-polity warfare. Archaeologically speaking, there needs to be additional evidence indicating the larger contextual milieu of a homicide or fight. Sporadic outbreaks of violence between smaller-scale societies can be represented as micro-level battles within a wider war (Keeley 1996: 88–90). Is there a greater social significance to such an activity or encounter? Accordingly, researchers must move beyond any set of archaeological clues that demonstrate violent death. To be considered are other strands of evidence that indicate this wider context of organized violence between two autonomously distinct societies.

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Archaeological Recognition: Material Signatures for Warfare

Challenges and Opportunities

Given its intermittent presence in so many times and places throughout prehistory, there is little question as to the universal saliency of warfare in understanding human behavior, societies, and culture change. The archaeological record can help

us determine just how collective violence contributed to sociopolitical changes in human societies, but documentation of prehistoric conflict must be carried out through careful methods of archaeological data recovery and interpretation.

In some instances when dealing with protohistoric cases of warfare, the material record is complemented by textual information or oral traditions, wherein archaeologists are able to glean additional insights into the goals and methods of warfare (Allen and Arkush 2006: 8; Hill and Wileman 2002: 11; Kim et al. 2010; Verano 2007). However, the majority of archaeological cases do not enjoy the benefit of such sources, forcing researchers to rely on a combination of the material correlates of warlike behavior and ethnographic analogy (see Solometo 2006). One note of caution for this type of approach is that uncritical projections of the ethnographic present into the archaeological past can potentially lead to inaccurate portrayals of prehistoric warfare in certain settings, as recent ethnographic measures of non-state warfare may have been affected by interactions with modern nation-states (Ferguson 1999; 2006: 471, 477; Ferguson and Whitehead 1999; Haas and Piscitelli 2013). The ethnographic record alone cannot imply anything about the prevalence of events in the past, as few societies being described in that record were pristine or completely unaffected by contact with either the West or with larger-scale, more complex societies (Ember and Ember 1997). Analogy with modern or historic cases cannot be readily employed as a heuristic device for assessing ancient contexts of conflict. Care must be taken by archaeologists not to conflate contexts of warfare from later prehistory (wherein increasing contact with colonial, modern state powers may have been a factor) with earlier prehistoric cases, thereby possibly making erroneous projections of the present or recent past into the deeper past (Ferguson 2006: 479). Making allowances for a more cautious approach, however, archaeologists have nevertheless been able to assess the presence and cultural significance of warfare in a myriad of prehistoric situations. The key is to gather as much material evidence as possible, utilizing a package of different material signatures in order to formulate conclusions regarding both the presence and nature of warfare in past societies.

Archaeological markers for identifying warfare enable researchers to estimate the scale, intensity, and frequency of the behavior, thereby affording clues to warfare's social importance. This is not to deny other inherent challenges related to the archaeology of warfare. Indeed, some instances of collective violence might be archaeologically "invisible," while others might be indistinguishable from simple homicide or accidental death. Some war campaigns or specific battles in history have left no trace in the archaeological record (Hill and Wileman 2002: 11). An examination of warfare in Mayan and Polynesian societies shows that war has many phases, not all of which are equally visible to archaeologists (Webster 1998: 346). Without durable and direct material evidence for warfare,

such as fortifications, Webster (1998: 350) recognizes the near impossibility of perceiving the existence of warfare archaeologically. Additionally, archaeological reconstruction of the past cannot always distinguish the temporal sequence of pertinent events (Vencl 1984: 121–122). Did fire consume a village first, and then the surrounding fortification features, or vice versa? Quite importantly, archaeologists must also recognize that the amount and frequency of warfare that is archaeologically visible may under-represent what occurred in actuality.

Despite the intrinsic challenges in recognizing various forms of warfare, researchers have identified several methods by which to identify and collect significant clues for organized violence, and to use those material markers in documenting occurrences and effects of warfare. For instance, Hill and Wileman (2002: 11) note that the physical evidence of warfare has been left in the landscape in many parts of the world for researchers to examine: castles, bastles, defended homesteads, hill forts, fortresses, town walls, and linear frontiers are all examples of responses to aggression that have left their traces. Given the significantly varied, cultural manifestations of warfare within a wide range of qualitative and quantitative differences in scale, frequency, and intensity, it must be conceded that the archaeological visibility of warfare will vary from case to case, even in the same region, especially if we are dealing with varying levels of sociopolitical scale and complexity. Smaller-scale societies engaging in warfare might leave entirely different material signatures than do their larger-scale counterparts. Moreover, different societies have diverse cultural beliefs, ideologies, perspectives, and practices when dealing with violence. Combined with variability in material resources, these cultural differences can result in very divergent forms of weapons and tactics for warfare. In her review of warfare in North American prehistory, Lambert (2002: 229) notes that, while it is clear that people in major regions participated in warfare, how war was conducted appears to have varied in accordance with local traditions, technology, economy, and political systems, along with various parameters of the physical environment, including topography, resource distribution, and rainfall.

Researchers must also recognize that periods of warfare and armed opposition may involve both actual engagements as well as a state of readiness to fight and defend (Solometo 2006: 25). While evidence for actual combat may be much more ephemeral, mobilizations of people and the requisite resources in preparation for warfare—whether potential or actualized—may leave much more enduring material correlates. Accordingly, signs of mobilization may be more archaeologically visible than outright warfare. We can thus expect to see more indirect evidence of warfare, such as defensive settlement patterns and site plans, rather than the burned sites and unburied bodies that constitute direct evidence. Much of the evidence for war that archaeologists draw upon is not in fact the direct result

of violent conflict (burned settlements, skeletal trauma) or people's immediate response to it (fortifications, defensive settlement location) but a second-order body of material culture that alludes to and represents warfare (Arkush 2006: 287).

Ultimately, several independent lines of evidence are necessary, because warfare is an activity that involves the behavior and actions of many individuals and affects several aspects of social life (Keeley 2001: 339). Acknowledging the diversity in forms of warfare demonstrates the importance of using a package of material signatures in recognizing and documenting organized violence. "Warfare leaves many different kinds of traces in the archaeological record, so debates that hinge on a single question of interpretation—the use of a tool-weapon or the design of a wall—will best be resolved through the exploration of other lines of evidence" (Arkush and Stanish 2005: 20). Essentially, archaeologists must marshal an array of techniques and lines of evidence to circumstantially reconstruct past events.

Generally speaking, evidence indicating the possible presence of warfare activity can be either direct or indirect (Allen and Arkush 2006; Arkush 2006; Carman and Harding 1999a: 7; Dye 2006; Haas 2001a; Kim and Keeley 2008; Kim et al. 2010; see Table 5.1). Keeley (1996: 36) maintains that the most direct and unequivocal evidence of armed conflict consists of human skeletons with weapons trauma (especially embedded bone or projectile points) and fortifications. Outside of written, historical records, other forms of direct evidence include destruction horizons left by arson, iconographic depictions of organized violence, and surviving weapons or artifacts for killing. Indirect evidence includes the deliberate selection of defensible sites for habitation, and the existence of buffer zones.

For periods or events of war, these associated manifestations will tend to occur in clusters rather than as isolates (Haas 2001a: 332). As illustration we can consider a Bronze Age case from Germany, where materials recovered from a site along the

TABLE 5.1.
Primary Material Markers for Archaeological Recognition of Warfare

Direct	**Indirect**
Weapons trauma on skeletal remains	Inaccessible or elevated habitation sites
Fortifications and military structures	Refuges or temporary habitation sites
Arson or deliberate destruction of property	Settlement abandonment
Specialized weapons/armor	Buffer zones and fortified frontiers
Iconography	Sudden disruption of cultural patterns
	Warrior graves, ideology, prestige
	Trophies (e.g., curated heads)

banks of the Tollense River appear to be the debris of a battle event. The evidence includes horse bones and human skeletal remains with trauma, with weaponry clearly linked with the cause of death for many of the individuals (Jantzen et al. 2011). Radiocarbon dating of the human remains indicates a clustering around 1200 ± 40 Cal BC, implying a single episode. Though archaeological cases are rarely marked by this degree of available evidence, the Tollense case can serve to highlight the ways in which various material signatures can be used to produce strong conclusions.

Warrior Ideology and Trophy-Taking

Warrior or elite burials can also provide information about war weaponry and the social significance of warfare in a given society. Underhill (2006) highlights evidence from the Longshan period in China where elite burials had symbolic weapons and paraphernalia, including prestigious and labor-intensive jade objects. The presence of these weapons not only documents the possible presence of warfare, but also hints at an emerging ideology linking warfare, relatively high status for males, and ritual. The trend becomes intensified during the early Bronze Age, when highly complex societies, such as the Shang, emerge in the central Yellow River valley. In this manner, warrior ideologies and the social significance of military activities within societies can be manifested materially, and these remains can also speak to changing sociopolitical institutions and ideological belief systems.

In many cases, decapitation or trophy-taking provide a context for warfare. For many societies, a warrior's prestige or spiritual power could be augmented by the reputation of his defeated foe, and often the severed head served as a personal manifestation of that foe (Carneiro 1990; Keeley 1996: 100). In North American prehistory, the removal of scalps and heads was often part of the conflict-related mutilation of enemies (Milner et al. 1991: 584). In Andean prehistory, an important Wari ceremonial structure at Conchopata contained a cache of six burned trophy heads—skulls with post-mortem perforations on the forehead enabling them to be carried or displayed with cord (Arkush 2006: 291). Andean trophy heads were often carefully prepared and cached in locations association with ritual, suggesting that they held ideological significance (Arkush 2006: 292).

Strategic Site Locations, Fortified Frontiers, Buffer Zones, and Cultural Pattern Disruptions

Warfare can be reflected by how communities choose sites for settlement, and by how some areas are avoided. For Andean prehistory, Wari provincial centers were sited strategically to control views of the surrounding terrain, passes, and

important routes (Arkush 2006: 292). During the Late Intermediate Period (c. AD 1000–1450), settlement shifts saw people in the Andean highlands moving away from rich agricultural lands to settle in defensive sites high on hills and ridges, frequently building hilltop forts known as *pukaras* (Arkush 2008).

Classic and Postclassic Mayan sites in Guatemala demonstrate principles of defensibility at work in the selection of settlement locations, with communities considering factors such as natural barriers, visibility, and height (Borgstede and Mathieu 2007). Elsewhere, settlement patterns changed dramatically throughout the Pueblo III period of the Mesa Verde region of North America, with an increase in the occupation of defensible locations (Lightfoot and Kuckelman 2001: 58). Examples of such locations include canyon rims, buttes, mesa rims, prominences, cliff overhangs, and boulders. This apparent change coincided with harsher ecological conditions that may have exacerbated competition and warfare. The strategic priority of settlement locations seems to have shifted from those with the best agricultural soils in early Pueblo times, to those with good defensibility after AD 1200 (Lightfoot and Kuckelman 2001: 58).

Another potential indicator for conflict or the potential for outbreaks of violence comes in the form of fortified frontiers, buffer zones, or "no man's lands." These are the unpopulated or sparsely populated zones between two warring groups or potentially adversarial societies. Although communities within frontier areas can experience chronological stretches of quite peaceful interactions, periodic breakdowns in relationships and disputes can occur, and these areas can become zones of danger. These no-man's-lands are the universal effect of warfare because inhabitants flee war-torn and heavily raided frontiers (Keeley 2001: 338). This refugee effect is plainly evident in more historic and modern contexts, as attested to by the millions of refugees who have been displaced by warfare in the modern world. Uneasy relations or outright hostilities along a border between two politically autonomous societies can lead to development of a no-man's-land, as settlements nearest a potential enemy move or disperse to escape the effects of persistent raiding or attack (Keeley 1996: 111). Edges of polities or buffer zones are thus important for signifying warfare and understanding causes and effects of warfare (Allen and Arkush 2006: 7). Frontiers between different traditions of land and resource exploitation tend to be particularly fraught and sometimes fortified, as they represent the boundaries between the ranges of nomadic pastoralists and settled farmers, for example, or between developed and less developed social and economic systems, or hunter-gatherer and agricultural communities (Hill and Wileman 2002: 96–97).

Buffer zones and fortified frontiers have been reported in various contexts from Africa, Asia, North America, South America, and Oceania (Keeley 1996: 111). In East Asia, wall-building along frontiers was a significant part of military strategy

for many Chinese polities throughout several millennia, culminating with the completion of the Great Wall. In Mesoamerica, uneasy intersocietal interactions saw the emergence of an alliance between the Aztec and Chontal polities in common defense against Tarascan forces, as manifested by frontier fortresses during the Late Postclassic and Early Colonial periods (Silverstein 2001). Although the early agricultural societies known as the *Linearbandkeramik* (LBK) Culture and its settlements were spread out over many parts of Europe approximately 7,500 years ago, the majority of enclosed and fortified LBK villages are found in the culture's northwest limits (Keeley 1997). This increased amount of conflict and fortification construction may be attributable to uneasy relations with neighboring, Mesolithic foragers as LBK communities settled new areas.

A final indicator for prehistoric warfare is a somewhat broader category labeled by Webster (1998: 315) as "disruptions to cultural patterns." The disruption can be manifested in various ways, including shifts in settlement systems, sudden intrusions of new pottery styles or art forms, and so on. Rice (2001), for instance, discusses the rise of tightly clustered settlement patterns of villages and hamlets in the Gila Basin of Central Arizona due to threat of violence. Wholesale displacement or replacement of one society's material culture with that of another's, at a given location, can provide one clue of conflict or warfare. When combined with other material signatures, such as deliberate destruction or weapons, the disruption of the cultural pattern may be suggestive of warfare. In cases of massacre and genocide, it would not be surprising to see this pattern of cultural disruption of intrusion of new materials within the archaeological record of a given site or area.

Iconography

Iconographic depictions in the form of rock art, sculptures, figurines, and pottery decoration can serve as a rudimentary type of historical documentation. Depictions of warfare-related activities, warriors, and associated paraphernalia can offer clues about past lifeways in general, and might even provide glimpses of actual historical events and battles. On the positive side, not only can depictions indicate the existence of warfare, but they also provide some functional context for the weapons and tactics of different societies. However, a disadvantage of relying on iconographic representations pertains to their scarcity and irregularity of spatiotemporal occurrence (Vencl 1984: 126). While such art clearly demonstrates that the society is aware of warfare, it does not reveal the frequency or intensity of warfare for that society. Another problem with these representations is an uncertainty over whether they represent scenes of real life or mythological events (Lambert 2002: 211).

Dating from various points over the past 20,000 years, Palaeolithic rock art has been found in Western European contexts depicting forms of violence (Guilaine

and Zammit 2001: 54). Different examples depict scenes in which human or anthropomorphic figures have been struck by projectiles or are possibly being tortured (Guilaine and Zammit 2001: 54–60). Although violence is illustrated in these cases, it is difficult to determine whether they represent actual cases of warfare. More definitive examples are contained in a collection of Neolithic rock paintings, known generally as "the art of the Levant," which have been discovered in parts of Mediterranean Spain (Guilaine and Zammit 2001: 102–111). In these cases, battle scenes are depicted in greater detail, where separate groups of people are shown fighting using bows and arrows.

An additional benefit of iconographic depictions is that they can sometimes convey some sense of the ideological and social importance carried by warfare and warriors. With polities such as chiefdoms and states, warfare was intimately interwoven with the economy and ideology of societies (Earle 1997; Haas 2001a: 342). Moche society in Andean prehistory, for example, offers depictions of warfare, warrior prestige, and battle paraphernalia in the form of relief murals and ceramic vessels. It is through the rich Moche narrative art style, especially as preserved on fine ceramic vessels, that we see rulers in action, wielding weapons that symbolize power and warrior prowess (Bawden 1999: 117). In another case study, rock art (petroglyph) depictions indicate the growing social importance of a warrior class during troubled times in Ancestral Pueblo contexts in North American prehistory (Crotty 2001: 83). Similarly, scenes depicted on bronze drums recovered from the Dian Culture area of southwestern China and the Dongson Culture of northern Vietnam clearly indicate an ideology associated with military power and a warrior class (Murowchick 2001). In Andean prehistory, both Wari and Tiwanaku polities yield evidence of warfare in iconographic displays of war-related imagery with armed figures and severed trophy heads, suggesting that violence was probably a central theme in belief and was related to elite power (Arkush 2006: 290). In Mesoamerica, despite efforts by past scholars of Classic Mayan societies to explain away battle murals and iconography of captive sacrifice as "ritual battles" or mythical events, highland and lowland mural art from Teotihuacan, Cacaxtla, Bonampak, and Chichen Itza provide archaeological and forensic evidence clearly indicating the occurrence of mass human sacrifice (McVicker 2007).

Destruction Horizons and Abandonment

Deliberate destruction of property and structures can provide strong contextual evidence for the occurrence of specific episodes of warfare. The burning of structures is a common consequence of war, and the archaeological evidence of burned structures and settlements can therefore help document actual attacks (Lambert

2002: 210; Rice 2001). Researchers must be careful, however, in distinguishing instances of deliberate burning due to violence from accidental fires and intentional fires for clearing, ritual, or ceremony.

Instances of deliberate destruction of property and site abandonment come from disparate times and places. In North America, Mississippian elites of the Southeast vied with one another for power and prestige through the attack, desecration, and destruction of the ancestral shrines of rivals (Dye and King 2007). These sacred locations often contained items that represented the physical manifestations of a ruler's power and authority, including the remains of chiefly ancestors, sumptuary art and elite grave goods, and related ritual paraphernalia (Dye and King 2007). Elsewhere, research on prehistoric warfare in the El Morro Valley of New Mexico shows evidence of large-scale burning of property (LeBlanc 2001: 28). Archaeological data indicate that the Scribe S site was attacked and burned, and that stone was removed from most of the room blocks to build nearby Pueblo de los Muertos. Evidence of burning at the site comes from rooms that had *in situ* deposits, including bowls, ladles, storage jars, and large quantities of burned corn. There is no evidence from any of the rooms of post-burning occupation, and although not all of the rooms were burned, there are multiple cases of burned rooms from discrete room blocks spaced well apart.

In the Andean highlands region, Middle Horizon (c. AD 600–1000) destruction episodes and premature abandonment in areas where Wari expansion was occurring also indicate warfare (Arkush 2006: 293). Wari settlers in the frontier region near Huamachuco began construction of a Wari center, Viracochapampa, which was undefended in the early stages, suggesting peaceful cooperation and coexistence with local inhabitants. However, before construction was finished, Viracochapampa was abandoned and never occupied, and destruction episodes in the region may be linked to its premature abandonment, indicating that organized violence may have played a role in Wari defeat, not expansion (Arkush 2006: 293).

Evidence from the Terminal Classic Maya site of Colha in Belize indicates collapse, destruction, and abandonment during the eighth century AD. In combination with shifts in settlement patterns and a mass grave of 55 individuals (with evidence of decapitation and desecration) coincident with the site's abandonment, researchers suspect the site was subject to threat and attack, resulting in its eventual razing and abandonment (Barrett and Scherer 2005).

Skeletal Remains

Some of the earliest potential evidence for collective violence that might approximate warfare comes from the case of Jebel Sahaba in Sudan, where a cemetery

dating to about 12,000 years ago includes over a hundred individuals, adult males and females as well as children, exhibiting signs of skeletal trauma from projectiles or spears, some with multiple wounds (Wendorf 1968). While this may be evidence of warfare, it is possible we are looking at intrasocietal violence. Beyond interpretive problems, Vencl (1999: 57) outlines several challenges to the archaeological visibility of warfare with human remains. First, identification of injury inflicted by weapon is hindered by the fact that some unhealed (i.e., fatal) injuries are difficult to distinguish from secondary, post-mortem damage. Second, injuries to soft body tissue are beyond archaeological detection. Third, cremation was a prevalent burial practice for many societies throughout human history. Finally, archaeological sources fail to provide evidence of the large number of men lost in battle, and of the other war casualties that could not be buried (Vencl 1999: 58).

These potential challenges notwithstanding, osteological data represent a strong form of direct evidence for the presence of violent behavior, whether on an interpersonal or a collective scale. Bioarchaeological methods for studying osteological remains can provide insights into the intensity and prevalence of violence, as well as its effects on nutrition, population movement, and genetic exchange, and these research efforts can significantly broaden our understanding of the conditions for violence and how societies might be marked by slavery and bondage, torture, and migrations (Kim 2012: 263; and see Martin et al. 2012; Milner 2007; Tung 2012). Telltale signs of violence involving human remains include fractured skulls, scalp or cut marks, cannibalism, dismemberment or other signs of trophy taking, and parry fractures. Additionally, mass graves, exposure burials, and unceremonious burials without grave goods can all be potential indicators, as well as a higher frequency of adult male deaths within a cemetery. Though not sufficient to prove the presence of organized violence, these types of evidence can contribute to a wider package of correlates indicating warfare.

In South America, some of the best evidence for the expansion of the Wari polity (c. AD 600–1000) through conquest warfare comes from provincial populations that exhibit high levels of skeletal trauma (Arkush 2006: 294; and see Tung 2007). For instance, in the Majes Valley of Arequipa, sites exhibit not only Wari contact but also data on 143 individuals with a very high incidence of healed cranial fractures, with nearly one-third of all adults affected, and many of the wounds are predominantly on the left or middle sides of the skull, indicating they were sustained in face-to-face combat with a right-handed opponent (Arkush 2006: 294).

For prehistoric North America, it has now become widely recognized that conflicts took place among small-scale societies of the distant past, and that there was considerable temporal and spatial variation in the likelihood that fighting would break out (Milner 2005: 144). According to Milner (2005: 145), even a small proportion of skeletons showing violent trauma (e.g., projectile wounds,

fractures attributable to stone axes, and mutilations) is a sure sign that fighting was pervasive and had a noticeable social impact on participating communities. Bioarchaeological evidence from the Indian Wars indicate that arrows often do not strike bones, and such wounds can be conservatively estimated as being something on the order of three times the number that left indelible marks on skeletons (Milner 2005: 153–154). In another case, the Crow Creek massacre site of South Dakota exhibits significant evidence of skeletal trauma, disarticulation, and mutilation (Milner et al. 1991: 595). The remains appear to be related to a massacre, probably occurring during the fifteenth century and potentially precipitated by drought conditions (Bamforth and Nepstad-Thornberry 2007).

Mass graves can also indicate some form of mass killing or even genocide. The mass grave at Talheim in Germany dating to about 5000 BC also shows strong evidence for a mass killing (Guilaine and Zammit 2001: 86). Here a communal grave saw the remains of 18 adults and 16 children all piled on top of one another unceremoniously, and all show clear signs of violent, blunt, traumatic death by repeated blows. The prehistoric burials at Ofnet in Germany consist of two pits containing the remains of 38 individuals (Frayer 1997: 185). Studies indicate that the adult males were struck across the back of the head with an axe. Cut marks were visible on skulls and vertebrae, indicating decapitation.

An additional case comes from the Pazyryk tumuli in the Mongolian Altai, where excavated skeletal remains of Pazyryk warriors offer a unique opportunity for verifying ancient histories of warfare and violence given by Herodotus in the fifth century BC (Jordana et al. 2009). In a sample of ten individuals, comprising seven adult males, one adult female, and two children, seven exhibited a total of 14 traumatic injuries wherein 12 injuries were related to interpersonal violence, most likely caused by weapons similar to those found in Pazyryk tombs (battle-axes, daggers, and arrowheads) (Jordana et al. 2009).

Weapons and Specialized Equipment

Depending on the context, weapons designed for use against humans can potentially indicate the presence of warfare. For instance, lithic data from the Early Postclassic Copan Valley, as well as the evidence of the violent destruction of structures, suggest an escalation of intra- and/or inter-valley conflict (Aoyama 2005). Residents of the fortified city of Aguateca, Guatemala, used spear, dart, and arrow points for intergroup human conflict (Aoyama 2005). The main challenge for the interpretation of weapons lies in delineating a military function for various implements, to separate tools from weapons. According to Milner (1999: 109), in prehistoric North American contexts, weapons were mostly the same as, or virtually indistinguishable from, everyday tools. However, while this may be

true for some societies in certain timeframes and technological conditions, other cases afford artifacts with distinctly specialized functions for fighting and conflict. Certain types of implements are more clearly designed for warfare, such as close-range shock weapons. For instance, tomahawks, maces, lances, daggers, and swords are excellent weapons of war but often have no other purpose (Keeley 1996: 50).

Various researchers have pointed out the long-term process of separation and distinction between everyday tools and specialized weapons (Carman and Harding 1999a; Vencl 1984; 1999). Over time, the tools of war began to be distinguished from the general category of tools, leading to the manufacture of objects with a combined use, then others that were predominantly used as weapons, and finally others exclusively for use against the human frame (Carman and Harding 1999b: 248). The archaeological record clearly shows the emergence of specialized weapons of warfare as the product of a long evolution in tool technologies (Vencl 1999: 65). Specialized equipment used in warfare (such as weapons and fortifications) seems to have been developed as a result of long-term standardization for processes of violent behavior where, to begin with, tools and devices serving primarily for economic purposes were used (Vencl 1999: 57).

In categorizing classes of weapons, Chapman (1999) proposes a solution to the problem of overlapping functions of objects equally useful for both warlike and peaceful aims: a continuum with four classes of artifact category—tools, tool-weapons, weapon-tools, and weapons. According to Chapman (1999: 141), there is a clear diachronic trend, from the earliest farming settlements through to the climax Copper Age sites, of increasing frequency and diversity of both "weaponry" and defenses. Similarly, Vencl (1999: 65) uses ethnographic analogues to offer several categories for human weapon technologies: occasional (any tool used in emergency, such as a sickle or a pebble); non-specialized (all artifacts combining both tool and weapon functions, such as bow, knife, or axe); and specialized, made primarily for purpose of fighting, such as swords. Typical examples of the tool-weapon are the polished adzes of the Linear Pottery Culture (c. 5500–4500 BC) of prehistoric Europe, which were primarily woodworking implements for wood clearing and house construction, but at the same time status symbols for men (as demonstrated within burials) and also occasionally served as weapons (as demonstrated by injuries to skulls in the Talheim grave) (Vencl 1999: 65).

Various factors can lead to a reduction in the number and quality of weapons found archaeologically (Vencl 1984: 125–126). First, many societies made weapons out of perishable, organic materials. Some wooden javelins or spears, maces, clubs, and other items have been recovered within Palaeolithic contexts, indicating the possibility that many more existed. Secondly, morphologically atypical weapons

elude archaeological interpretation, as these are only exceptionally retrieved in specific, functional contexts, such as hand-thrown stones and pebbles as slingshots (Vencl 1984: 125). Another group of weapons difficult to grasp archaeologically is represented by all-purpose tools (such as knives and axes), animals (such as war dogs or elephants), and poisons or objects. Finally, the third factor is that highly specialized weapons, those with social significance, were rarely left in their original archaeological contexts in settlements or on the battlefield. Combined, all of these factors jointly lower the frequency (in extreme cases to zero) of weapons for the evaluation of the character and development of societies and cultures (Vencl 1984: 126).

Fortification Features

Perhaps most pertinent for the Co Loa case is the category of fortifications. Archaeologically highly visible, fortifications could alter regional political landscapes dramatically, and they are one of the most obvious indicators of warfare or the threat of war (Allen and Arkush 2006: 7). Fortifications are essentially omnipresent in the archaeological record of most cultural regions (Allen and Arkush 2006: 7), and such defensive features have been built by all types of both state and non-state societies (Keeley 1996: 55). Within the range of defensive features are numerous structural types, including palisades, forts, towers, moats, bastions, ditches, ramparts and other earthworks, and other structures that required the investment of labor and resources for construction and maintenance (Lambert 2002: 210; Vencl 1999: 67). In general, fortifications represent a very strong concern for defense, a concrete expression of the human fear of being attacked (Vencl 1999: 67). According to Keeley (1996: 55), they are the costliest and largest-scale pieces of preindustrial technology, and thus demonstrate that threats of attacks were strong enough to warrant such costly constructions. Although the functions of its architectural features have been subject to much debate, the walls, ditch, and bastion of Jericho (c. seventh millennium BC) in the Jordanian desert may constitute one of the earliest cases of fortifications in the archaeological record (Hill and Wileman 2002: 22; Otterbein 2004: 32).

Vencl (1999: 68) provides a summarized list of features indicating that a structure might have had a military purpose: the presence and differentiation of various types of entrances (gates) restricting or controlling approach; presence of traces of fighting (weapons, destruction, fire); multiplication of defense works, especially at spots with easier access, revealing a concept of in-depth defense; proliferation of walls by the insertion of additional elements such as bastions and flanking towers; and choice of inaccessible locations uncomfortable for daily living but possessing good views that offered greater safety and easier defense. While none of these

indicators alone is conclusive evidence for the military function of a structure, their absence does not necessarily mean the contrary is true.

An additional potential indicator of war is the use of refuges (see Webster 1998: 326). As demonstrated by certain archaeological and ethnographic cases, refuges have existed and been used by many different kinds of societies, such as the refuge caves of Hawai'i (Kolb and Dixon 2002), the *pa* (defensive settlements) of the New Zealand Maori (Vayda 1960), and refuge rock-island escapes or lookouts (Maschner and Reedy-Maschner 1998: 32). When archaeologically detected, refuges, even those found far from settlements, should be interpreted as evidence for warfare (Arkush and Stanish 2005: 9). Furthermore, having refuges instead of fortifying settlements can provide some indication of the frequency or expectation of warfare within a region. Rather than maintaining an enclosure around an entire village, for instance, having a temporary refuge location nearby would have been a less costly option if the threat of attack was not constant or imminent.

While they constitute a strong indicator for either the presence or the threat of conflict and warfare in prehistoric contexts, the interpretation and documentation of fortification features is not without inherent challenges. The defensive or military function of certain architectural features may not be apparent because the features do not follow obvious principles of defense. As a consequence, the possible presence of warfare activities and practices cannot be confirmed. For example, researchers have rejected the possible military or defensive function of certain sites because they bear no trace of occupation or are too far removed from a settlement to have guarded houses or crops (Arkush and Stanish 2005: 9). But, as noted, refuges can be available for use even if not within the immediate vicinity of a settlement.

While there is significant variability in the kinds of fortification features used by countless cultures and societies throughout the world over a vast expanse of human history, there are certain fundamental features based on universal principles of effective military design that unequivocally indicate defensive functions (Keeley et al. 2007). Based on evidence from a combination of known historic fortifications, relevant prescriptions by ancient military authors, and simple geometry, the archaeologically visible features that are universally used in military defenses are V-sectioned ditches, defended (especially baffled) gates, and bastions (Keeley et al. 2007). Until very recently, it was common to find earthworks and other large features with V-sectioned ditches, defended gates, or bastioned walls interpreted solely as religious enclosures or symbols of status or possession (Keeley et al. 2007: 56). This is due to a variety of factors, one of which is that recognition of defensive features may be difficult due to ambiguous or multiple functions (Arkush and Stanish 2005; Keeley 1996: 57; Vencl 1999: 67; see Keeley et al. 2007 for a comprehensive discussion). In determining the likelihood of a

defensive function, the actual defensibility of a fortification can be assessed, and this depends on the sum of two factors: passive resistibility (strength, dimensions, or solidity of the construction) and the active force of the defenders (Vencl 1999: 67). Ultimately, not all walls or enclosures are fortifications, nor do all the features typically found at known fortifications have purely military functions (Keeley et al. 2007: 56). For example, curtain walls might simply operate as a peaceable barrier or a dike with no military function. The walls at Harappa, for instance, appear to have functioned in a symbolic or commercial way, regulating traffic and restricting access for exchange purposes (Kenoyer 1998: 56).

In their research into defensive structures in Andean prehistory, Arkush and Stanish (2005) effectively demonstrate how past interpretations of the archaeological record may have prematurely and erroneously dismissed the existence of warfare, and how various structures with seemingly non-military function probably had defensive value. Arkush and Stanish (2005) provide convincing evidence demonstrating the military utility of many of these features, concluding that cultural, ceremonial, and ritual functions are not mutually exclusive with defensive ones. As noted, functions can and do change over time, especially as needs change over time. A fortification may become a ceremonial center and serve a symbolic function once the threat of attack dissipates, perhaps months or even generations after the original construction. Symbolic functions derive from and depend on the practical military functions of such constructions (Keeley 1996: 57).

Fortified sites acquire additional functions (e.g., economic, social, and ritual) through being a place of safety or gathering (Vencl 1999: 69). For certain cases, the function of large-scale defensive features can change over time, depending on the surrounding context of social, political, and historical circumstances. Studies of ancient walled cities in different world regions suggest that walls should be considered a form of monumental, labor-intensive architecture that was used for a variety of purposes simultaneously (Smith 2003b: 279). Features that once held military value may gradually come to hold social meaning for their builders or surrounding inhabitants. In their comprehensive and cross-cultural survey of fortifications and enclosures in European prehistory, Parkinson and Duffy (2007) find that the wide geographic, temporal, and formal variability of these features has challenged archaeological understanding of their functions. Although the tradition of building enclosures and fortifications lasted for several thousand years, such construction practices were neither ubiquitous across the European continent nor consistent through time, making it difficult to identify one specific reason for their existence (Parkinson and Duffy 2007: 98). Hence, just as the frequency and location of their construction varied, the social roles the features played changed along with the needs and wants of the people who interacted with them (Parkinson and Duffy 2007: 98). Nevertheless, the accretion of non-defensive

functions and meanings for fortification features does not obviate the possibility these constructions were originally built for non-defensive purposes, nor does it mean that they lost military utility. As I will discuss in Chapter 10, the defensive utility of Co Loa's massive fortification system persisted well after the society responsible for its original construction faded into history.

Archaeological recognition of fortifications can also allow researchers to glean information about environmental settings. There are cases around the world where societies experiencing "hard times" due to actual or anticipated episodes of famine or drought may have been more likely to engage in raiding and warfare (Keeley 2001: 336–338). For instance, the available data suggest that for the North American Middle Missouri Region, fortifications were built and villages were attacked during periods when farming was likely to have been unproductive because of drought (Bamforth 2006: 83). Complementing environmental reconstruction, this case also illustrates social dynamics. While climate and drought may have precipitated warfare among farmers, social forces appear to have influenced or determined whom those farmers went to war against (Bamforth 2006: 93).

On a final note, it cannot necessarily be inferred that a society was at peace if fortifications are absent from some sample of the archaeological record. Within a highly complex and territorially extensive society, a small village located in the middle of a large state might exhibit no clues of warfare, even if the larger state polity was engaged in war in a much wider area (Haas 2001a: 331). Similarly, aggregation within certain societies can be considered a defensive tactic wherein actual construction of defensive works is not absolutely necessary (Rice 2001). For instance, Spartan communities did not have significant fortifications during the height of their military power. Some societies practicing offensive warfare would not build fortifications (Vencl 1999: 68). With aggregations into large settlements, the effect is that all members of the community are obligated to defend those settlements in the event of attack. In essence, sheer numbers, rather than architecture, provide deterrence against attack (Rice 2001: 327).

Generally speaking, the effect of fortification on warfare differs at varying levels of sociopolitical complexity, having far more impact for societies without the organization, manpower, or surplus to besiege forts (Allen and Arkush 2006: 7). In using ethnographic data from contact-era New Guinea, Roscoe (2008) points out that for some village and tribal societies, settlement fortifications were designed not just to keep attackers out, but to keep them trapped within the settlement once they had penetrated, allowing inhabitants to rally and counterattack. As polities develop large, mobile armies and techniques for rapid expansion, fortifications become less effective. Diversity in fortification types can thus reflect culturally specific ways of engaging in collective violence and practicing warfare.

FORTIFICATION STUDIES AND SOCIAL INFORMATION

In addition to indicating the possible presence of warfare as a pattern of behavior, the construction and use of fortifications can also afford other kinds of social information. Their territorial extent and dimensions, along with the labor and material resource requirements, can all provide clues around the scale of sociopolitical complexity for the society building the features and changes in social structure over time. This is a pertinent observation for this study, as I will consider the architectural energetics involved with the fortification system at Co Loa in Chapter 9. Defended cities or settlements can expand or contract over time, resulting in multiple systems of fortifications and internal walls separating sections of communities (Trigger 2003: 376). In addition, changing dimensions and spatial configurations can also inform us about shifting patterns of inter-polity relationships and the variable nature of threats and conflict (see Schroeder 2006). Fortifications can also furnish information about the types of weapons, tactics, and strategies used by defending communities. Moreover, defensive features also tell us about the nature of potential threats, where attacks may have come from, and in what forms. Military tactics, logistical capabilities, and technological capacities can be inferred from the detailed nature and specific dimensions of defensive features. For instance, the shape and spacing between bastions along a perimeter wall can provide information regarding the types of projectiles being used by combatants, and their range (Keeley et al. 2007).

Archaeological study of fortification features can also offer some insights into the cultural thinking and decision-making of leaders and community members of prehistory. Combined with other strands of evidence, fortifications can help explain decisions about what was deemed necessary to defend and why certain locations were favored over others. Hill and Wileman (2002: 14) cogently point out that decisions over what to protect or attack, and how to pursue these types of strategies, are invariably connected to topography and weather. Hence decisions about the forms of weapons and armor, troop types, methods of transport and supply, defensive features and fortifications, and choice of battlegrounds, are all intrinsically linked to practical considerations of geology, vegetation, land use, seasonal changes, rainfall, and temperature. Equally inseparable are the cognitive elements of landscape recognition, such as perceptions of sacred and ancestral space, ownership and land potential, and wealth and status as exemplified by control over specific territories or routes (Hill and Wileman 2002: 14). Meticulous study and consideration of defensive features and the surrounding landscapes they are situated within can thus offer insights into the philosophies and decision-making criteria of the societies constructing them.

Studies of fortifications can also tell us about region-wide macro-trends in social relationships (Parkinson and Duffy 2007). For instance, fortification studies of *Linearbandkeramik* (LBK) farming village sites of Europe (c. 5500 BC) indicate the prevalence of conflict and warfare, not just between farming villages but also with surrounding forager societies (Golitko and Keeley 2007; Keeley 1997). Whereas fortified settlements are by far the most common ethnographically among non-state societies (Keeley 1996: 57), with larger-scale societies, simple defensive fortifications and features around farming units or settlements give way to areal defensive strategies, demonstrating both territorial organization and centralized decision-making (Haas 2001a: 340). An illustration of this can be seen in the use of defensive forts in frontiers by the Inca Empire in their conquest over neighboring communities (Arkush 2006: 314–316). Elsewhere, one of the most notable episodes of territorial defensive building in English history was the creation by Alfred the Great of a system of *burhs*, or fortified places, throughout the Wessex Kingdom, built to counter threats of Danish invasion in the ninth century AD using a defense-in-depth strategy (Hill and Wileman 2002: 73). The burhs were not merely concentrated on the frontiers of the kingdom, but were carefully placed within it at less than a day's march from each other, offering both places of refuge and bases for counterattack against Danish forces.

Using a macroscalar cross-cultural perspective, Parkinson and Duffy (2007) assessed data from across Neolithic and Bronze Age Europe (c. 6500 to 1000 BC) to complement interpretive frameworks at the regional and local scales. In comparing their data with analogous features from Mesoamerica, the Near East, and North America, the researchers argued that in different parts of the world, the appearance of fortifications, enclosures, and other monumental and communally constructed features was associated with the formalized representation of segmentary social units on the landscape (Parkinson and Duffy 2007: 100). While the emergence of these social institutions occurred in a variety of different economic, environmental, and historical settings, all seem to have been associated with the development of what Raymond Kelly (2000) has called a "social calculus" based on a notion of social substitutability (Parkinson and Duffy 2007: 100). Social substitution permits the cultural substitution and equation of an individual with a specific group of which that person is a member, and Parkinson and Duffy (2007: 100) argue that the emergence of social substitutability would have encouraged the creation of features on the landscape such as fortifications and enclosures. Accordingly, features such as fortifications built for defense from another group are similar to features built to bring groups together for rituals, such as enclosures and henges, producing two forms of intergroup interaction: one peaceful, the other more violent. By analyzing the variability exhibited in the creation of such features in different regional trajectories and understanding the social

contexts in which such features have emerged, it is possible to identify patterns of social interaction that occurred during their construction and to differentiate the roles such sites would have played within those different regions (Parkinson and Duffy 2007: 100–101).

Summary for Archaeological Recognition of Warfare

Within the past two decades, archaeologists have developed better techniques and methodologies for the archaeological recognition of violence in general, and of organized violence specifically. The archaeological reconstruction of past behaviors, social interactions, and cultural lifeways requires the blending of complementary lines of evidence. Without a package of material correlates, isolated pieces of data without significant context can only offer weak inferences about past behaviors. The more contextual evidence we have at our disposal, the greater the strength of our inferences about the presence, frequency, and social significance of warfare in the past. Accordingly, archaeologists must rely on a diverse array of material indicators in determining the presence of warfare, and this aggregation of evidence can also help researchers with contextual reconstruction of warfare-related behavior that may potentially reveal important facets of other past behaviors and social dynamics.

Because warfare is so complex, identifying the behavior and its associated material remains can provide insights into a number of other social phenomena, such as attitudes towards outsiders and threats, ideological beliefs about warrior prestige, strategies for accumulating wealth and power, and efforts to cope with surroundings. Increasingly, the mission associated with the archaeology of war has moved beyond the mere documentation of its existence, to consider other criteria that speak to its cultural import and degree of impact. Today, some of the more pressing concerns pertain to what forms of warfare occurred in different contexts, what conditions led to these outbreaks of violence, and how these types of behaviors, strategies, and interactions contributed to cultural, political, and economic changes for given societies. In explaining the onset of warfare and its likely causes, researchers are in effect explaining why peaceful conditions were interrupted. In this manner, the frequency of warfare is directly related to cycles of warfare and peace in a historical sequence for some region or society. Thus the archaeological documentation of peace should also be a concern for researchers, as conditions leading to peace can be just as telling, specific, and important as those leading to outbreaks of violence. Just as war can involve a multivariate process, so, too, can its antithesis. Peace is not simply the absence of war—it is a situation contingent upon conscious decisions to cooperate, negotiate, and avoid the use of force. What the archaeology of war can thus tell us is why people choose

to fight or to cooperate under given conditions, and how these decisions interplay with surrounding material and environmental conditions to foster cultural variations and to drive changes in political complexity. Given the amount of data yet to be unearthed throughout many parts of the world, the archaeology of warfare promises to significantly augment our theoretical understanding of social evolution in the years to come.

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Evidence of Conflict in Southeast Asia and Adjacent Regions

I now turn to the material record for violence and warfare in Southeast Asia and adjacent regions, with particular emphasis on markers for defensive architecture owing to its relevance for Co Loa. It must be noted, however, that the archaeological investigation of warfare is relatively underdeveloped for much of Asia, compared to other world regions, especially when dealing with prehistoric cultural sequences. The situation is somewhat better for Chinese prehistory, though many sites of early Chinese civilization have yet to be fully evaluated. The selected cases offered in this section merely provide a contextual backdrop for addressing the Co Loa case, and are by no means exhaustive of the available data. Of interest are cases of suspected fortifications, especially as they may offer cultural insights into the system of ramparts, ditches, and moats found at Co Loa.

East and South Asia

Although the Chinese archaeological record is massive, much of it has not yet been fully scrutinized for indicators of warfare (Ferguson 2006: 485; Underhill 2006). When available, textual accounts for historic period China are replete with indications and descriptions of warfare's prevalence and social importance. Combined, the material and historical records demonstrate how conflict played a significant role in changing patterns of political and social configurations since as early as the Neolithic period. During the second millennium BC, there is clear evidence for the construction and use of stone fortified sites in northeastern China, in places such as Sanzuodian (Shelach et al. 2011). To the south in the Yangzi River Valley, the Pengtoushan Culture site of Bashidang, dating to about 5500 BC, is a rice farming village with perhaps the earliest combination of earthen walls and ditches, which some have interpreted as defensive (see Crawford 2006). The walls for the 3.7-hectare site were piled up by accumulation of soil from the ditches, and Liu and Chen (2012: 154) see a function of water or flood control as the explanation for the construction. It is possible, however, that military and non-military functions were both important and not mutually exclusive.

Among the Yangshao Culture (c. 5000–3000 BC) societies in the central Yellow River Valley, many villages have surrounding ditches, with some having palisades, and at least one village possessing a rammed earth enclosure (Chang 1986: 97–90; Ferguson 2006: 485). The Yangshao site of Jiangzhai has a circular ditch enclosing a dwelling area of about 2 hectares, within which pit-buildings of various shapes and sizes were arranged around a central plaza (Barnes 1999: 104). Another Yangshao period site is Xishan, located in central Henan, and the settlement is surrounded by rammed-earth walls (Liu and Chen 2012: 193). At Xishan, some ash pits contained adult human skeletons in postures of struggle and mixed with animal bones, and non-local ceramic materials suggest that migrations may have factored into intergroup conflict (Liu and Chen 2012: 194).

Indications for warfare in the Yellow River Valley exhibit signs of conflict during the Longshan period (c. 2600–1900 BC) in the form of fortifications, with warfare becoming more pronounced over time, leading into the Bronze Age (Underhill 2006). The increase of frequency, intensity, and scale of warfare played an integral role in the growth of states, wherein innovations related to military technology were both a cause and an effect of increasingly powerful states (Underhill 2006: 254). Importantly, there was a marked increase in walled enclosure sites using *hang-tu* or rammed earth technology for constructing rampart defenses. Thus fortifications, along with recovered weapons and some instances of osteological indications of violence, serve as markers for warfare in the region. Many settlements in the Yellow River Valley were walled, and the settlement patterns, combined with material signatures for organized violence, clearly indicate competitive relationships between regional polities (Liu and Chen 2012: 217).

The *hang-tu* method of rammed or stamped earth construction has been in use in China for millennia (An 1986; Chang 1986). The first Longshan Culture site at Ch'eng-Tzu-Yai possessed an enclosure built of hard layers of stamped earth, and the enclosure was rectangular, approximately 450 by 390 meters, with the longer side running north to south (Chang 1986: 248). This is only one of several walled settlements now known for the Late Neolithic (Barnes 1999: 116). The excavators estimated that the average width of the top section of the wall was 9 meters, and that the original height of the wall was probably about 6 meters (Chang 1986: 248). Chang (1986: 248) argues that this massive town wall hints at an enormous labor force and the first erection of a defensive wall by a prehistoric settlement. The walled settlement at Pingliangtai had guard houses on each side of its southern gate and more than a dozen dwellings in its interior, all of adobe brick, and some of the houses were raised on stamped-earth platforms (Barnes 1999: 116–117). Yet another Longshan Culture site, Wangchenggang, had similar earthen foundations within its enclosure, and scattered within were several underground pits with skeletons of adults and children sandwiched between stamped-earth layers

(Barnes 1999: 117). The human remains have been interpreted by the Chinese excavators as being related to rituals for laying earth foundations.

By the Shang period (c. 1600–1200 BC), evidence for warfare becomes more abundant. At the site of Zhengzhou, there is a *hang-tu* enclosure of immense size (317.9 hectares) (Underhill 2006: 267) located at the center of the site (An 1986: 22). An (1986: 22–23) offers a description and specific dimensions for the enclosure. The enclosure is approximately rectangular, slightly longer north and south, and the east wall is approximately 1,700 meters long, the west wall 1,870, the south wall 1,700, and the north wall 1,790, totaling almost seven kilometers. At its highest point the remaining wall is 9 meters, whereas at its lowest portion it is about 1 meter high. The greatest width at the base is 22.4 meters, while the narrowest is 4.8 meters. In some of the corners, the walls are preserved to a thickness of approximately 30 meters. The use of the *hang-tu* method for constructing earthen walls and ramparts would continue throughout the second and first millennia BC, in different places and in wide variations. By the Warring States Period (c. 475 to 221 BC), as a response to increasing internecine warfare and raids by steppe nomads to the north and west, stamped earth methods continued as wall-building extended to include long-wall construction, often incorporating other local materials in different locales (Barnes 1999: 146).

In parts of nearby Northeast Asia, Bronze Age Korea and Japan during the first millennium BC yield the first signs of warfare (Barnes 2008: 263). In both areas, bronze and iron weapons have been recovered, and appear to increase in number over subsequent centuries. The material record for fortifications is not as rich, though there are some notable cases. In ancient Japan, settlements of the western Yayoi agriculturalists (c. 500 BC–AD 300) are found in two distinct topographical locations, lowland flood plains and hill promontories, and those in either location were often surrounded by ditches (Barnes 1999: 188). The function of the ditches is still unclear, mirroring the debates concerning the Yangshao ditches in China. However, Barnes (1999: 189) sees defense as a plausible function. Although there are some scant indications of violence within the Jomon Culture period of Japan, unequivocal signs of organized violence do not appear until the Yayoi Culture period begins at around 300 BC (Habu 2004). Sites such as Otsuka in Japan, dating to the Late Yayoi, are surrounded by moats and are situated in higher elevations, suggesting a concern over defense and security (Barnes 2008: 266).

On the Korean peninsula, strong indicators of major social divisions and potential internal stresses are the elite residential precincts and fortification systems that began to appear soon after 700 BC (Rhee et al. 2007: 414). Moats have been found within the sites of Bangki-ri and Geomdal-li on the southwest coast; Sawol-li, Namsan, and Deokcheon on the south coast; and Daepyeong-ni and Songguk-ni in the south-central region. Generally the moats did not encircle

entire settlements but only particular sections within a settlement, and it has been suggested that perhaps the moats were as much symbolic as military (Rhee et al. 2007: 414). However, evidence of arson and destruction in some settlement areas reinforces the notion of conflict (Rhee et al. 2007: 414). For the later, early historic era, urban centers were fortified, such as those of the Koguryo polity (Barnes 1999: 244). One important case is the Pungnaptoseong fortification wall found in Seoul and dating to the early first millennium AD. Measuring approximately 3.5 kilometers in perimeter, up to 11 meters in height and 43 meters wide at the base, the impressive defensive wall is composed of stamped earth layers (Lee et al. 2013). This particular case is especially interesting for the consideration of Co Loa, given its monumental scale, use of stamped earth, and geographic location on the periphery of expanding Sinitic civilization, all suggesting an impact on the local sociopolitical landscape as the an increasingly imperial China began to expand outward.

In South Asia, certain urban and fortified sites of the Indus Valley are of interest, such as the urban site of Dholavira. Spreading over 60 hectares on Kadir Island, the site has a long habitation sequence that seems to begin in the Early Harappan–Mature Harappan Transition (c. 2600–2500 BC) and extends into the early centuries of the second millennium BC (Possehl 2002: 67). Overall, the site consisted of three divisions, the citadel, the middle town, and the lower town, and substantial fortifications made of mud brick and stone, which in some places are 11 meters thick at the base. For the citadel, monumental gateways were built, and the southern gate appears to be chambered with guard rooms. The current evidence from Indus Valley Civilization does not indicate a significant amount of warfare. However, there are some indications that periodic violence may have occurred, and that the region was not devoid of conflict (see Cork 2005 and Kenoyer 2003).

During the Iron Age of India (c. 700–350 BC), sites such as Kausambi, Varanasi, and Pataliputa also possessed earth embankments and moats, and these may have been flood-protective devices. It is suspected that the constructions were initially for flood control and later modified into substantial fortifications for defensive purposes during the early historic period (Indrawooth 2004: 133). To the southeast on the Indian subcontinent, walled sites dating from the first millennium BC, such as Sisupalgarh, Rajgir, and Satanikota, suggest construction of encircling ramparts prior to the development of regional political authorities (Smith 2003b: 278). In many of these cases, the initial phases of rampart construction consisted of mud being carved out from an adjacent moat, with brick fortifications being added in later periods. Although some researchers suspect that warfare may have promoted the construction of these labor-intensive ramparts, the absence of a larger package of material indicators for conflict suggests that the walls may have served as flood-control constructions (Smith 2003b: 278–279).

Southeast Asia

For what is commonly viewed as Southeast Asia's Iron Age, roughly 500 BC–AD 500, there are some indications of political strife and conflict. Regarding the Mun River Valley of Thailand, Higham (2002: 208) writes that friction between groups is a stimulus to the rise of leaders, and that the most compelling evidence for conflict during the Iron Age is the distribution of iron projectile points. At Noen U-Loke, there is some evidence of violent death, with a woman showing signs of trauma to the head and a man probably killed by an arrow to the spine (Higham 2012: 275). According to Domett and colleagues (2011), there is considerable evidence for conflict in Southeast Asia from the protohistoric period onward, in the form of inscriptions as well as chronicles by Chinese writers. For instance, Chinese chronicles describe the presence of fortified settlements associated with the so-called Funan polity of the Mekong River Valley during the early centuries AD. Recently, archaeological investigations in northwest Cambodia have provided data to corroborate some of these accounts, suggesting that conflict and political friction were indeed significant during the region's Iron Age (Domett et al. 2011). Analysis of human remains from the site of Phum Snay indicates that many individuals of the community were affected by some form of cranial trauma, with males more commonly affected than females, and that this was the result of violence (Domett et al. 2011). According to the authors (2011: 452), "A range of weapons were identified in many graves, including long iron swords and projectile points. The majority of individuals buried with weapons were male."

Do settlement patterns and architectural features from the Iron Age reflect concerns over defense? At the moment, the answer is decidedly mixed. Hundreds of enclosed and moated prehistoric and protohistoric Iron Age sites have been found scattered throughout Southeast Asia, with many foreshadowing the larger settlements and cities marked by sophisticated hydraulic engineering systems of the historic period (Kim 2013a). However, because of limited evidence, the function for many of the architectural features is debatable, with explanations ranging from flood control to defense. Throughout its history, the region has witnessed many forms of irrigation structures, ranging from small-scale systems with simple weirs, to large-scale canal systems (Wolters 2007: 209). Without a doubt, water management, as related to monsoon seasons and channeling water for wet-rice production, fish exploitation, and transport, would have been of major concern for many of the region's settlements.

I would argue, however, that non-defensive functions do not obviate the potential defensive utility for many of the constructions involving earthworks and moats. For many of these sites, much more evidence is still required before more conclusive determinations can be made. The presence of earthen embankments,

enclosures, ditches, and moats at least hints at the possibility of defensive function. Although the function of moat features at selected sites in Thailand, for instance, is still unclear, O'Reilly (2000: 14) does acknowledge the possibility that stresses related to conflict and competition may have resulted from growing agricultural intensification and rising population levels. Furthermore, the increasing inclusion of weaponry in Iron Age burials also indicates social stress (O'Reilly 2007: 5–6).

Large enclosed and moated settlements dating to the first millennium BC have been found in different parts of Thailand, Cambodia, Myanmar (Burma), and Vietnam, although the function and chronology are not altogether clear for many of them (see Albrecht et al. 2000; Dega 1999; Fletcher et al. 2008; Higham 2002; McGrath and Boyd 2001; Moore 1988, 1989, 1992, 2007). These settlements, while displaying a significant degree of variability, seem to be part of a very general pattern in which local communities made extensive use of earthworks and moat features. I revisit this pattern of moated sites in Chapter 9 as part of a discussion of early forms of urbanism and large-scale settlements in the region.

Elizabeth Moore (1988; 1992) has completed extensive research on water-enclosed sites in the Khorat Plateau of northeastern Thailand. As she points out (1992: 26), conservation and control of water have long been critical in this region, as demonstrated by the presence of hundreds of ancient reservoir and canal constructions, with the most elaborate examples coming in the form of the seventh–fourteenth century AD temple sites of the Khmer in Cambodia. Moore (1988; 1992: 28) specifies three general types of enclosed sites: irregular moat-mound, territorial irregular, and rectangular. The first type features a moat-mound profile, with the moat taking the shape of the perimeter of the habitation mound. Though ranging in size, in a sample of approximately 100 sites, the land enclosed by the outer earthwork averaged 25 hectares. The tradition of water enclosure, as exemplified by this first type, appears to have begun in imitation of natural conditions (Moore 1992: 29). The moat-mound sites are concentrated in the southern part of the Khorat Plateau, with several hundred identified examples. Examples of the second type, called territorial, tend to be larger, up to 89 hectares. Although the shape of each site continues to be unique, the form of the moats and earthworks is not controlled by local topography any longer (Moore 1992: 29). Finally, the third type, while more uniform in plan, also varies in size from 1 to well over 100 hectares (Moore 1992: 28). This category, known as rectangular enclosed sites, is visible in aerial photographs as either an outline or a solid form, and it is clear that many of these enclosures were habitation sites long before construction of their rectangular features (Moore 1992: 30–31). In sum, Moore (1992: 31) argues that the water and earthwork enclosures of the moat-mound and territorial sites met community needs for defense, agriculture, and possibly religion, whereas the

larger, rectangular examples of chronologically later societies lacked earthworks. In this last category, the effort to construct the stone temples inside the rectangular moats implies a more centralized society, where manpower could be mobilized for defense (Moore 1992: 31). The three site types are not only linked by their use of water, but also demonstrate development within each type, and transition from one to another from approximately 1500 BC to AD 1500, a 3,000-year span that is critical because of emerging patterns of urbanism, art, and religion in Southeast Asia (Moore 1992: 43).

As a case study, the site of Ban Takhong is illuminating. The site is a mound enclosed by multiple earthworks and moats that mirror the contours of the terrain (Moore 1992: 33). To the north, east, and west of the inner mound, where the site drops into the floodplain and protective bends of the Lam Takhong River, the earthworks and moats ring the perimeter in quick succession, each being 15–20 meters wide. To the south, however, the width of the earthworks and moats doubles, essentially barricading the inner mound (Moore 1992: 33). The inner mound can be clearly distinguished from a southern addition, which increased the total site area from approximately 13 hectares to nearly 19 hectares. The southern addition exemplifies a territorial use of moats and earthworks to create fortified zones with little habitation potential (Moore 1992: 36). The moats that enclose the site may have provided essential reserves of water in the event of a siege, and the multiple earthworks that flank the moats once measured 8–10 meters in height. Moore holds that, in addition to a defensive function, the rings around the mounded site may have been religiously symbolic as well.

For many of these moated sites, Moore (1988: 145) sees the defensive potential of the moats. When filled, the moats offered protection, first by a 25–30-meter water barrier, and then by a steep and high (approximately 10m x 20m wide base) earthwork topped by dense bamboo and thorn bush vegetation. "When the barriers were in good repair and the inhabitants fighting for their survival, a hostile invading force would have been considerably impeded" (Moore, 1988: 145). In addition to the natural vegetation barriers, it is possible that a palisade was also erected on top of the earthworks during periods of active defense, though no evidence of this has yet been recovered. Ultimately, Moore (1988: 145) argues it is important to view defense as only one function provided by the moats and earthworks, and probably not as a primary impetus for construction.

According to Vallibhotama (1992: 123), ground surveys and aerial photographs had revealed over 65 moated settlements in the Chao Phraya Valley, largely classified into two groups, one with an irregular plan and the other more symmetrical in form. The distribution of the first type is considered to demonstrate the development of urbanization in the first millennium AD, though this is subject to debate, and most scholars agree that not all of the sites are urban (Vallibhotama

1992: 123). The sites are generally surrounded with large moats, suggesting a water storage function. However, sites in the northern area of the valley have deep moats and steep walls, and are located on the summits of hills, thus indicating that they may have been fortified areas providing protection for the local population in times of raids and warfare (Vallibhotama 1992: 123). Urban centers with moats and walls would have been ideal locations for refuge in case of conflict, while providing the means for integrating people within their territories, and giving them a share in economic, religious, and political life during times of peace (Vallibhotama 1992: 123). The emergence and dominance of the Funan polity during this time period, which Chinese historical texts describe as being militarily powerful, may have necessitated the fortification of urban- and village-level polities throughout the region (Vallibhotama 1992: 126–127).

The seventh century AD saw a large number of moated sites in occupation along the margins of the Central Plains of Thailand near rivers that supplied water to the moats, in the Meklong-Ta Chin valleys, the Lopburi-Pasak valleys, and in the Bang Pakong Valley (Indrawooth 2004: 125–126). Although irregular moated sites occurred in the dry northeast of Thailand during the local Iron Age, the series of large moated towns along the margins of the Central Plains during the Dvaravati period (c. sixth to thirteenth centuries AD) reflect a high degree of Indianization (Indrawooth 2004: 132). In some Dvaravati towns, there was an expansion of the irregular, more or less circular or oval plans of the earlier Iron Age occupations through construction of new ramparts and moats or by grafting on a secondary enclosure (Indrawooth 2004: 133).

The first half of the first millennium AD witnessed the emergence of the Funan polity around the Mekong River Delta, and of pre-Angkorian settlements. One example is the trading port of Oc Eo, which exhibits significant exchange activity and early urbanization, along with the regional center of Angkor Borei (Stark 2006b, 2006c). The period from AD 100–550 saw the foundation of cities linked by a network of canals, with Oc Eo being the best-known city (Higham 2002: 236). The site comprises a rectangular *enceinte* measuring 3 x 1.5 kilometers, lying behind five ramparts and four moats in an area of 450 hectares. According to Higham (2002: 237), the function of the canals has not yet been subjected to intensive scrutiny, although it is likely that they served more than one purpose, one of which probably was to facilitate drainage of the marshy delta terrain for agricultural improvements.

In Myanmar, enclosed moated sites dating to the first millennium AD have been found. One important site is Kyaikkatha, which consisted of multiple walls and moats enclosing an inner mound and an outer extension (Moore and Win 2007: 208). The ramparts consisted of earth, laterite blocks, and bricks, enclosing some 269 hectares, with the outer wall forming an irregular lozenge, 2500 meters

from east to west and 1000–2000 meters north to south. According to Moore and Win (2007: 207–208), the origins of the enclosing ramparts in Lower Myanmar may be related to laterite, and the first ramparts were probably natural ones. The researchers also stipulate that the function of ramparts in Myanmar may have changed over time, from flood control to fortifications.

Through a combination of texts and material evidence, Angkorian Civilization (c. AD 802–1431) of the first and second millennia in Cambodia is fairly well known. There is no doubt that warfare was an important part of the Angkorian political and cultural landscapes, as evinced by written accounts, inscriptions, and iconographic depictions of warriors and armies (Higham 2002: 338). However, it is not altogether clear whether the various enclosure walls and extensive moat systems of Angkorian centers served a military function, a social one, a water-control function, or perhaps some combination of all three.

In the Philippines, all settlement sites with archaeological remains of fortifications have been dated to the twelfth century or later, suggesting that prior to the emergence of centralized power and larger, chief-led societies, fortification may not have been the most cost-efficient strategy for protection compared to abandonment or flight to refuges (Junker 1999: 359). Ethnohistorical documentation for the fifteenth and sixteenth centuries suggests that some large-scale chiefdoms were particularly subject to coastal raids, prompting them to construct several types of archaeologically recognizable defensive structures (Junker 1999: 354–355). Such defenses included wooden stockades surrounding entire coastal centers or chiefs' residences, earthen fortifications constructed around chiefs' house-compounds, and coral block walls. According to Junker (1999: 355), Spanish descriptions indicate that the typical fortifications consisted of raised earthworks with a wooden palisade along the top, surrounded by a ditch or water-filled moat.

Hundreds of stone-walled structures are visible on hilltops and cliff edges in the contemporary landscape of north coastal East Timor, and recent archaeological work supports the interpretation that these structures served as fortified settlements after approximately AD 1000 (Lape 2006: 285; Lape and Chao 2008: 11). Located on hilltops or cliff edges, the remains of stone structures at fortified settlements near the modern villages of Tutala and Ira Ara vary somewhat in form, but generally consist of dry-stacked limestone rock walls from 1.5–4 meters in height and 1–3 meters wide at their base, enclosing areas of 500–3000+ square meters (Lape and Chao 2008: 15). In some cases, the exterior walls have an opening or doorway where the entrance is walled for several meters to form a narrow, twisting hallway, seemingly baffled. According to Lape (2006: 292), several lines of evidence suggest that these structures in East Timor had a defensive function. The combination of hilltop and/or cliff-edge location with sweeping views of the coast, tall, encircling stone walls, and entrance features suggest that the stone structures

were defensive. While some of these features in isolation may have served other purposes, the fact that the Tutuala sites combine all of these features strongly suggests that they were built to protect against raids from outsiders (Lape 2006: 292).

Lying just outside of Island Southeast Asia, Palau yields evidence from the Terrace Era (c. 600 BC–AD 1000) showing construction of monumental architecture in the form of earthen terrace complexes cut from ridges and hills, and the settlement pattern of villages and terraces indicates small, fortified polities (Liston and Tuggle 2006: 160). The fortified settlements were often placed in elevated positions and employed systems of ditches, step-terraces, and earthworks, usually with a "crown" high-point. Often following the natural land contours, the steps vary in form and cover large areas of hill and ridge slope (Liston and Tuggle 2006: 162). Most crowns had ditches up to five meters in depth dug around their base. Liston and Tuggle (2006: 162) argue that these monumental terrace complexes, elaborated well beyond any commonplace purpose, were constructed for reasons related to warfare and competition, and that they served as both physical and symbolic defenses. Some of the ditches that have been archaeologically excavated show signs of post holes, suggesting the use of palisades. While the crowns were militarily defensive positions, the complexes of crowns and terraces were symbolic expressions of power (Liston and Tuggle 2006: 162).

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Summary for Conflict in Southeast Asia and Adjacent Regions

Prehistoric and protohistoric enclosed sites are fairly prevalent throughout different Asian regions in various geographical and environmental milieus. Given the range of settings, it is not surprising to find a diversity of sites and possible markers for organized violence. One challenge has been to determine the original impetus for the construction of architectural features, recognizing that the functions may have been multiple and shifting over time. That being said, there are some cases that benefit from additional strands of evidence to help develop inferences about the original intentions of the builders, and in these cases we are able to start considering pertinent cultural and social implications. For the monumental constructions deemed defensive, we can begin exploring the potential relationship between conflict and physical power with shifting social patterns and strategies for cultural lifeways, trade, and political interactions. Overall, many of the cases of prehistoric fortifications found throughout Asia tended to employ combinations of ditches, moats, and earthen ramparts or embankments, and many sites were located in elevated or relatively inaccessible locations. As noted by Hill and Wileman (2002: 64), rampart-building varied in its style from place to place and over time, and soil geology has been an important factor in the choice of building

technique. In much of East and Southeast Asia, wood, bamboo, and earthen materials were heavily used in construction. Accordingly, archaeological recognition of fortified settlements may be different for such Asian contexts, particularly for tropical and subtropical zones of Southeast Asia. Despite the issue of non-durable construction, numerous examples have still been identified over the years, and as the archaeological investigation of warfare and fortification continues to develop, it is likely that new cases will emerge.

The indications from prehistoric and protohistoric records of Southeast Asia and adjacent regions suggest that warfare and concerns over protection and security were not entirely absent. Though many of the settlements do not exhibit unequivocal evidence for defensive constructions, a military purpose cannot be ruled out, given other contextual clues hinting at the presence of violent cultural activities in these areas. Within the global archaeological record, once ancient communities began to make significant investments in parcels of land, whether symbolic, ritual, economic, or political, concerns over security and defense tended to become much more significant. This would suggest that, even if warfare was neither a constant threat nor prevalent, its occurrence was always a possibility for many societies. The evidence for potential defensive features in parts of the Yangzi and Yellow River areas is discernible as early as the mid-Holocene and prior to the advent of bronze, which would suggest that Neolithic early farming communities in parts of Southeast Asia and Bac Bo could have experienced similar cycles of peace and sporadic violence. As will be discussed in in the next chapter, the introduction of metallurgy in the Bac Bo region would come to have a significant impact on coercive strategies of power and militarism.

CHAPTER 6

SOCIAL CHANGE AND EMERGENT COMPLEXITY IN BAC BO

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Trajectories of Social Change

The Bac Bo archaeological record reflects signs of social differentiation and inequality among communities by the mid–first millennium BC. Emergent complexity was precipitated by a number of conditions and factors, including a nodal position within an interregional exchange network with coastal and riverine access, relatively high population levels, agricultural intensification, and growing metallurgical sophistication. Additionally, proximity to an expanding and powerful Sinitic civilization to the north probably had an impact as well, which may partially account for why significant political complexity, as materially manifested by the Co Loa site, is evident here centuries before some of the historically known states of Southeast Asia.

To obtain a clearer understanding of its indigenous, *in situ* development leading into the closing centuries BC, it is necessary to trace Bac Bo's trajectory of sociocultural development deeper into prehistory. Archaeological evidence indicates continuous cultural development from the Paleolithic through the Metal Age, and much of the social complexity marking the Dongson period had roots well within preceding cultural sequences. In addition, many of the patterns of the Iron Age interactions are foreshadowed during the late Neolithic and Bronze Age. Indeed, the region has been a crossroads for much of the Holocene, as evinced by the widespread occurrences of Hoabinhian Culture materials and sites. Within the Neolithic, researchers have pointed to more definitive evidence for the movement of people and materials, as reflected by artifacts such as the stamped, incised pottery characteristic of the Phung Nguyen material culture, which has parallels

TABLE 6.1.
Major Cultural Sequences of the Bac Bo Region

Cultural Sequence	Period	Chronology
Hoabinhian Culture	Paleolithic/Mesolithic	c. 27,000–6000 BC
Bacsonian Culture	Neolithic	c. 9000–5000 BC
Da But Culture	Neolithic	c. 4500–2700 BC
Phung Nguyen Culture	Late Neolithic	c. 2000–1500 BC
Dong Dau Culture	Bronze	c. 1500–1100 BC
Go Mun Culture	Bronze	c. 1100–700 BC
Dongson Culture	Iron	c. 600 BC–AD 200

Sources: Higham 1996; 2002; Nguyen 2004; Pham 2004; Trinh 2012; Yi et al. 2008.

across parts of southern China, northern Vietnam, and elsewhere in Southeast Asia (Bellwood 2005: 132; Higham 2014: 108–109).

Various cultural sequences have been identified in the Red, Ma, and Ca River valleys, as well as along the coast. Ongoing archaeological research has seen the establishment of a chronological framework from the late Neolithic, through the Metal Ages, to the early historical period, and extensive research has confirmed several phases of development in the Red River plain, commencing from the Phung Nguyen Culture (Nishimura 2005: 102). Bac Bo's material record shows changes in technology, settlement organization, burials, craft specialization, and interregional exchange during the region's Phung Nguyen (c. 2000–1500 BC), Dong Dau (c. 1500–1100 BC), Go Mun (c. 1100–700 BC) and Dongson (c. 600 BC–AD 200) cultural phases. These data point to the importance of indigenous cultural development and of multidirectional cultural influence between Bac Bo societies and communities within neighboring regions (see Table 6.1). One note of caution regarding these chronologies is that there may be problems related to the associated radiocarbon-dating determinations due to inbuilt age for the wood (see Higham et al. 2011, for a detailed discussion about the use of Bayesian approaches to calibration). Thus, the chronologies for these cultural sequences may be revised in the coming years as additional radiocarbon determinations are made, especially in cases where other organic materials are analyzed or where further analysis of charcoal is attached to the use of short-lived species.

Late Neolithic and Early Bronze Ages: Phung Nguyen

Many Vietnamese researchers date the beginning of a "Vietnamese" civilization to the Phung Nguyen Culture (Taylor 1983: 7)—the site of Phung Nguyen was

discovered in 1959 (Pham 2004: 189). The Phung Nguyen Culture is considered by many archaeologists to be the beginning of a chain of development leading to the Dongson Culture (Pham 2004: 189). Bronze artifacts are uncommon, and there is a general absence of casting molds and complete bronze artifacts in most Phung Nguyen sites. Nevertheless, Phung Nguyen Culture sites contain the earliest traces of metalworking in Bac Bo, with small fragments of corroded bronze found in the cultural layers of a handful of sites, and chemical analysis demonstrates that these bronze pieces are composed of copper-tin alloys rather than pure copper metal (Trinh 2012: 154). In addition, the late Phung Nguyen site at Dong Vong, discovered in 1997, has yielded two baked clay-casting molds (Pham 2004: 190).

Since the 1950s, more than 50 Phung Nguyen sites have been discovered, mainly in a broad area centered on the junctions of the Hong (Red), Da, Lo, and Day Rivers. Settlements extending over more than 10,000 square meters have been recognized, and some individual sites extend over more than 2,000 square meters (Pham 2004: 189). Although many sites have been excavated, structural remains are elusive. Radiocarbon dates for these sites place the Phung Nguyen Culture between about 3800 and 3400 BP (before present). In general, sites are found in locations normally higher than the surrounding terrain by several meters, or even 10–15 meters above the surrounding fields (Nguyen 1980: 25). In addition, most of the sites are located near rivers or streams, and the site of Phung Nguyen itself is fewer than 1,000 meters from the Red River (Nguyen 1980: 25).

Higham (2014: 106) observes that Neolithic rice farmers from parts of southern China may have been moving into Bac Bo and surrounding areas through both coastal and riverine routes, probably during the second millennium BC. As part of this trend, knowledge of domestic rice, millet, pigs, and cattle moved into Southeast Asia, with farming groups integrating their cultural lifeways and subsistence practices with those of indigenous hunter-gatherer communities (Higham 2014: 131). Phung Nguyen sites represent some of the earliest agricultural settlements in Bac Bo. Most sites have only one cultural layer, although some contain remains from the succeeding Dong Dau Culture (Nguyen 1980; Pham 2004). Material remains found in each of these sites are very similar: stone axes, stone adzes, stone ornaments, pottery with different motifs of decoration, and ceramic artifacts other than pottery (Nguyen 1980: 27). Three sites contain evidence of workshop activity: Go Che produced stone tools, Trang Kenh produced nephrite bracelets, and Bai Tu produced stone drills (Pham 2004: 189).

The most notable cemetery site is Lung Hoa, where 12 graves were found containing more than 100 stone and pottery artifacts (Hoang 1968; Pham 2004: 189). The offerings in two of the graves included stone bracelets, beads, earrings, adzes, and pottery vessels. Although the excavators suggest the possibility that these grave goods demonstrate differential ranking, a larger sample would be necessary

to further substantiate this claim (Higham 1996: 87). What the grave goods do suggest, however, are the high levels of craft skills and the value attached to the stone jewelry and weaponry. In addition, it is clear that some form of trade interaction may have been occurring with neighbors to the north. One *ge* halberd is particularly interesting because it matches similar halberds found in southern China and northwards into the Bronze Age early urban states in Sichuan (Sanxingdui) and the Yellow River Basin (Erlitou) (Higham 2004: 49). Additional signs of interregional interaction come in the form of nephrite and jadeite ornament manufacture in Late Phung Nguyen contexts, indicating links to the Chinese Neolithic (Higham 2014: 110).

Among the most significant remains found at Phung Nguyen sites are stone arrowheads. Although the stone arrowheads are not nearly so numerous as the axes and adzes, this could be explained by a possible reliance on bamboo arrowheads instead of stone (Nguyen 1980: 30). Nevertheless, the sizes and shapes of these stone arrowheads may have been prototypes for later metal arrowheads in succeeding Bronze Age cultures. Additionally, researchers have noted stylistic similarities in the design of bracelets between Phung Nguyen and Dongson sites, as well as similarities in the design, shape, and decorative motifs of certain ring-footed ceramic pots (Nguyen 1980). Taken together, there is considerable evidence of *in situ* cultural continuity over millennia leading into the Dongson Culture. Subsisting on rice cultivation and the domestication of animals, Phung Nguyen communities in alluvial areas must have gained knowledge of flood management methods. Geomorphological studies of the Red River area indicate that annual flooding in the alluvial plain has long affected settlement patterns, thus making water-control a significant concern for ancient agricultural groups (Nishimura 2005: 99). As will be discussed later, water-management would prove to be vital for many settlements in Southeast Asia, including Co Loa.

Metal Age Sequences

For Bac Bo, the closest and likeliest source of innovative knowledge lies in the bronze-casting traditions to the north, probably through riverine or coastal movement of people and ideas. During the second millennium BC, societies in the Yangzi region, such as the Sanxingdui of the Sichuan Basin, were already marked by highly sophisticated bronze-casting industries. The presence of exotic jades obtained by exchange in Neolithic communities of southern China and northern Vietnam is revealing (Higham 2004: 52; see also Higham 2014: 135). The spread of jade items and bronze-working techniques again illustrates the extent of interaction that continued after the Neolithic.

The beginning of research around the Metal Age in Vietnam commenced in the 1920s when French officials and Swedish archaeologist Olov Janse began excavations at Dongson in the Thanh Hoa Province. In the 1960s, additional pre-Dongson Metal Age sites were discovered, including Go Mun and Dong Dau. According to available radiocarbon dates, the Phung Nguyen phase transitioned into the Dong Dau phase approximately 3,500 years ago, which in turn transitioned into the Go Mun phase 3,100 years ago (Trinh 2012: 154) (see Figure 6.1).

Some of the earliest archaeological evidence for local metal production comes from Dong Dau sites (Nguyen 2005: 121). The Dong Dau Culture (c. 1500–1100 BC) sites are generally located in the same area as the preceding Phung Nguyen sites, with some extension further towards the Red River Delta. The Red River Valley was a major center of metallurgical production, with evidence of mining sites and specialized tools used in the casting process (Nguyen 2005). Excavation at the Thanh Den in the Dong Dau district of Vinh Phuc yielded 60 casting molds, the largest number found thus far in any Red River site.

Items such as arrowheads, spearheads, knives, fishhooks, and socketed axes were first manufactured during the Dong Dau phase, beginning about 1500 BC, and certain new forms such as shaft-hole sickles appeared in the Go Mun phase,

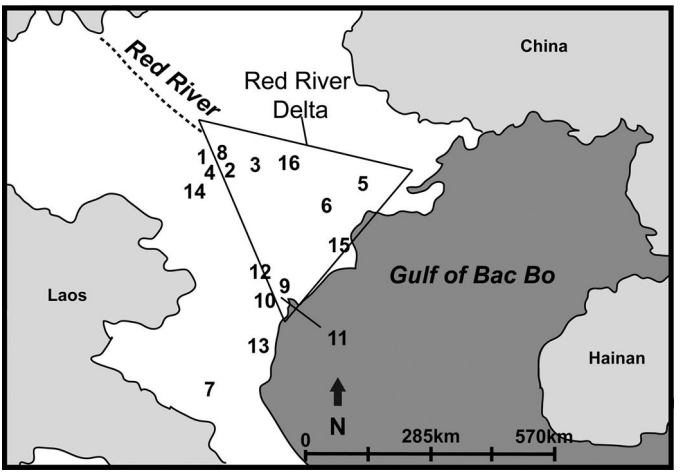

FIGURE 6.1.
Key Metal Age sites in the Bac Bo Region: 1. Phung Nguyen (Late Neolithic/Early Bronze). 2. Thanh Den (Early Bronze). 3. Dong Dau (Early Bronze). 4. Go Mun (Early Bronze). 5. Viet Khe (Bronze/Iron). 6. Chau Can (Bronze/Iron). 7. Lang Vac (Bronze/Iron). 8. Lang Ca (Bronze/Iron). 9. Ngoc Luc (Bronze/Iron). 10. Nong Cong (Bronze/Iron). 11. Quy Chu (Bronze/Iron). 12. Song Da (Bronze/Iron). 13. Dong Hieu (Bronze/Iron). 14. Ban Thom (Bronze/Iron). 15. Dongson (Bronze/Iron). 16. Co Loa (Iron).

after 1000 BC. Smelting and melting furnaces, pottery crucibles, and bivalve casting molds excavated at the site of Dong Dau provide evidence of local production of metal goods. The pottery at Dong Dau suggests Phung Nguyen origins, and the site also possesses evidence for a local bronze industry (Higham 2014: 168). To date, 17 archaeological sites belonging to the Dong Dau Culture have been identified, and all are located in the Red River Valley, with most sites located in low-lying areas next to rivers, terraces, or small hills in the center of Bac Bo (Nguyen 2006: 113). Whereas in Phung Nguyen only nodules were found, many bronze specimens, molds, and crucibles have been recovered from Dong Dau sites (Hoang and Bui 1980: 57). In addition, Dong Dau bronze axes began to take on the initial pediform shape so diagnostic of later decorated examples from Dongson contexts (Higham 2004: 56; Murowchick 2001: 175).

Of further interest, there are many intriguing parallels with material from northeastern Thai sites, not only in the small furnaces for casting bronze items, but in ceramic cattle figurines (Higham 2004: 56). Bivalve molds recovered from a small excavation in a Dong Dau context at Thanh Den are nearly identical with those from the Khorat Plateau, and three radiocarbon dates closely match dates obtained for Bronze Age contexts in northeast Thailand (Higham 2004: 56). This lends support for a regional network of contacts that fostered the exchange of goods, ideas, and innovations, one rooted in Neolithic times.

As the second millennium BC drew to a close, the Dong Dau phase transitioned into the Go Mun phase (c. 1100–700BC). Most Dong Dau sites are overlain by Go Mun deposits and thus demonstrate cultural continuity (Pham 2004: 192). During this transition, bronze-working increased in scale and intensity, with a wider range of artifacts. For the first time, bronze artifacts outnumber stone, and many bronze tools and weapons were crafted that are similar to later Dongson assemblages (Murowchick 2001: 175). While the bronze-casting techniques were inherited from the Dong Dau phase, Go Mun bronze-working methods used a mix of copper and tin in percentages designed to meet the functional requirements of different tool types (Pham 2004: 192). Bivalve molds for casting axes and arrowheads were found at Go Mun, as well as spearheads, arrowheads, bracelets, and fishhooks.

While copper and tin ores were relatively plentiful, they had a limited distribution far away from the majority of agricultural settlements (Higham 2004: 57). Metal ingots were probably distributed by long-established trade routes related to river passage. Accordingly, we can hypothesize that access to these resources and the means to trade for them might have led to growing differentials in terms of power and wealth. The communities or villages fortunate enough to be located near ore sources may have had opportunities to capitalize on their locations, thereby planting the seeds for growing wealth disparities. By the mid–first

millennium BC and the introduction of iron into the region, social organizations experienced more dramatic impacts and changes.

In terms of settlement patterns, the coastline was apparently further inland during the Neolithic and Metal Age than it is today (Nishimura 2005). Due to marine regression, settlement patterns changed significantly during the transition from the Neolithic to the Metal Age, as the riverine plain increased in extent towards the sea. Dong Dau and Go Mun sites also tended to be further inland because most of the mining and ore sites would have been closer to mountainous terrain (Nishimura 2005: 104). This is significant, as it suggests many of the sites in the Co Loa vicinity would have been closer to the coast than they are today.

Dongson Culture and Iron Age Complexity

The transition from Go Mun to Dongson took place between 2,800 and 2,700 years ago, and the start of the Iron Age coincides with the Dongson Culture (c. 600 BC–AD 200) complex, which is renowned for its large, bronze kettledrums. One important change is in site distribution, wherein sites reflect greater expansion into the lowlands (Nishimura 2000: 44). Dongson Culture was marked by intensified agricultural production, major habitation sites, an increase in military and ritual practices, and a growing differentiation of status and wealth, as shown by increasing disparities in grave furnishings at Dongson cemetery sites (Murowchick 2001: 175).

The densest concentration of Dongson sites has been discovered in the Red, Ma, and Ca River valleys (see Figure 6.2). Ironically, the type site of Dong Son itself is peripheral to the main concentration of activity on the Red River Delta, being located on the southern bank of the Ma River, but this may be due to the fact that excavations at the Dong Son site were the first to reveal a rich prehistoric cemetery containing objects of bronze, iron, pottery, and semiprecious stones (Higham 2002: 171). Pham (2004: 195) divides Dongson sites into three main categories: (1) settlements that are normally close to rivers, ranging from 100 square meters to more than one hectare, with some containing burials; (2) cemeteries, with burials, including those with dug-out wooden coffins, located in separate areas away from settlement areas; and (3) workshop sites for stone ornaments.

To date, more than 70 Dongson sites have been discovered in varying environmental and geographic circumstances, ranging from deltas and coastal areas to mountains (Pham 2004: 197), though some sources would place the estimate at over 100 sites. The distribution of Dongson sites across different topographical and ecological areas strongly supports the notion of what Pham (1996) refers to as a fairly unified culture complex, marked by a high degree of interaction between communities.

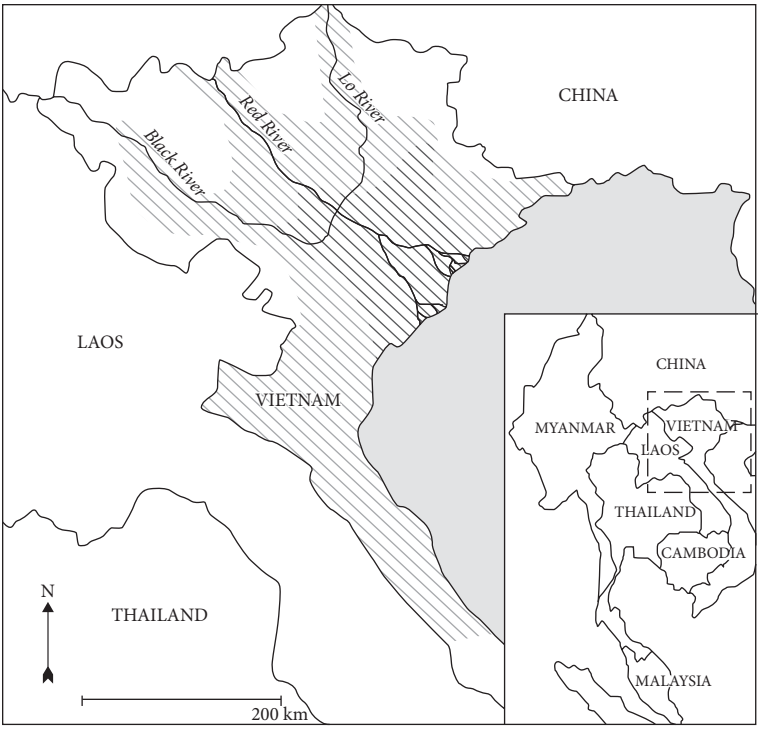

FIGURE 6.2.
Map of Northern Vietnam's Bac Bo Region and the Red River (Song Hong) Valley. The lighter-shaded region encompasses the known distribution of over 100 Dongson Culture sites within Vietnam. The darker-shaded region shows areas with a denser concentration of known Dongson sites.

Sources: Higham 2002, p. 171; Museum of Vietnamese History in Ho Chi Minh City. Map produced by Tegan McGillivray.

Whereas pre-Dongson practices related to flood control, farming, and burials only hinted at craft specialization and some degree of social ranking, Dongson-phase sites offer much stronger evidence for a high degree of metallurgical expertise, ranking, craft specialization, interregional interaction, and agricultural intensification. Pham (2004: 201) argues that the basis for the Bronze Age civilization of Vietnam was rice cultivation, and by Dongson times, cultivation tools became more varied and specialized. Combined with the use of buffalos for power, innovative agricultural practices led to tremendous economic and political changes. Also, as bronze became much more prevalent, the manufacture and wide distribution of highly specialized crafts and prestige goods began to occur. There are indications that access to various raw materials

and attached craft specialists would have been restricted to only certain segments of societies.

The Lang Vac site complex is located in the province of Nghe An, and its most prominent site is the cemetery situated on the eastern bank of the Lang Vac Valley (Imamura and Chu 2004: 196). A joint Vietnamese-Japanese team of archaeologists excavated at the site several times since the 1970s, uncovering over 70 burials. Chronologically, the site appears to center around the second century BC. Social differentiation, as reflected by differences in the wealth of burial goods, is apparent at the site. The cemetery is one of the largest known for the Dongson Culture period, and appears to have been attached to a large settlement (Imamura and Chu 2004: 199). Within the Lang Vac complex's habitation area (known as Xom Dinh), the researchers also found evidence of furnaces for bronze casting (Imamura and Chu 2004: 4). The cemetery has yielded numerous Dongson drums, as well as *ling ling o* earrings typical of Sa Huynh Culture (Calo 2009: 56). Also recovered from the Lang Vac complex were two Chinese coins, one which was issued between 186 and 174 BC and the other between 175 and 120 BC (Imamura and Chu 2004: 111).

Despite the availability of some settlement information for sites like Lang Vac, no systematic survey of Donson settlement sites has been performed to date, and most information has been collated from cemeteries and mortuary goods (Higham 2002: 172; see Higham 2014: 204). Given a general absence of settlement data, researchers have inferred social ranking and differentiation in Iron Age Bac Bo largely from Dongson Culture mortuary data, though the information is somewhat restricted, given the nature of the area's acidic soils and the low survivability of human bone. Nevertheless, mortuary data come from several other cemeteries, including Lang Ca, Viet Khe, Chau Can, Xuan La, and Minh Duc.

At Lang Ca, dating to approximately the third century BC, over 300 burials were identified. Researchers noted that a small group of graves was differentially rich; containing axes, daggers, situlae, and spearheads (Higham 2002: 173). Four bronze-casting molds have been recovered at Lang Ca, emphasizing the importance of bronze production for implements and ceremonial practices (Calo 2009: 62). "Opulent boar burials" in hollowed tree trunks at Viet Khe produced the richest assemblage with an abundance of bronze artifacts, and these range from vessels, to drums, to a variety of weapons (Higham 1996: 113–114). Bronzes include a drum, a situla decorated with boats and feathered-men motifs, other utensils, and a variety of weapons such as pediform axes, swords, knives, spears, and arrowheads (Calo 2009: 57). Radiocarbon dates for samples of the coffin wood place the chronology at roughly the fourth and third centuries BC, allowing for the use of old wood (Calo 2009: 57; Higham 2002: 173).

Fewer than 100 kilometers away, burials at Chau Can offered comparable radiocarbon dates but lacked the bronze vessels, ladles, and musical instruments that

reflect a sumptuary or ritual element in the Dongson metal industry (Higham 1996: 115–116; 2002: 173). There appear to have been considerable differences in access to the services of full-time metal workers between the communities of Viet Khe and Chau Can (Higham 1996: 116). It may be the case that elites not only controlled access to certain resources, but also exercised authority over the manufacture of products that required a high level of skill, thereby strongly indicating the emergence of social ranking and attached specialists. Additional evidence indicating social differentiation comes from Xuan La, located 10 kilometers from Chau Can, where burials display a range of wooden artifacts selected for mortuary use, but the quantity of bronze fell far short of that found at Viet Khe (Higham 1996: 118). Interestingly, Chinese coins minted between AD 9 and 23 were also recovered at Xuan La (Calo 2009: 58). Though some small bronze vessels were found, the graves lacked the number of weapons and ritual or sumptuary items found in Viet Khe or Dongson. Burials at Minh Duc are similar to those at Chau Can and Xuan La, indicating the possibility that these three cemeteries represent provincial Dongson communities, remote from the main centers of wealth (Higham 1996: 118). Evidence from these outlying burials also suggests incipient social ranking.

Whereas burials in outlying communities lacked significant amounts of bronze artifacts, those from the Dong Son site demonstrate a higher level of wealth because of abundant bronze finds, including axes, bi-metallic spearheads, knives, daggers, swords, situlae, and drums. Here researchers have identified variation in the wealth of graves through time by dividing them into three groups: poor graves (with few or no grave goods), medium graves (with one or two bracelets and fewer than four bronze artifacts), and rich graves (with a range of bronze vessels, a drum, and at least three iron implements, as well as bronze tools and weapons) (Higham 1996: 118–119). Chu Van Tan (1973) considered a sample of 86 graves over two phases (from 1000–500 BC as phase 1, and 500 BC–AD 1 as phase 2) wherein a quarter of all graves are classified as "poor." Fourteen graves qualified as "medium," and half of all graves in both phases qualified as "rich." From about 500 BC onwards, the number of bronze items and their quality increased considerably. The drums, situlae, and rectangular ornamental plaques suggest use in ritual and ceremony, while daggers, swords, and halberds indicate use of weaponry (Higham 2002: 175). In addition, the most impressive category of bronzes consists of ritual vessels such as the *thap*, with iconography similar to the kind seen on Dongson drums. The huge *thap* from the Dao Thinh site stands 81 centimeters high, was decorated with boats and geometric designs, and had four handles of cast copulating figures (Higham 2002: 176). Many of the bronze drums feature depictions of feather-plumed warriors on boats outfitted with cabins, sometimes

with captives, as well as pile-supported dwelling houses and scenes of ceremonial activities and rituals (Higham 2002: 178).

Another indicator for Dongson Culture social complexity comes in the form of the wide range of sophisticated bronze products. The metal industry of Dongson communities was highly developed, furnishing agricultural implements (plowshares, spades, and sickles), fishing tools (hooks and spears), woodworking tools (axes and chisels), and weapons (spears, arrowheads, daggers, swords, and halberds) (Nguyen 1983: 185). The metal industry also produced containers of different kinds, as well as ornamentation and jewelry (bracelets, bangles, buckles, and anklets, among others), and religious and ceremonial items such as the bronze drums. In sum, by the Dongson Age, bronze had become a major part of cultural lifeways. The Dong Son site also yielded Chinese Wu Zhu coins issued after 119 BC (Calo 2009: 54). When combined with the Chinese coins recovered at Xuan La, we can infer continuity of Dongson Culture lifeways, without major Sinitic impact, into the first century AD.

Summary for Trajectories of Social Change in Bac Bo

Recent years have witnessed an increase of field investigations and the concomitant accumulation of new data for prehistoric cultural development in many parts of Southeast Asia. Although the results of this research are well known among historians and archaeologists studying this region, the research is not yet fully incorporated into ongoing, general theoretical considerations within anthropology and archaeology. The evidence clearly shows important cultural changes occurring throughout the region during the first two millennia BC, with the emergence of social ranking and stratification tied intimately with various factors, and the data can undoubtedly contribute to theoretical discussions.

In particular, the case of Bac Bo is especially intriguing, as it was the setting for tremendous political change during the first millennium BC, especially in regard to the Co Loa phenomenon (which I will detail in the following chapters). The Red River plain was also unique in that, whereas much of Southeast Asia was seemingly characterized by lower population densities and possibly by more heterarchically organized communities (see O'Reilly 2003 and White 1995), the Dongson societies appear to have been marked by denser concentrations of people, with indications for political relationships of a more hierarchical nature. The societies of Bac Bo experienced increasing complexity during the late Neolithic and early Metal Age due to a combination of both internal and external factors. By the closing centuries BC, northern Vietnam appears to have undergone significant political transformation, as evinced by the Co Loa settlement. The combination of

high population levels, access to certain resources and trade routes, and a nodal position within an interregional interaction sphere gave some segments of Bac Bo society opportunities to garner wealth, prestige, and power.

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Variables for Social Change

Having reviewed the material evidence demonstrating social differentiation within the Dongson era, we might ask what kinds of long-range and proximate variables can account for the sociopolitical changes occurring in Bac Bo during the early Iron Age. Because of the coarse-grained and incomplete nature of the material record, the perspectives offered here necessarily lie on a more macro-level plane, and absent are finer-grained considerations such as household-level strategies of economic exchange and production. That being said, complexity in the area has at its core a baseline combination of factors, such as metallurgy, agricultural productivity, geographic location, wide-ranging interaction, and proximity to natural resources.

The physical location of the Red River Delta conferred benefits upon its residents, particularly with regard to access to key interaction routes and resources (see Calo 2009: 59). The terrain and geographic positioning of the area opened the doorway for its inhabitants to pursue strategies to obtain greater wealth, higher status, and political legitimacy. During the first millennium BC, long-standing exchange patterns would have afforded new opportunities for certain groups to gain advantages in economic competition related to metal industries. To some degree, political turmoil associated with the Warring States China in the mid–first millennium BC would have meant movements of people connecting parts of southern China and northern Vietnam. As a result, various technologies and innovations related to military endeavors could have found their way into the Red River Delta and been incorporated into emulative strategies (a likelihood that I discuss in further detail in a later chapter).

Beyond the effects of terrain, geographic positioning, and interregional interaction, we can also point to the use of coercive strategies by social segments. During the mid–first millennium BC, sophisticated bronze casting led to vast improvements in agricultural implements, as well as in metal weaponry, that fomented changes in political interactions. Societies in the Red River plain had important new options and means to effect changes in political relationships, both within communities and with neighboring villages. This time frame saw increased use of competitive and coercive strategies in gaining power and attracting followers. Competition and outbreaks of warfare between autonomous societies probably occurred amidst cycles of both peaceful and violent interactions. In this sense,

peaceful and cooperative strategies combined with more competitive and coercive ones in contributing to the area's sociopolitical trajectories.

Interregional Interaction

Interregional interaction has been shown to be an important structuring factor and impetus for developmental change in the political dynamics of many societies, and these interactions have taken a variety of different but overlapping forms, such as exchange, emulation, colonization, and outright conquest (Stein 2002: 903). For the first millennium AD, both the archaeological and the historical records attest to the existence of a wide-ranging interaction sphere connecting an array of societies throughout Mainland and Island Southeast Asia with China, India, and areas even further away. Referred to by Glover (1996: 57) as the "Great Sea Road," various maritime routes ran from the coastal ports of southern China along the Vietnamese coast, round Cape Ca Mau into the Gulf of Thailand, to the Straits of Malacca or across the Thai-Malay Peninsula using portage routes, and into the Bay of Bengal and to India and the West. As evinced by the prehistoric material record, this pattern of exchange had much earlier roots.

The Southeast Asian mainland has long been an important cultural crossroad. In the mid– to late–first millennium BC, accelerating trading activity in the Malacca Straits and in the Java Sea involved mainland Southeast Asia, particularly the Dongson region of northern Vietnam (Stark 2006a: 414). Northern Vietnam would have been an important part of overlapping networks, linked through coastal, riverine, and overland routes to immediately adjacent and faraway regions to the north, west, and south. Partly because of their geographic milieu, societies of the Red River plain played an active role in long-distance exchange. Interregional interaction, consisting of the multidirectional flow of innovations, ideas, people, and goods, was likely to have contributed to concurrent and reciprocal processes of increasing sociopolitical complexity throughout the region.

One particularly important connection was the interaction between portions of northern Vietnam and parts of southern (Lingnan) and southwestern (Yunnan Plateau) China. Specifically, Iron Age interaction between Dongson communities in Bac Bo and those of neighboring areas, such as the contemporaneous and Dian Culture societies of China's Yunnan, led to mutual cultural changes. The vast quantity of stylistically similar bronzes recovered from first millennium BC archaeological sites located in Yunnan and Bac Bo presents an ideal dataset to explore questions of exchange and interaction (see Figure 6.3). I do so later in this chapter, with more discussion about links to Lingnan in a later chapter.

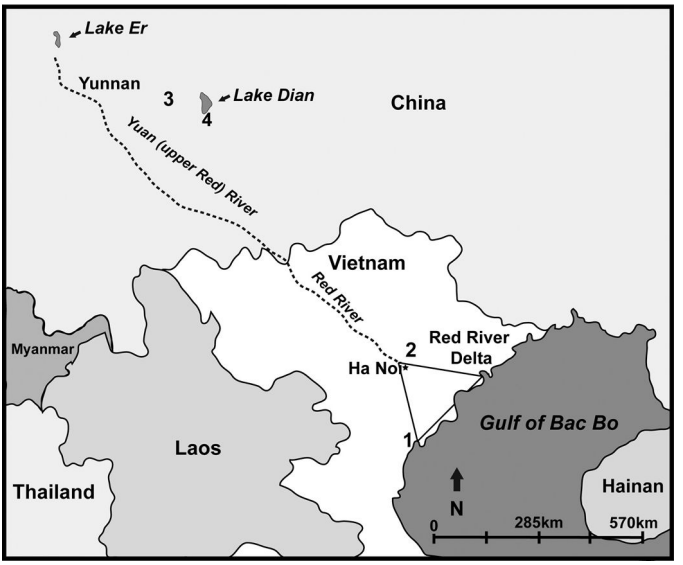

FIGURE 6.3.
Map of Bac Bo and Yunnan. The Red (Yuan) River as it flows through the Yunnan and Bac Bo regions into the Gulf of Bac Bo (Tonkin). Important Bronze and Iron Age sites of the first millennium BC may have been in contact through riverway travel. Key metal sites noted on the map: 1. Dongson (Bronze/Iron). 2. Co Loa (Iron). 3. Wanjiaba (Iron). 4. Shizhaishan (Iron).

LATE NEOLITHIC INTERREGIONAL INTERACTION

Many of the patterns of interregional interaction occurring during the Metal Age between southern China and northern Vietnam are actually foreshadowed during the late Neolithic, if not earlier. Archaeological evidence indicates continuous and uninterrupted cultural development from the Neolithic Phung Nguyen Culture period through subsequent and succeeding Metal Age culture periods of Dong Dau, Go Mun, and Dongson (Trinh 2012). Despite evidence suggesting millennia of *in situ* cultural development, it is very unlikely that these societies changed over time in relative isolation. As the Neolithic drew to a close in mainland Southeast Asia, a significant degree of interregional interaction began to occur, connecting communities of northern Vietnam with their neighbors to the north, west, and south. Major changes occurred when rice farmers, who raised domesticated cattle and pigs, infiltrated and occupied inland river valleys (Higham 2004: 41). Site sizes during this period become greatly increased, reaching 3 hectares in the cases of Phung Nguyen and Dong Dau, and many sites of this period have good evidence of rice cultivation from about 2000 BC onwards (Bellwood 2005: 132).

According to Trinh (2004), archaeological data confirm cross-cultural, multilateral contact between southern China and Vietnam for millennia. Similar environmental conditions throughout the Paleolithic and Neolithic eras probably facilitated the exchange of materials and techniques between communities in present-day northern Vietnam and southern China. To illustrate: Pham (2004: 190) reports that five objects called *chuong* (Chinese *zhang*) of a type typical of cultures of the late Neolithic and Bronze Age in central China were found at Phung Nguyen and Xom Ren (Phu To Province). Also, a series of jade *yazhang* ceremonial knives of a unique form were recovered from Phung Nguyen and Xom Ren (Ha 1993). These knives are similar to those in the Zhujiang (Pearl) Delta area, at Sanxingdui, Erlitou, and later Shang sites, and appear to be imports from China's Yellow River Valley (Higham 1996: 87). Jade artifacts recovered from Phung Nguyen sites also match those found in southern China and northwards into the Bronze Age of early urban states in Sichuan and the Yellow River basin, further demonstrating contact between Chinese and Vietnamese societies during the late Neolithic and early Metal Age (Higham 2004: 49–50). Furthermore, at the close of the Neolithic, elements of Phung Nguyen burial practices and material remains parallel those from contemporaneous sites located in parts of southern China, such as the Tazaijinshan and Yuanguang sites of the Fubin Culture (Higham 1996: 87; see also Higham 2014: 110). Finally, pottery from Phung Nguyen sites is marked by design motifs that have clear parallels with pottery from Yunnan sites such as Baiyangcung and Dadunzi (Higham 2004: 48). These apparent similarities would suggest that exchange contact between southeastern China and northern Vietnam had already begun by the mid–second millennium BC (Murowchick 1989). It is quite possible that exchange between coastal southeastern Chinese and coastal northern Vietnamese communities was facilitated through a combination of overland travel and maritime travel.

Overall, Bellwood (2005: 131) argues that Vietnam became a part of a widespread mainland Southeast Asian Neolithic expression between 2500 and 1500 BC, one characterized by a distinctive style of pottery decoration. Higham (2014: 109) notes the appearance of distinctive motifs, such as an "S" meander and a range of designs based on geometric asymmetry.

> The wide distribution of the distinctive incised and zone-impressed pottery across parts of far southern China, northern Vietnam, and Thailand after about 2500 BC suggests that this region might express a similar phenomenon to that recognized in other regions of agricultural spread, namely an early homogeneity followed by a later regionalization of cultural style. (Bellwood 2005: 132)

A common cultural package of rice farming, similar pottery style, and forms with incised and burnished decoration are also found still further south at the site of Samrong Sen in Cambodia (Higham 2004: 50).

Similar dates of early Neolithic sites from Guangdong in China to peninsular Malaysia probably indicate related expansionary movements southwards, apparently following the courses of the major rivers in Mainland Southeast Asia (Higham 2004: 51). Neolithic complexes with pottery, polished stone adzes, shell ornaments, spindle whorls, barkcloth beaters, and presumed-domesticated bovids, pigs, and dogs replaced the older hunter-gatherer complexes of the early and mid-Holocene with orderly precision, generally moving down a north–south axis from southern China through mainland Southeast Asia towards Malaysia, and through Taiwan and the Philippines towards Indonesia (Bellwood 2006: 106).

In sum, the existing material evidence illustrates the early stages of a wide Southeast Asian exchange network during the late Neolithic. The categories of stylistically similar artifacts found in disparate areas indicate incipient interregional trading and the migration of people, and how these factors are contemporaneous with the evidence of emergent social ranking in late Neolithic and early Metal Age societies.

IMPACT OF METALWORKING AND METAL AGE INTERREGIONAL INTERACTION

Bronze was valuable to Southeast Asian societies not only for technological improvements, but also because of its associated wealth and status, for reasons connected with the skills, labor resources, and trading connections required for its ownership and production. As noted by Higham (2011) in discussions of Ban Non Wat, strategies related to social aggrandizement through restricted access to exotic goods were likely to have played a role in forms of competitive emulation for status (see Hayden 2001 and 2009). This would have resulted in differential access to materials and social distinctions based on prestige and wealth (Higham 2011b: 383), and thus the spread of copper-based technology coincided with a rapid emergence of social-aggrandizing strategies (Higham et al. 2011: 264).

During the late second and first millennia BC, bronze was produced and used in gradually increasing quantities for small ornaments, tools, and weapons in the Red River Valley region (Murowchick 2001: 175). For the Dong Dau Culture period, sites possessed a virtually identical range of bronzes and the same casting technology as those found in the Zhujiang (Pearl) River Delta (Higham 1996: 96). This shared similarity suggests interaction between communities of both areas. Additionally, there are parallels in artifacts with counterparts in the Khorat plateau, as evinced by bivalve casting molds from the Thanh Den site of Dong Dau

Culture that resemble those from northeastern Thai sites (Higham 2002: 152). By the closing centuries of the first millennium BC, a network of sophisticated bronze-working cultures existed between the southern periphery of Han China and the Gulf of Thailand, whose products were distributed as far south as New Guinea (Sherratt 2004: xix).

One important innovation pertains to the bronze-socketed plowshares, which resulted in a profound improvement for agriculture. Higham (2002: 177) writes that plowing represented a radical change, and a buffalo-drawn metal plow can cultivate far more soil than can a person with a hoe, thus producing crop surpluses well above subsistence requirements. "The surpluses generated by this system have underwritten the modern states of Southeast Asia" (Higham 1989: 199). This intensification of agriculture and associated surpluses resulted in higher sustainable population densities in the Red River plain, opening the doorway for further social differentiation and greater degrees of complexity.

During the Dongson Culture period, casting technology for bronze artifacts had improved significantly (for a detailed description, see Calo 2009: 60–66). In pre-Dongson phases, alloys of copper and tin dominated, but with the Dongson, bronze alloys had more elements, including lead, which reduced the melting point of the alloy and made casting easier for large artifacts with delicate patterns, such as drums and basket-shaped bronze containers with decorated lids (Pham 2004: 199). A total of 555 samples have been analyzed by spectrographic methods and found to be composed of elemental copper and 11 copper-alloy types, and over 60 percent of them contained high amounts of lead (Trinh 2012: 155). The use of high amounts of lead alloy was an especially pivotal development in the crafting of bronze drums.

Trinh (1996) notes that bronze-working employed by Dongson communities involved specialized workshops with numerous specialists, wherein the alloys comprised copper, tin, lead, and arsenic, and hundreds of copper pins to separate the clay molds during the pouring of molten bronze. According to Nguyen (1983: 185), the extraction of ores itself would have involved one person per day to excavate and extract some 10–20 kilograms. Nguyen Kim Dung (2004: 482) argues that manufacturing techniques associated with metallurgy represented a qualitative breakthrough for social changes in power and structure.

Bennett (1989: 329) argues that metals greatly increased the efficiency of agricultural and hunting activities in societies, and the uneven distribution of the raw materials used in metal production gave rise in this region, as elsewhere, to considerable variations in economic wealth, power, and status. In addressing the relationship between metallurgy and social complexity, Bronson (1996) acknowledges the technological efficiencies and advantages that metal implements would have conferred upon societies. Many substantial metallurgical industries existed

in premodern Asia, and in some cases (i.e., China and Japan), they were closely linked with the growth and maintenance of political authority (Bronson 1996: 181). Such cases clearly indicate a correlation between technological innovation, political consolidation, and social stratification.

According to Nguyen (2005: 122–123), recent ethnoarchaeological research indicates that the organization of production into small, specialized villages was probably one of the most important principles of social organization for many traditional villages of Vietnam. This, combined with archaeological evidence, suggests that such organization represents one of the first expressions of a division of labor, with the population separated into farmers, craftsmen, and traders. Since metallurgy requires very technical knowledge of chemistry and expert skill sets, specialized villages were likely to retain competitive advantages by keeping their metallurgical knowledge secret. Village regulations would have controlled production in a strict fashion, and in this way group ownership of village land and technology would have provided a stable background for economic and social development in traditional societies. Hence, recent ethnoarchaeological investigations show the significance of bronze metallurgy for the development of the first complex and centralized polities in Vietnam, wherein local leaders were known as the "kings of metallurgy" (Nguyen 2005: 123). Such early agents probably had considerable economic and military power during the Dongson Culture Period, wherein craft specialization was well established.

Bronze, all over Southeast Asia, appears to have had a significant correlation with the rise of ranked societies, and weapons, vessels, and ornaments of metal were probably exchanged between regional elites for purposes of alliance and intermarriage (Bellwood 1992: 116). For instance, the famous Dongson bronze drums, which may have functioned as high-status luxury goods, have been reported from scattered localities across Cambodia, Thailand, and down into the Malay portion of the peninsula. In some cases, these items arrived by sea to enter long-established exchange routes along the rivers (Bellina and Glover 2004: 70). As will be discussed, exotic foreign goods played an important role as political currency and high-status markers for Southeast Asian elites in efforts to obtain political legitimacy and authority (Junker 1999).

Iron, which appeared largely after 500 BC, was much easier to procure, and while not as socially valued as bronze, it did play a different but equally important role. Ironworking helped to improve the efficiency of labor in many cultural practices, especially in agriculture and war. "Iron has the potential to stimulate deep-seated changes in society" (Higham 2014: 197). The distribution of a number of bimetallic artifacts of both bronze and iron found in many sites across Southern and Eastern Asia indicates a very widespread exchange of metallurgical knowledge during the first millennium BC (Bellwood 1992: 121). In particular, the spread of bronze- and

iron-working during Dongson times almost certainly contributed to emergent social complexity in Bac Bo.

Additionally, the end of the first millennium BC also saw increasing Chinese imports in Bac Bo, supporting the notion of a fairly extensive trade network connecting, whether directly or indirectly, Bac Bo and many of its northern neighbors. Elites of Dongson society may have been importing Chinese goods as prestige items or status symbols, while exporting various local products. That these individuals had the means and opportunities to bring in exotic items, as well as the wherewithal to locally produce various bronze products, further suggests differentials of power and incipient stratification.

According to Nishimura (2000: 47), Bac Bo was a trade hub during the first century AD. There are two main implications we can draw from this assertion. First, that the area's importance as a trade hub did not emerge overnight, and probably had roots well before the first millennium BC, given its strategic access to the major river and its proximity to the coast, both of which factors would have facilitated and promoted transportation networks. Second, I would argue this would have been one of the precipitating factors for annexation by the Han Empire. The area would have been prized by an imperial power for its economic and commercial value, its location and access to key waterways, and its access to various tropical products. As recorded in Chinese texts, and corroborated by archaeology, the Han coveted various goods from the south, making settlements like Panyu (in modern-day Guangdong) an important nexus of maritime trade (Brindley 2010: 16). The Red River Delta would have been easily accessible as part of this maritime network.

Morrison (2002: 11) asserts that the South and Southeast Asian regions were tied together through common participation in regional exchange networks beginning by at least the last few centuries BC, with intermittent periods of high connectivity. This speaks to the possibility of a wide-ranging interaction sphere, with southern China and northern Vietnam functioning as vital nodes. This time frame in Southeast Asia saw marked increases in wealth and social complexity, leading to powerful territorial polities (Bellina and Glover 2004: 70). Indeed, if we look at the wider networks of exchange routes connecting markets from the Mediterranean to South Asia, and then in turn through Mainland and Island Southeast Asia into East and Northeast Asia, it becomes quite apparent that there was an emerging globalized trading system during the close of the first millennium BC. Research by many investigators for this time period clearly supports the notion that Southeast Asian societies, particularly coastal ones, benefitted from this growing exchange network, accumulating wealth and power and resulting in forms of social ranking (see Bellina 2003; Bellina and Glover 2009; Carter 2010; Christie 1990).

As demonstrated by Calo (2009: 89), north-central Vietnam was a main gateway crossed by Dongson drums found in the western part of mainland Southeast Asia and Island Southeast Asia. It was a crucial crossroads for routes linking Metal Age locations, on both north–south and east–west axes. According to Calo (2009: 89), north-central Vietnam linked centers on an east to southwest axis, from southern Dong Son and northern Sa Huynh, to south Laos, and northeast, west central, and peninsular Thailand, all the way south to the Malay Peninsula and Cambodia, and then to western Indonesia (see Calo 2009 for details on routes of travel). Materials recovered in the Thu Bon Valley of central Vietnam, for instance, demonstrate a connection between communities of the Sa Huynh Culture period with Dongson and Han societies to the north during the Iron Age (Lam 2009: 74). Many jar burial sites contain Dongson bronze artifacts and extended inhumation burials, typical of Dongson societies, along the coasts of the Quang Nam and Quang Ngai provinces (Lam 2009: 74). A connection between north-central Vietnam into Thailand's Khorat Plateau area, and eventually to the Mekong River, is also evident from archaeological investigations (see Reinecke and Le 2000, 2002). Intriguingly, Calo (2009) cites a combination of archaeological, ethnographic, and linguistic data to hypothesize movements of Austronesian-speaking groups from Insular Southeast Asia into parts of central and northern Vietnam during the Dongson and Sa Huynh Culture periods, introducing certain cultural practices to those Austroasiatic-speaking communities already present along the coastlines of these areas. While this is a fascinating possibility to consider, I now focus my consideration of the effects of interaction on linkages between Bac Bo and one specific neighboring area, that of the Yunnan.

YUNNAN–BAC BO INTERACTION

As noted by Knapp and Pigott (1997: 304), mining as a "politico-economic activity had the capacity to establish social relations between individuals that transcended community boundaries and transformed regional interactions." Accordingly, it is plausible that various aspects of a metallurgical industry, ranging from extraction, to knowledge transfer, to exchange of raw materials and finished products, would have connected different communities throughout the area.

Of the many exchange routes radiating in and out of Bac Bo, one of the more significant ones is the link with the Yunnan Plateau. Located along the banks of the Red River was a kaleidoscope of different communities that, while culturally distinct, were undoubtedly in contact with one another and with others in neighboring regions. In Bac Bo, societies would have enjoyed the benefits of coastal, maritime access in combination with use of the Red River itself as a thoroughfare of movement. Several decades ago, Chikamori (1962) interpreted the Dongson

Culture of Bac Bo as a complex into which had entered many elements derived from South China along a route following the coastline of the sea, and this coastal theory fit the notion that southern expansion of the Han was responsible for the rise of bronze-casting in Southeast Asia (Watson 1992: 175). However, archaeological investigations since then have demonstrated that this coastal theory is far too simplistic and does not adequately depict cultural development and interactions of the Metal Age. Moreover, it does not take into account the equally important role of the Red River.

There seems to have been a series of communities connected by the Red River, and this chain of connectivity served as one portion of a larger network of contact and trade. The wider region is renowned for its mineral resources, with copper, tin, and lead deposits found both in Yunnan and the Red River above the delta (Higham 1996: 136). As bronze-working emerged in Bac Bo, Higham (1996: 90) supposes bronzes were traveling throughout terminal Neolithic sites in southern China and northern Vietnam through coastal and riverine exchange.

Allard (1999: 83) argues that the apparently identical artifact types encountered in both regions indicate the artistic or functional adaptation of one tradition's elements by the other, a two-way process that may have benefited the almost simultaneous emergence of Bronze Age complexity. I would agree with this assertion, positing that interaction between southern China and northern Vietnam, whether through overland, coastal, and/or riverine exchange, laid an important foundation for concurrent processes of social change and reciprocal complexity in each area.

On the northwestern end of the Red River, the archaeological record tells the story of the communities of the "Dian" Culture. The material record for these communities near Lake Dian yields a wide range of technically complex and stylistically distinct bronzes recovered from numerous wealthy burials, helping to depict the Dian as a complex and hierarchical society (Allard 1998; 1999). The Dian Culture first became known to scholars through studies of Chinese imperial histories, which were later supplemented by archaeological data from cemeteries (Wright 1998b: 345). Approximately 1,000 burials have been excavated from 40 sites, usually geographically confined to the tops of small hillocks rising out of the lake plain (Yao 2005: 380). These communities possessed a very high level of metallurgical sophistication, and their bronzes played a crucial military, ritual, and social role (Murowchick 2001). Possession of bronzes, and the control over the means to produce them, gave elites the ability to acquire and maintain power and control over their own people and neighbors (Murowchick 2001: 133; Yao 2005). The data support a relationship between sophisticated bronze metallurgy and the emergence of highly stratified, militaristic, and ritually oriented communities in the mid– to late–first millennium BC.

On the southeastern end of the Red River, Dongson Culture communities exhibit clear parallels with Dian societies both in time and in cultural complexity. Akin to Dian cultural developments, the Dongson period saw the advent of intensified agricultural production, major habitation sites, growing differentiation of status and wealth as shown by increasing disparities in grave furnishings, and an increase in military and ritual activity (Murowchick 2001: 175). Murowchick (2001: 134) asserts that Dongson and Dian societies were connected with each other and other parts of Southeast Asia through an extensive trade network thanks to an uneven distribution of copper, tin, and lead ores throughout the region. In terms of shared material culture, certain distinctive Dongson bronzes have been found in Dian graves, including asymmetrical axes with minimal decoration, which stand in stark contrast to the finely decorated blades and sockets found on locally produced Dian specimens (Murowchick 2001: 176). Additionally, Dongson-style *thap* vessels have also been found at sites in Yunnan and in southern China, while Dian-style bronze artifacts found at Dongson sites include short swords with straight hilt guards, and *ge* halberds decorated with Dian warriors holding trophy heads (Murowchick 2001: 176). Some of the most striking bronze daggers found in Dongson burials have handles in the form of human or animal figures that reflect influence from the Dian Culture (Pham 2004: 200). For both Dian and Dongson cultures, bronzes were designed to fulfill several cultural objectives, including the enhancement of effectiveness in war and agriculture, as well as the production of ritual and sumptuary goods (Higham 1996: 132–133).

BRONZE DRUMS

"The large bronze drum is the hallmark of the Iron Age in southern China and Southeast Asia" (Higham 2006: 19) (see Figure 6.4). Ancient bronze drums referred to as "Heger Type I," dated to between the third century BC and the early centuries AD, are widely distributed through mainland and Island Southeast Asia and appear to be linked, despite some regional variations, by the continuity of shape and decoration (Calo 2008: 208). Though these drums have been found scattered throughout East and Southeast Asia, the majority have been recovered from modern-day Chinese and Vietnamese areas, particularly southwestern China and northern Vietnam (Han 2004: 8). More than 200 Dongson bronze drums (Heger Type I) have been recovered at numerous sites in Vietnam, and they share typological traits with those found at the Wanjiaba and Shizhaishan sites in Yunnan (Pham 2004: 200). For Bac Bo, direct evidence for casting bronze drums comes in the form of two fragments of the outer clay mold found at the Lung Khe site in the Bac Ninh Province (Pham Minh Huyen, personal communication, 2008; see also Calo 2009: 60). Both Dian and Dongson societies manufactured and used a

FIGURE 6.4.
Dongson Drum Recovered from the Ma Tre Location at Co Loa.
Image courtesy of the Vietnam Institute of Archaeology. From *Dong Son Drums in Vietnam* (1990: 8).

significant amount of bronze drums that were stylistically similar (Chiou-Peng 2008; Lee 2001; Murowchick 2001).

Bronze goods, such as the drums, served as material symbols that conveyed status differentiation within Dian societies (Lee 2001; Yao 2005), and it is likely that they functioned as status symbols for rank and insignia for authority in Bac Bo and elsewhere as well. Speaking of the Dongson drums, Calo (2009: 2) argues that these "elaborate and valuable ceremonial objects were traded as prestige goods embodying notions of socio-political and religious power, thus participating in transactions establishing alliances and marking the growth of centres along exchange routes." Writing about Bac Bo, Calo (2009: 62) maintains, "The presence of bronze materials directly related to bronze drums by decorative scheme, artistic vocabulary, and often found in the same archaeological context, shows that this body of related Dong Son ceremonial bronzes participated 'as a whole' in the local rites."

The presence of these bronze specimens throughout Southeast Asia suggests both intra- and interregional interconnectivity between societies in areas that include parts of Thailand and peninsular Malaysia (Eiji 2005: 125; Higham 1989: 204–207; Lee 2001: 104; Tessitore 1989: 34; von Falkenhausen 2001), and as far afield as the Strait of Melaka and Indonesia (Bellwood 1997: 278; Manguin 2004: 285) (see Figure 6.5). For instance, the drum that would have been cast using

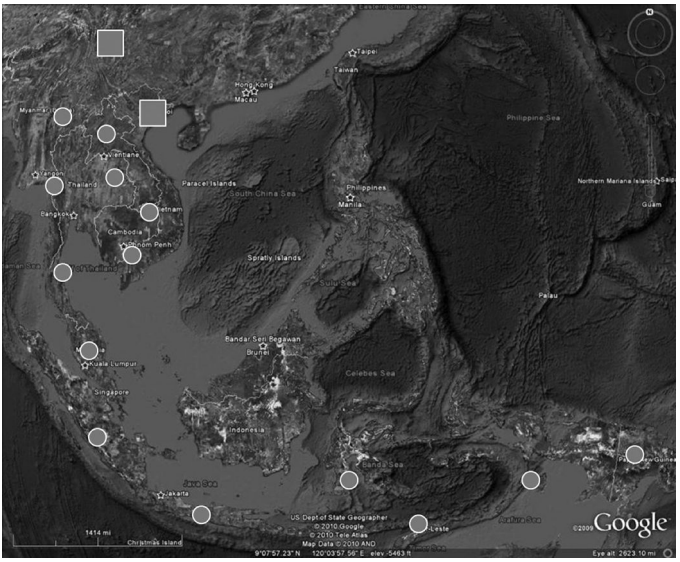

FIGURE 6.5.
Locations of Dongson Drum Finds. Specimens of the Heger Type I of bronze drums, also known as the Dongson (in Vietnam) or Shizhaishan (in China), have been found scattered throughout parts of both mainland and Island Southeast Asia, as indicated by the circles. The greatest concentrations have been found in the Bac Bo (Vietnam) and Yunnan (China) regions, as indicated by the squares.

References: Bellwood, 1997: 278; Eiji, 2005: 125; Higham, 1989: 204–207; Lee, 2001: 104; Manguin, 2004: 285; Tessitore, 1989: 34; von Falkenhausen, 2001.

the mold fragments from Lung Khe in Bac Bo would be similar to one found at Don Sane in southern Laos (Calo 2009: 60). Typologically similar bronze drums have also been found in Myanmar in Samon Culture contexts (see Moore 2010). Importantly, the casting of these giant ceremonial drums, together with the variety of large bronze vessels, must have required specialist workers under the control of elite leaders (Higham 2004: 58).

For Yunnan, some researchers have identified two major groups of drums. The first group has been characterized by plain or sparse decoration and is known collectively as "Wanjiaba," named after a burial site. The second group consists of more refined specimens with relief designs found at the Dian Culture site of Shizhaishan, which are stylistically similar to the Dongson drums of Vietnam (Chiou-Peng 2008). Hence, "Heger Type I" refers to either the Dongson or Shizhaishan type of drum. The designs on the highly ornamented Heger I drums depict boats and reflect a sea-oriented society, and drum specimens of this type have been found with rich burial assemblages at the Dongson site in Vietnam's

Thanh Hoa Province, at Viet Khe near Hai Phong, and also at Shizhaishan near Lake Dian in Yunnan (Tessitore 1989: 34). Although the origins of the drum-casting technique are still being debated (Han 2004), the drums are among the most important archaeological artifacts to be found in southern China and Southeast Asia, and their use by ethnic groups has lasted from prehistoric times to the present (Han 2004: 8). All told, the bronze drums constitute very strong evidence of a wide network of bronze-using cultures during the latter half of the first millennium BC, linking southern China, northern Vietnam, and other parts of Southeast Asia.

Further evidence connecting Yunnan and Bac Bo lifeways can be seen in the iconography of the bronze drums. Various Dian and Dongson drums depict pile-supported dwelling structures. The engraved pile-built dwellings on Dongson bronze drums share striking similarities with the Shizhaishan bronzes (Ruan 2006: 147). Domestic scenes on Dongson bronze drums show houses raised on piles, with gable ends being supported by posts and decorated with bird-head carvings identical to those seen on canoe prows (Higham 1989: 201–202). In Yunnan, Dian metalworkers produced detailed models of village scenes complete with houses raised on piles (Murowchick 2001: 150). Of the two pile-built structures found on Dian bronzes in Shizhaishan, one is a model of a ceremonial shelter on the lid of a cowry container, and the other is an engraved image of a barn on the side of a bronze drum (Ruan 2006: 147). According to Calo (2008: 222), many of these drums may have been imported, through trade, tribute, or warfare, from the Dongson region into the Yunnan area, intended as an extended network of multiple centers, which would account for the regional variations of the Heger I type. Calo (2009: 62) also observes that the presence of bronze drums found in the cemeteries of Dian Culture communities, along with other bronze materials, "shows the entanglement of multiple cultural influences."

Because of the many noted similarities in the Dian and Dongson material cultures, researchers suppose extensive contact occurred between Yunnan and Bac Bo along the important Red River waterway (Allard 1999: 83; Murowchick 2001: 176; Yang 2004). While many artifact types are culturally distinct, the two cultures share numerous elements, including strong similarities in artifacts such as bronze pails and weapons (e.g., swords and halberds), in addition to the well-known drums (Allard 1999: 83). Despite the evidence for exchange, Allard (1999: 83–84) stresses that we remain unsure as to the exact nature of contact between the Dian and Dongson, which may have ranged from direct trade and warfare to down-the-line exchange and itinerant specialists.

It is very possible that varying levels of access to mineral resources such as copper, tin, lead, and iron, and the means to trade for them, might have led to

growing differentials in power, social ranking, and wealth (see Hoang and Bui 1980). The communities or villages located near ore sources or trade routes may have had opportunities to capitalize on their locations, thereby planting the seeds for growing wealth disparities and social differentiation. Proximity to the Red River and access to the river for transport and communication thus probably played a significant role for emergent complexity. Murowchick (2001: 134) asserts that Dongson and Dian societies were connected with other parts of Southeast Asia through an extensive trade network due to an uneven distribution of ores throughout the region. The uneven distribution of copper, tin, and lead ores apparently catalyzed the development of trading networks, by which a basic knowledge of bronze metallurgical technology seems to have been shared (Murowchick 1989; 2001).

The use of riverine pathways for the diffusion of bronze-casting techniques and products is likely, and many researchers suspect the preferential use of the Red River as a main artery for interaction between geographically dispersed societies in these areas (Allard 1999: 83; Bellina and Glover 2004: 69; Higham 1996: 136; Murowchick 2001: 176; Taylor 1995; Yang 2004). There are existing historical clues regarding use of the Red River for ancient transportation and communication. During historical times, there are many textual sources indicating the significance of the Red River. In discussing China's Southwest Silk Road of the Common Era, Yang (2004) draws on Han and other historical texts that describe trade routes connected to Yunnan. One of the prominent routes or branches of the important Southwest Silk Road was the Red River, linking Yunnan and Vietnam (Yang 2004: 287). Also, in the sixth century AD, the Chinese scholar Li Daoyuan used earlier textual sources to compile a description of the passage of the Red River from Yunnan to the sea, thus demonstrating a long history of travel on the river between Yunnan and the Red River lowlands (Higham 1996: 109). Finally, certain Han texts offer interesting details describing the use of the Red River (referred to in the text as the "Yeh-yu River") for travel (Taylor 1995: 36–37). According to Han texts, General Ma Yuan (known as Ma Vien in Vietnam) reported in AD 43 that he led more than 12,000 soldiers from the Me-linh area of northern Vietnam's Red River Valley upriver to attack retreating Vietnamese forces that were fleeing into the Yunnan area. Two important implications can be drawn from Ma Yuan's report. First, it is apparent that the river was perceived as a convenient route of passage between the plains of northern Vietnam and the Yunnan Plateau, and that it was defended (Taylor 1995: 37), thus underscoring the Red River's logistical and strategic value. Second, this report suggests that travel along or on the Red River was possible in either direction, whether down- or upriver. This is a particularly salient point for the argument that the flow of people, goods, and ideas between Yunnan and Bac Bo was probably reciprocal.

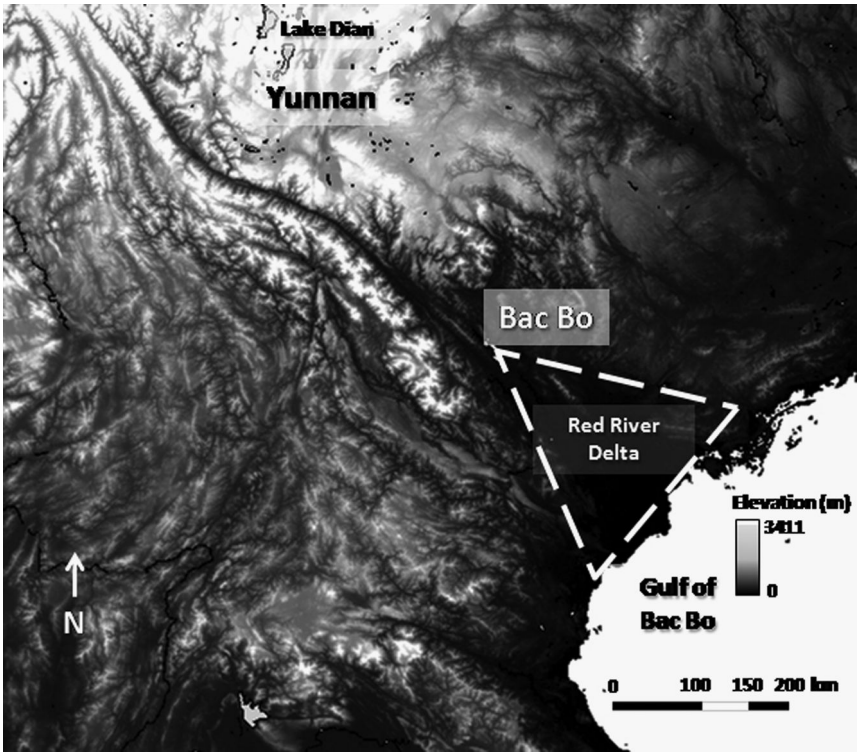

FIGURE 6.6.
Digital Elevation Model (DEM) of Yunnan and Bac Bo. The DEM was created using Shuttle Radar Topography Mission (SRTM) terrain data.

Ultimately, the currently available material and historical evidence strongly suggests communication, contact, and interaction between communities of Vietnam's Bac Bo region and their northern counterparts of Yunnan through use of the Red River. Current evidence strongly supports use of the Red River as a main artery of interaction. Indeed, the communities situated where the Red River emerges from the mountains into Bac Bo would have benefitted from a funnel or choke-point effect, and this includes the area where Co Loa would come to be situated (see Figure 6.6).

INTERACTION IMPLICATIONS: PRESTIGE GOODS AND EXOTICA

The Red River exits the mountains in Bac Bo in areas known as Me-linh and Tay-vu. The nature of interaction along this important river system underscores the strategic position of settlements within these, making them ideal hubs or nexus locations for a wider interregional interaction sphere. This point is made all the

more salient given the likelihood that the coastline was located near the Co Loa area during the Metal Age, as evinced by geological data (Nishimura 2005: 99), thus complementing riverine access with a coastal one. Thus, this area functioned both as an extremely important choke-point and as a maritime springboard, giving prehistoric residents the same sorts of economic advantages enjoyed by societies of the Malacca Straits connecting the Pacific and Indian Oceans, or of the Hellespont connecting the Black and Mediterranean seas. Because of the advantageous location, some residents in the area would have had greater access to bronze items and innovations flowing in and out of the region, and thus would have been able to control the distribution of such goods and ideas. This would have afforded opportunities for agents to accumulate wealth and power. In combination with other factors, then, the nature of the area's landscape and geographic features can help account for the onset of wealth asymmetries, social stratification, and considerable political power in the area, as manifested by the construction of the monumental Co Loa settlement in the Tay-vu area.

In this manner, incipient social ranking and differentiation occurring in the area can be tied to two important variables. First, individuals controlling long-distance trade of non-local goods were able to garner political, economic, and social power. These individuals possessed differential access to resources and wealth, leading to status differences and emergent ranking. As argued by Bronson (1992: 104), metals are eminently tradable commodities, being valuable, easily transported, scarce in the vicinity of most populated places, and not at all easy to make without substantial experience and skill. Almost all ethnographically or historically known metal-makers sell at least part of their production to outsiders who live some distance away (Bronson 1992: 104). Those living near both metal resources and trade routes would have benefitted tremendously (see Figure 6.7).

A related factor has to do with foreign prestige-good exchange, and how a luxury goods political economy can contribute to the emergence of organizationally complex societies. Bronze goods were used by Dian Culture societies as an important means to demarcate and symbolize status differences (Lee 2001). The same situation may have marked Dongson societies where bronze products, whether imported or manufactured locally, were probably used to express social differentiation. For the Philippines, Junker (1999) demonstrates how control over the distribution of prestige goods, whether obtained through foreign exchange or produced locally by attached specialists, was one of the key means whereby sociopolitical elites were able to maintain and expand political power. Junker (1999: 6) posits that inter-polity exchanges of prestige markers between high-ranking individuals in the social contexts of feasts, rituals, and other elite-restricted activities created a symbolic elite "culture" distinct from non-elites, often resulting in significant

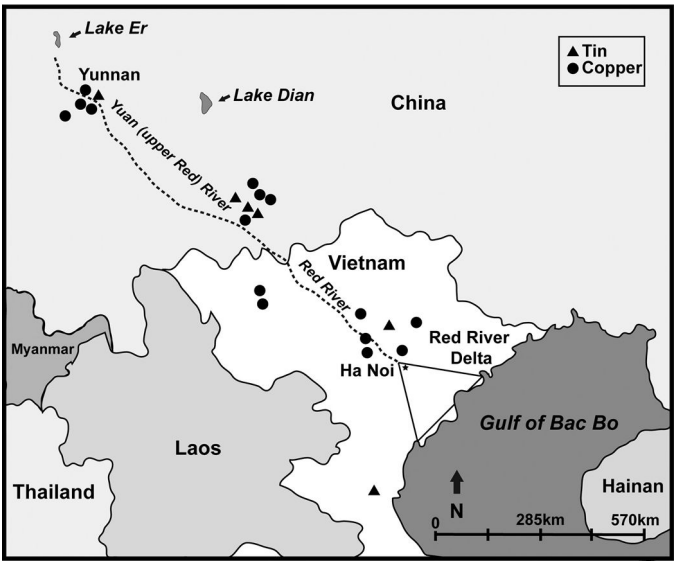

FIGURE 6.7.
Copper and Tin Ore Sites. Distribution of copper and tin ores in Yunnan and Bac Bo, after Higham (1996: 45).

similarities in luxury and high-status goods across wide regions. According to Trigger (2003: 342), an important factor for political integration among early civilizations seems to have been the trade and craft specialization encouraged by the politically motivated demands of the upper classes for prestige goods.

For Dian and Dongson Culture societies, certain classes of bronze commodities, such as the drums, exemplified luxury or high-status goods. In a sense, these products are somewhat akin to "exotica," artifacts created of non-local materials that are found in disparate regions, indicating long-distance exchange systems (see Parkinson and Galaty 2009: 15). Altogether, the parallels in bronze prestige goods between Yunnan and Bac Bo, such as the drums, pails, and weaponry, support the notion of significant interregional connectivity at an elite level. Control over access to high-status items can provide political currency to elites for patronage purposes—bankable wealth that is essential to a leader's success in mobilizing labor, extracting surplus, conscripting military forces, and attracting foreign traders (Junker 1999: 6). Consequently, control over key trade routes by Dian and Dongson elites conferred a vital advantage to those seeking to exploit access to, and distribution of, important trade goods. This last point is particularly significant in that such control may have precipitated or exacerbated intra-regional competition and warfare.

According to research conducted by Eiji (2005: 125), an examination of the geographic features of the sites where Heger Type I drums have been found at various locations along the Mekong River Valley in Laos, Thailand, and Vietnam shows an interesting pattern. Without exception, all of the nine places are located at strategic points along the Mekong where geographic features (rapids, waterfalls, river mouths) interrupt river transport (Eiji 2005: 125). Eiji's research (2005) thus suggests that the Bronze Age elites buried with these status goods controlled the exchange networks between indigenous groups and those who were introducing exotic commodities and ideas into the region. This underscores the role that the Mekong River must have played in interregional exchange, and how communities along it would have enjoyed economic benefits, and it is likely that a similar effect would have been plausible for communities along the Red River.

Theoretically speaking, the interregional interaction evinced by the Yunnan–Bac Bo case holds salience for models such as peer polity (Renfrew 1996) (see Yao 2010 for a discussion of the formalization of exchange networks). In the peer polity model, a range of interchanges between societies can result in concurrent paths towards complexity. These interchanges occur between autonomous sociopolitical units that are situated beside or close to each other within a single geographic region, and can take the form of imitation and emulation, competition, warfare, and the exchange of material goods and information (Renfrew 1996: 114). In the case of Yunnan–Bac Bo interaction, reciprocal exchange of information, innovations in bronze-working, and mutual emulation were likely to have fostered greater agricultural production, surpluses, and population growth, all of which contributed to the development of social stratification and political complexity in both regions.

According to Yao (2010), comparative approaches reveal that the development of bronze metallurgy in southwestern China parallels trends observed among Neolithic communities in Southeast Asia, and that within the Bronze Age, sociopolitical complexity emerged in southwestern China as part of a multiregional phenomenon that had its beginning with the formalization of trade networks during the Neolithic period. Yao (2010: 233) further argues that the emergence of complexity in southwestern China developed from a network of interacting peer polities in which northern Vietnam played an important role. Indeed, she writes (2010: 233) that "the genesis of sociopolitical complexity in the southwestern periphery can only be viewed as multicentric in scope: the Shizhaishan and Co Loa phenomena represent but the apogee of social processes that had long been set in motion."

The type of interaction exhibited by the Yunnan–Bac Bo case can also be examined through a "high culture" conceptual lens, wherein high culture is viewed as the production and consumption of aesthetic items under the control, and for the benefit and legitimation, of elites (Baines and Yoffee 1998). Although Baines and

Yoffee restrict use of this concept to relations between highly bureaucratic civilizations, Parkinson and Galaty (2009: 16–17) suggest that the basic idea of high culture

> can be extended to include precursors of high culture that occur in many societies in which emergent elites deploy shared sets of symbols and behaviors associated with elevated social status. Such shared sets of symbols and behaviors are transmitted via peer polity interaction as emergent elites seek to legitimate their tenuous power and authority.

Parkinson and Galaty (2009: 17) thus combine peer polity interaction with this extended notion of high culture, referring to an analytical concept of "emergent high culture" to be used in modeling social interaction at an intermediate scale. In this context, shared sets of symbols can emerge to define and legitimize elite authority. I submit that the bronze drums of Dian and Dongson societies, among other materials, appear to have functioned along the lines of emergent high culture. The production, ritual uses, and circulation of these drums, and perhaps of other bronzes, may have been part of localized political and leadership strategies that linked elites of numerous villages and communities. As a category of high exotica, the control over such drums could have functioned as an avenue for wealth accumulation and the creation of social inequality or distancing.

Beyond southwestern and southern China, I would add that important interactions also involved other parts of Southeast Asia, including portions of Cambodia, Laos, and Thailand, among others. According to Watson (1992: 175), contact between Yunnan and central Thailand may have occurred as early as 1000 BC along the upper Mekong, with cultural affinity preceding the appearance of bronze. Similarly, Yang (2004: 281) asserts that Yunnan was at the center of a wide-ranging interaction zone connected to Southeast Asia, India, and Tibet, and this led to mutual cultural influence between Yunnan societies and extraregional counterparts. Analogously, I would argue that the Red River Valley also served as a major node or hub within the same wider, extraregional network, connecting communities of southern China with contemporaneous societies of central and southern Vietnam (with Sa Huynh communities, for instance), along with other parts of Southeast Asia. In the first millennium BC, a long-distance, interregional trade network of bronze materials and high-status, prestige goods operating between Yunnan and Bac Bo significantly affected local political economies, giving people opportunities to manipulate wealth and power. While displaying individual characteristics, Dongson society thus developed within a wider context of numerous communities in a broader movement to complexity (Higham 1996: 132). Recent archaeological research for various parts of Southeast Asia, such as portions of

the Thai-Malay peninsula, clearly demonstrates the importance of long-distance exchange and contact for cultural transfers, local leadership strategies, and expressions of identity (see Bellina 2014). In this sense, the effects of multidirectional influence were quite substantial, with a considerable degree of reciprocal complexity occurring in disparate areas. This far-ranging exchange combined with local, internal, and intrasocietal factors in fostering culture change.

Importantly, Allard (personal communication, 2009) points out that pathways to complexity not only involved mutual influence between Dian and Dongson societies, but also entailed contact with Lingnan societies as well as emulation of an expanding Sinitic empire. Sociocultural trajectories just beyond the southern periphery of the expanding Han at the end of the first millennium BC were marked by contact with a growing Chinese power (Allard, personal communication, 2009). In agreement with Allard, I believe interaction between Bac Bo societies and those of the Lingnan would have been quite significant as well, and I explore this relationship further in Chapter 10.

In sum, the archaeological evidence indicates considerable interaction occurring between Bac Bo inhabitants and their neighbors in other regions throughout the chronological sequences leading into the Dongson phase. Dongson cultural and political development did not occur in isolation, and interaction with neighboring societies undoubtedly contributed to reciprocal complexity and political centralization. The area's favorable geography set the stage for the materialization of social differentiation and growing asymmetries in wealth and power. The production and exchange systems associated with bronze and iron goods had impacts on political economies in a variety of ways. Beyond functions related to prestige, rituals, and farming, metallurgical innovations also fomented competition and political change. Control over trade routes and high-status items, especially if they held exotic and symbolic power already associated with elevated status and political authority, potentially gave local elites ideological support for greater authority. Another key ingredient would have been the military advantages afforded by metal weaponry. Effectively, then, individuals in Bac Bo seeking to acquire and maintain higher status, wealth, physical power, and authority had additional means and options to do so. Hence, in addition to peaceful exchange, it is also likely that competitive and coercive interactions occurred as part of alternative cycles of social interaction and strategies.

Coercive and Competitive Interaction in Bac Bo

Besides interregional exchange, another form of interaction that had a substantive impact on cultural change was coercion. Once asymmetries of power and wealth began to emerge, organized competition and coercion became intimately

tied to political strategies. There are clues from the material record to suggest that coercion, competition, military power, and outbreaks of violence contributed to changing social and political patterns in Bac Bo.

Given its geographic position, the Red River Delta was relatively circumscribed by the sea to the east and southeast, along with mountainous terrain to the north and west (see Figure 2.1 in Chap. 2). Once population levels for agricultural societies began to grow in Bac Bo, it is likely that societies gained substantial demographic advantages over their foraging neighbors. Some of the great ethnolinguistic expansions of prehistoric times—of the Indo-Europeans, Bantu-speaking groups, and speakers of Austroasiatic and Austronesian languages—occurred when populations who had recently developed systematic and productive methods of agriculture expanded slowly, but continuously and inexorably, into territories held only by foragers (Bellwood 1992: 91). These movements often resulted in shifting frontiers, which tend to be a significant source of friction and violent outbreaks (Keeley 2001). Archaeological research from other areas of the world has demonstrated the potential for cycles of conflict and trade to occur between early farmers and surrounding communities of hunter-gathers (Golitko and Keeley 2007; Keeley 1989, 1996). It is possible that coercive power was important for social change as early as the Late Neolithic, though this is merely speculation at this point.

The archaeological evidence indicating conflict and warfare prior to the Dongson era is limited. The lack of evidence may be partially due to the fact that much of the archaeological investigations conducted on prehistoric sites in Bac Bo did not have an eye towards the recognition of organized violence, being instead more focused on culture history. However, there are some, albeit equivocal, signs of possible conflict. The recovery of certain implements indicates the possibility that weapons were being made and used during the late Neolithic period. For instance, stone spearheads, halberds, and barbed arrowheads were recovered at a workshop at Phung Nguyen (Pham 2004: 190). As the Phung Nguyen phase transitioned into the Dong Dau phase, molds and crucibles for bronze-casting appear at many sites. Bronze was being used to produce projectile points, spearheads, and axes, with projectile points becoming very common (Pham 2004: 192). This trend continues into the succeeding Go Mun phase. To date, however, no fortifications have been archaeologically identified for pre–Iron Age sites in Vietnam.

DONGSON-ERA CONFLICT AND COERCIVE INTERACTION

Higham notes (2002: 195) that warfare can be a considerable stimulus to the vesting of authority in leadership, placing demands on iron production and weapons forging. By the advent of iron-working and the Dongson era, the evidence for warfare and coercive strategies becomes much less ambiguous and includes

a combination of weaponry, folk tales of conquest, iconographic depictions, and fortifications.

For a glimpse into possible coercive cultural practices associated with Dongson societies, it is instructive to examine the evidence for warfare among Dian societies, especially given their cultural affinities. According to the Han *Shiji* ("The Records of the Grand Historian," written by Sima Qian from 145–90 BC), "south-western barbarians" inhabited the Yunnan area (Yao 2005: 379). These groups included pastoralists and nomads such as the Sui, Kunming, and Di tribes, as well as more settled groups such as the Yelang and the Dian. Prior to absorption into the Han Empire, Dian societies were highly stratified and militaristic, with power centralized in the hands of the local ruling elites (Murowchick 2001). The elites controlled craft specialists and production of bronze products. As bronze moved beyond a merely utilitarian function, elites capitalized on the control and use of it in order to augment their own power and entrench their positions. Dian polities also made use of ideology to reinforce their status and power, using styles of textiles and clothing, along with ritual, and codified status in their bronze artifacts. This combination of materials reinforced the legitimacy of the existing sociopolitical system (Lee 2001: 126–127).

Bronze materials played an important role in Dian military power. Iconographic depictions on bronze drums clearly indicate the prevalence of militarism in the region, and evidence suggests the Dian engaged in warfare against neighboring pastoralist communities such as the Kunming, with whom they also probably engaged in trade (Murowchick, personal communication, 2006). "Both archaeological and iconographic evidence make it very clear that warfare was an extremely important concern for the Dian elite" (Murowchick 2001: 159). Military activity seems to have served both external and internal functions, and bronze was critical to both aspects of this military power. One of the most striking uses for bronze was the creation of vast stores of weapons and armor, which appear as a major category of elite grave furnishings (Murowchick 2001: 160). These weapons include a rich variety of swords, knives, *ge* halberds, axes, arrowheads, spears, cudgels, and armor. They made up a high proportion of grave goods, further demonstrating the importance of warfare in Dian society. Warfare was also depicted in much of Dian bronze art (Murowchick 2001: 163). Scenes show bound enemies—and subjugation of neighboring enemies was not the only purpose served by Dian warfare. Several bronze ornaments show what appear to be Dian warriors returning from battle with plunder, severed heads, and what may have been sacrificial victims. Possession of bronzes, and the means to create them, invested the Dian elite with the ability to acquire and maintain power and control over their own people and many of their neighbors (Murowchick 2001: 170). In sum, the introduction of metal weaponry affected strategies for competition and conflict in the Yunnan.

It is reasonable to suggest that Dongson communities may have experienced analogous social developments and patterns. Agricultural intensification, growing population, bronze-working, and a growing prestige ideology around bronze goods appear to have led to increased militarism in the Lake Dian region, and these sorts of variables were likely to have had the same effect in Bac Bo. According to Hoang and Bui (1980: 64), the appearance of bronze weapons in Dongson burials attests to the importance of conflict in Bac Bo, and 50 percent of recovered Dongson bronze implements are weapons. The numerous bronze weapons can be divided into projectile weapons (javelins, socketed spearheads, socketed and tanged arrowheads); proximity or shock weapons such as swords, fighting axes, daggers, and *ge* halberds; and shields (Pham 2004: 199). Daggers were very popular, and more than 230 have been found in various Dongson burials. The quantity and kinds of weapons in Iron Age Bac Bo seem to indicate that warfare (between ethnic groups or autonomous communities) was not an uncommon phenomenon. The possibility of increased warfare-related interactions in Bac Bo supports the notion that coercive strategies, along with associated tactics of physical intimidation, raiding, conquest, and subjugation, played a major role in sociopolitical development.

Depictions of a warrior class and military activities on the famous bronze drums also suggest militarism. For Dian Culture elites, in order to maintain their ideology and promote the existing sociopolitical system, control and regulation of ritual was crucial (Lee 2001: 127). For that reason, bronze musical instruments held important symbolic value for ritual activities such as spirit offerings and feasting. Chinese reports describe how these bronze drums were played at times of war and other major social events (Higham 2006: 19). Furthermore, these rituals were ideological expressions that were not only practiced, but were also codified on bronze artifacts such as the drums: messages to be displayed as a means to reinforce the sociopolitical system (Lee 2001: 127). For example, a ritual scene depicted on a Dian bronze drum shows what is suspected to be a paramount chief seated in a pavilion surrounded by subsidiary chiefs as a feast was being prepared and war captives were being executed (Higham 2004: 58). On Dongson bronze drums, similar lavish decorations are depicted of ritual and ceremonial activities, along with battle scenes (Higham 2004: 58; see also Higham 2014: 202). These scenes portray war canoes with plumed warriors, processions, musical ensembles, and rice-threshing activities (Higham 2004: 58). In some of the depictions, warriors are clearly seen standing on firing platforms on boats, in some cases with captives.

Interestingly, the iconography of warriors on boats is reminiscent of similar material evidence from Late Bronze Age Europe. The archaeological record of Late Bronze Age Europe demonstrates a proliferation of weaponry and armor, the move towards defensive locations, and signs of territoriality and elite graves

in many societies (Hill and Wileman 2002: 35). According to Hill and Wileman (2002: 36), depictions of warriors on boats for the Scandinavian Bronze Age suggest the possibility that raiding by boat was a frequent occurrence in Scandinavia, which may explain the presence of defensive features. It is plausible that Iron Age societies in Bac Bo were similarly engaged in uses of boats for raiding practices. As intimated by Calo (2009: 2), the distribution and uses of bronze drums throughout the region may have been tied to exchange systems related to strategies of power and alliance-building, and I would argue this could have been related to competition and conflict. It is possible that competition and warfare were occurring between adversaries situated along the Red River, with certain Iron Age communities defending or capitalizing on strategic areas of riverine control, such as portage locations (Alina Boyden, personal communication, 2013). Overall, the material categories of weapons and iconography point to the role of coercive power in bringing about changes in societies and social status for individuals. However, the exact nature of the kinds of warfare strategies being utilized needs to be further elucidated in future studies.

In the category of fortifications and defensive features, the archaeological record for Vietnamese prehistory has been marked by a general absence of cases, with the notable exception of the Co Loa site. This may be due in large part to a lack of settlement archaeology conducted for Vietnamese sites, and future investigations may uncover evidence of fortified settlements or defensive features. There are, however, some indications for defensibility at the Dongson settlement of Lang Vac, which, as noted above, has also yielded evidence of bronze production, as well as weaponry such as a crossbow trigger. Detailing recent fieldwork at Lang Vac, Imamura and Chu (2004: 4) speculate about the natural defensibility of the settlement due to the terrain and water features, although no direct indicators for defensive architecture have been detected as yet. Nonetheless, combining evidence of bronze production and war implements from the site with chronological data indicating occupation during the second century BC, there is support for the idea of periodic warfare during the Dongson era, probably overlapping with the period of the Co Loa settlement, located some 200 kilometers to the north.

As will be discussed in a later chapter, Co Loa's monumental system of earthen rampart enclosures, ditches, moats, bastions, and (possible) watchtowers speaks directly of both tremendous political power and a considerable concern over the threat of attack, as manifested by the colossal investment in that defensive architecture. In that manner, coercive power may have played a pivotal role in the consolidation of unprecedented political authority in the Red River Delta. Not only does the Co Loa site's system of defenses indicate the possible presence of warfare, but it also functions as an ideological symbol of authority and legitimized power. The imposition of centralized power needs both a physical power base and an

ideological component. If the centralization of power involves conquest, then in order to maintain that power, the new political order must be both defensible and legitimate. In addition to enforcing control, collecting tribute, and protecting the local communities, people, and resources, a centralized polity would also need to win over the loyalty and support of would-be competitors and usurpers. Materialized signs of ideological power, then, should be discernible in the archaeological record (DeMarrais et al. 1996). According to Campbell (2009: 824), archaeologists should be cognizant of the variable nature of power, recognizing how the "production of authority" and the "circulation of power" can involve different contexts, sometimes marked by violence.

> Violence is generally assumed to be an exception to normal stable sociopolitical orders, in our modern statist way of thinking, but a cursory look at any hundred years of human history will show the omnipresence of violence and its role in the creation, dissolution, or dynamic maintenance of social and political networks. (Campbell 2009: 824)

For Iron Age Bac Bo, the materially manifested and manipulated forms of political currency include the various weapons, tools, ornaments, and drums that were specially crafted and circulated over long distances. The ritual scenes depicted on Dongson drums may have been important ceremonies that also served a politically significant ideological role. In sum, coercive strategies, warfare, and ideology all constituted important factors in the centralization and maintenance of political authority during the Iron Age of Bac Bo. In agreement with Campbell (2009: 823), I think it useful to conceive of power as institutionally and personally distributed, and of some agents as occupying more strategic positions within a dynamic network than others. We should consider a continuum of relational power-wielders stretching from subalterns to the most powerful.

Summary for Coercive and Competitive Interaction in Bac Bo

Throughout the course of several centuries spanning the late Neolithic and Metal Age of Bac Bo, a combination of long-range variables and factors worked in concert to provide local communities with new sets of choices in their lifeways and sociopolitical interactions. By the Iron Age, centralized regional polities had emerged, resulting from interregional interaction, intrasocietal dynamics, and intraregional competition and warfare. Thus, I would argue that the long-range catalysts for emergent social differentiation and the evolution of centralized, middle-range societies in Bac Bo involved a multicausal package of variables. The agricultural productivity of the area, its strategic location as an interregional

interaction hub or node, and the growing use of bronze and iron all functioned as part of a package of long-term variables contributing to growing population levels, wealth disparities, and social stratification during the late Neolithic and Metal Age.

By the closing centuries BC, the Co Loa settlement attests to the emergence of a highly centralized, overarching, and durable political structure. The strategies of local communities related to militarism, warfare, and coercive power, then, may have functioned as a key proximate variable in the formation of a permanent authority, centered at Co Loa. In the upcoming chapters, I explore both existing and newly recovered data for Co Loa and address the development of what may have been the first state-level society of this region.

CHAPTER 7

PREVIOUS RESEARCH FOR THE CO LOA SITE

WRITING ABOUT THE ORIGINS of Vietnamese civilization, O'Harrow (1979: 140) observed that a crucial period of inquiry is the approximately 300-year period in the area of the Red River Delta and adjacent Thanh Hoa Province in northern Vietnam between the time of the legendary Au Lac kingdom in the middle of the third century BC and AD 43, when the revolt of the indigenous Trung Sisters was put down by the Han Empire. Taylor (1983: xvii) points out that Vietnamese historians view this era as a time when their ancestors struggled against and under foreign rule, when their identity was tested and refined. "It is a period which poses a number of highly interesting theoretical problems for the historian and philologist, and recent developments in archaeology have contradicted older bibliocentric and sinocentric notions (the two often go hand in hand) to the extent that a thorough reexamination is in order" (O'Harrow 1979: 140). O'Harrow effectively called for greater collaboration between archaeologists and historians; and today many research questions still remain. Central to this line of inquiry is the site of Co Loa.

As a nationally significant locale, Co Loa today has a special status in Vietnamese historical narratives, cultural practices, and national identity. Accordingly, Co Loa has been the subject of tremendous scholarly debate since the time of French occupation, and for decades, historians and archaeologists both in Vietnam and abroad have continued to offer speculations and interpretations about Co Loa's chronology and cultural identity and the possible existence of the Au Lac kingdom (see Tran 1969). One of the principal points of debate is whether the construction of the capital site occurred before (early to mid–Iron Age) or after Han colonization (historic period). Hinging as a corollary to this chief question is: Was the Co Loa phenomenon a product of indigenous sociopolitical developments,

or is it attributable to foreign imposition? A variety of evidentiary sources have been studied and invoked in proposing interpretations for the massive settlement. There are textual clues regarding the construction of Co Loa and its use as a political capital and military stronghold, with ascribed dates within the third century BC (see Nguyen and Vu 2007). However, as I discuss below, there are many problems with these narratives, and they require material substantiation.

Currently, a considerable gap exists in the archaeological knowledge of prehistoric settlement and residential patterns for the site. Today, several communities and hamlets make up the Co Loa commune, with thousands of residents living at the site. Farm plots, gardens, homes, schools, stores, and administrative buildings are scattered throughout the site's expanse, thereby precluding any full-scale investigation of the entirety of Co Loa. Essentially, the Co Loa area has been continuously inhabited since the Neolithic period, and, to my knowledge, it has never been permanently abandoned.

Faced with these challenges in gaining access to the ancient remains of the site, particularly in regard to the crucial Iron Age period, one primary means to address the question of chronology for the monumentality of the site is to obtain reliable data for the rampart enclosure system. Current aerial photographs, satellite imagery, and on-the-ground surveys show a set of three earthen rampart enclosures for the settlement, with much of the walls still standing intact, albeit in various states of disrepair (see Figure 1.3). The approximately 600-hectare site has two outer sets of ramparts (the Outer and Middle) and an inner, rectangular enclosure (Inner). Each wall at Co Loa was associated with exterior moats and ditches, and the central enclosure appears to have had bastions as well as moats. Prior to now, very little regarding the construction of the rampart system was archaeologically known. In my estimation, the monumental constructions can serve as an invaluable proxy measure for the presence of tremendous political power and centralized authority, especially if the data indicate that the majority of the system was constructed contemporaneously or by the same polity. "The one question of importance that can be addressed at present by our colleagues in Viet-Nam would be to obtain a fairly reliable dating for the structure at Co-loa" (O'Harrow 1979: 149).

Regarding the ramparts, the Middle and Outer Walls are irregularly shaped enclosures, and measure 6.5 and 8 kilometers in circumference, respectively (Nguyen and Vu 2007: 173). The irregular shapes of the Middle and Outer Walls likely stem from the natural topography and environment, and natural hilltops may have been connected in forming the rampart enclosures. Remaining portions of the Outer Wall still stand 3 to 4 meters in height, with the highest point being 8 meters at a hilltop in the south (Nguyen and Vu 2007: 174). The base of the Outer Wall ranges from 12 to 20 meters in width. Depending on location, the

Middle Wall measures approximately 20 to 25 meters in width at the base and 10 meters at its uppermost surface, standing anywhere from 4 to 10 meters in height. The innermost rampart enclosure (Inner Wall) is roughly rectangular and measures approximately 1.65 kilometers around its perimeter (Nguyen and Vu 2007: 173). This rampart curtain is approximately 5 meters in height, measuring 6 to 12 meters in thickness at its top surface and 20 to 30 meters in thickness at its base (Nguyen and Vu 2007: 173). The Inner Wall also appears to possess a number of bastions.

Each of the three rampart curtains has a ditch along its exterior base that varies in depth, and ranges from 10 to 30 meters in width. According to Vietnamese textual traditions, these would have been water-filled ditches or moats, and all three would have been connected to a large reservoir (known as "Dam Ca") within the site (Nguyen and Vu 2007: 174). At the East Gate of the Outer Wall, the Hoang Giang River enters the settlement, feeding into the Dam Ca reservoir. In addition to feeding the settlement's reservoir, the Hoang Giang River also functioned as the Outer Wall's moat, being channeled around the entire perimeter before entering the site's reservoir, which in turn fed the moats of the Middle and Inner Walls. Although this is no longer the case, in ancient times the Hoang Giang River was connected to Co Loa's system of ditches and the reservoir, thereby linking the site with the Red River 8 kilometers away. As the coastline during the first millennium BC may have been much closer to the Co Loa settlement than it is today (Nishimura 2005: 99), it is quite possible that watercraft could have accessed the Co Loa area relatively quickly and easily from the sea.

Using Vietnamese written traditions dating from the second millennium AD, Nguyen and Vu (2007: 175) speculate that the Outer and Middle Walls were constructed before the arrival of the Han, though they note the possibility that amplifications occurred during the Han period, and that construction of the Inner Wall coincided with this historic period. Larew (2003: 17) posits that the shape and design of the Inner Wall may reflect Chinese city-planning from the Spring and Autumn period owing to its rectangular shape, whereas the free-form and irregular shapes of the Middle and Outer Walls do not. Complicating a full understanding of the site as it was when originally founded, the Inner Wall area served as a central religious and political location for a number of historic-era polities after the Iron Age (Hoang 2002: 52). Various political leaders may have used Co Loa throughout the Common Era as a seat of power and capital, such as the rulers of the Early Ly Dynasty during the late sixth and early seventh centuries AD (Nguyen and Vu 2007: 208–212; Taylor 1983: 161). Tellingly, Co Loa was also the site of the capital of a Vietnamese kingdom founded by Ngo Quyen in AD 939 after the end of the third period of Chinese domination, which ended a millennium of nearly continuous Sinitic rule (Nguyen and Vu 2007: 216; Taylor 1983: 270). It appears that

subsequent Vietnamese polities may have constructed new buildings within Co Loa and its central area up until the French colonial period, including the Later Le Dynasty and the Tay Son Dynasty (Hoang 2002: 52). Consequently, without archaeological evidence it would be difficult, if not impossible, to ascertain which of the rampart constructions presently visible correspond to specific historical periods (Wheatley 1983: 93). Archaeology is therefore of singular importance in determining the earliest chronology of the Co Loa settlement, thereby offering insights into when its level of sociopolitical complexity emerged and under what conditions.

Without material data, it is not possible to establish the identity of the site's builders, whether descriptions of the Au Lac kingdom hold any historical validity, and whether or not more than one polity or society was responsible for constructing different portions of the fortification features. Without question, reliable dating for the site's monumental rampart features, based on material evidence, is of tremendous significance. Only careful excavation and stratigraphic analysis can furnish the data necessary to make that type of determination, and to ascertain whether or not there may have been multiple phases or efforts of rebuilding, refurbishment, and amplification. In recent years, we have gathered new data for the rampart system, which I discuss in the next chapter. Before discussing the archaeological evidence, I briefly highlight pertinent textual sources of information.

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Traditional Sources

Prior to a heavier reliance on archaeological research, reconstruction of Bac Bo's prehistory largely rested upon Vietnamese traditions and Chinese texts written after the Han imperial annexation of the region during the first centuries BC and AD. Following Kelley (2012: 123), I use the terms "Chinese" and "Vietnamese" simply to indicate the historical inhabitants of areas today known as "China" and "Vietnam," respectively. Of course, the cultures, peoples, and ethnicities of groups living in these areas millennia ago were far different from those of the modern era, and the regions probably exhibited a kaleidoscope of cultural variation. That said, up until recent decades, historians have relied on Vietnamese folklore and Han historical descriptions to reconstruct the early Iron Age of Vietnam. Historical reconstructions have depended principally upon Chinese historical sources such as the *Shiji* (also known as *Shi Chi*) (*Records of the Grand Historian*), as well as Vietnamese historical texts such as the *Dai viet su ky toan thu* (*Complete Book of the Historical Records of Dai Viet*) (O'Harrow 1979). Beyond issues of reliability for historiographical accounts, another major problem with this approach is that these two sources offer conflicting depictions of cultural development in Bac Bo.

During the closing centuries BC, Qin and Han societies of the Yellow River Basin began a southward expansion. There was a push from the Chinese Central Plain into areas of the Yunnan and Lingnan (the modern-day Chinese provinces of Guangdong and Guangxi) (see Allard 2004 and 2014). Central Plain societies may have coveted these areas, including northern Vietnam, as a source of various products and resources, including pearls, aromatic woods for incense, ivory, rhinoceros horn, tortoiseshell, coral, feathers, and others (Sterling et al. 2006: 28). After annexation of the Red River Delta during the first centuries BC and AD, Han records show tributes being made by elites of the delta in the form of ivory, mother-of-pearl, coral, sandalwood, and live elephants and rhinoceroses (Sterling et al. 2006: 28). It is clear that Sinitic civilization saw this region as a prize, as well as a springboard for expanding networks of exchange with other areas of Southeast Asia. The Red River Delta, geographically located in an important node of interregional access and exchange, was probably and aptly perceived by Sinitic societies as an important and indispensable part of Han imperial ambitions to the south.

Chinese chronicles maintain that significant forms of agriculture, cultural innovations, technological advances, and governance structures present in prehistoric Vietnam had arrived through diffusion and contact with China, generally denying *in situ* cultural development (O'Harrow 1979). For a period of roughly 1,000 years when areas of Bac Bo were within the borders of various Chinese empires, information about that region was largely recorded by Chinese writers (Kelley 2012: 87). According to Taylor (1983: xvii), Chinese historians, and later French Sinologists, have treated Bac Bo history from the third century BC to the tenth century AD as a branch of Chinese history. Other European scholars followed suit in their explanations for cultural sophistication with materials related to the time period of the Dongson Culture (see Ha 1997 and Solheim 1989). Goloubew (1929) argued a Han origin and influence, dating to the first century AD, while Karlgren (1942) attributed influence from the China during the Warring States Period. "They have seen Vietnam as little more than a refractory frontier province of the Chinese empire, blessed with China's 'civilizing' influence" (Taylor 1983: xvii). This traditional perspective saw a powerful, technologically advanced and numerous Chinese force descending upon Red River peoples, more or less swallowing them whole (O'Harrow 1979: 142).

According to Sinitic accounts, the Han Empire began colonizing the Bac Bo region at approximately 111 BC, and their historical records, such as the *Shiji* written by Sima Qian (145 to 90 BC), are valuable sources for early Vietnamese history, as much of our information on early Vietnam is from the biographies of Chinese officials who served in Vietnam during the period of Chinese colonization and domination (Taylor 1983: 349). These Dongson societies were the most distant of

several communities perceived by the Han as the Southern Barbarians (Higham 2002: 171; see also Brindley 2003 and Taylor 1983: 349). Past Sinocentric views generally held that northern Vietnam had a "primitive" level of culture at the time of Chinese annexation with its ascribed date of 111 BC (Tessitore 1989). For instance, the pioneer French Sinologist Henri Maspero (1918: 27–28) wrote that Han General Ma Yuan's invasion of Bac Bo in AD 42–43 marked a fundamental milestone in the history of the country, introducing Chinese ideas and social organization, giving the Vietnamese a cohesion and formal structure. Overall, these traditional views deny indigenous cultural sophistication, seeing Han imposition of "civilization" as the catalyst for it. The view held that Southeast Asian civilization had no roots, and that it represented a purely secondary development arising from the imposition of an advanced agricultural economy, and subsequently of Indian and Chinese sociocultural concepts (Bayard 1980: 89).

Once Chinese rule over this region ended in the tenth century, local Vietnamese writers started to compile historical chronicles about their own land, and in the process, they also recorded detailed information about figures who had purportedly lived before the period of Chinese rule, and about whom Chinese writers had not made mention (Kelley 2012: 87). Thus, the Sinocentric views stand in contrast with Vietnamese traditions that indicate considerable complexity and centralization in the Bac Bo region well before Chinese arrival (Nguyen and Vu 2007; O'Harrow 1979; Taylor 1983, 1995; Yamamoto 1970). Research conducted by Vietnamese scholars in the decades after independence from France began to frame an argument that, upon their arrival, the Chinese encountered a stable, structured, productive, populous, and relatively sophisticated society of whose existence they had knowledge, if not appreciation (O'Harrow 1979: 142). Taylor (1980: 140) writes that the Dongson civilization rested upon a foundation raised by earlier cultures in northern Vietnam during the preceding millennium and a half, and that the archaeological remains of that culture are echoed by mythological traditions that form the core of Vietnamese identity to this day. As put forth by Yamamoto (1970), descriptions of the earliest stages of Vietnamese official history start with myth and legend, and only include more entries of historical facts later in time, as with most countries. The legendary and semi-historical traditions were recorded in texts such as the *Linh-nam chic quai* (*Wonders Plucked from the Dust of Linh-nam*), the *Dai Viet su ky toan thu* (mentioned above), the *Viet dien u linh tap* (*Compilation of the Departed Spirits in the Realm of Viet*), and the *Viet su luoc* (*Historical Annals of Viet*) during the late medieval period (Taylor 1983: 303–311, Appendix O). Overall, these traditions hold that Bac Bo was the nucleus of indigenously developed Vietnamese civilization with powerful kingdoms ruling over vast populations before the Chinese arrival (Taylor 1983: 3–23; Tessitore 1989: 36), communities O'Harrow (1979) refers to as the "proto-Vietnamese."

According to these accounts, the Vietnamese Hung Kings ruled a series of polities known collectively as the Van Lang Kingdom from approximately 2800–258 BC (Nguyen and Vu 2007; Tessitore 1989). According to folklore, Van Lang was ruled by a hierarchical government consisting of the Lac king, the marquises, the under-kings, and the Lac people (Nguyen 1980: 48). The people worked in the paddy fields and controlled river flooding. The difficulty with the accounts concerning the Van Lang Kingdom is the absence of unequivocal material remains to substantiate its existence.

However, with the polity that ostensibly succeeded the Van Lang, the situation is somewhat different. A significant level of political hierarchy and control for the Red River Delta was purportedly inherited by the subsequent Au Lac Kingdom (see Taylor 1983 for a full description). According to Taylor (1983: 12–13), the term *Lac* (meaning "ditch" or "canal") is the earliest recorded name for the Vietnamese people. It certainly would seem appropriate that the emergence of the Au Lac Kingdom coincided with a greater degree of centralized power required to control the waters of the Red River Delta, and it is possible that the Lac nobility were elite members of Dongson societies in the river plain. In addition to flood control, elites appear to have controlled labor for agricultural intensification and craft production. At approximately 258 BC, a man named An Duong Vuong (also known as Thuc Phan) overthrew the last of the Hung Kings of Van Lang and established the Au Lac polity, and our knowledge of this kingdom is a mixture of legend and history (Taylor 1983: 20). The written accounts suggest the Thuc family may have traced their lineage to the state of Shu in Sichuan, and may have been residing in present-day Cao Bang province of Vietnam (bordering present-day Guangxi) before descending into the Red River Delta. According to Taylor (1983: 21), An Duong Vuong is the first figure in Vietnamese history documented by reliable historic sources, but most of what we know about his reign has survived in legendary form. An Duong Vuong was armed with a magic crossbow, giving him the ability to overthrow the last of the Hung Kings and defend his kingdom (see Yamamoto 1970 for a detailed description of the mythical account).

Choosing Co Loa as his capital, An Duong Vuong proceeded to construct a fortified citadel known to history as Co Loa Thanh ("Old Snail City"), thus named because its walls were laid out in concentric rings reminiscent of a snail shell (Taylor 1983: 21). According to these accounts, by the third century BC, Co Loa already possessed the various fortifications still visible today, including walls, towers, moats, and ramparts enclosing approximately 600 hectares of territory (Higham 1996; Miksic 2000; Nguyen and Vu 2007). This is centuries before the Han fully consolidated their control of the region, which did not occur until the arrival of Ma Yuan to quell the Trung Sisters' Rebellion in AD 43, thus incorporating

local Dongson warrior-aristocrats as an imperial province (Higham 1989: 202, 290–291).

The first century AD thus coincides with the establishment of the Han-Viet period and the replacement of a loosely imposed Han tribute system by a full Han administration (Higham 1989: 291). According to the Sinitic textual source, the *Hou Han Shu* (*Book of the Later Han*), Ma Yuan took measures to weaken the political heritage of the area (see Taylor 1983: 45). This source details Ma Yuan's efforts to confiscate and destroy the bronze drums of the local societies, symbolizing the obliteration of the last vestiges of political and economic power of native leaders (Holmgren 1980: 16–17), which is supported by archaeological evidence in Bac Bo (e.g., Lao Cai) indicating a practice enacted by the Han, to collect drums, cut them, and store them with other valuable materials, possibly for trade elsewhere. The Tay-vu area, which was associated with the Co Loa capital and previous polities, was also seen by Ma Yuan as disproportionately large compared to other districts. Hence, the general suppressed those in Tay-vu by subdividing the area (Taylor 1983: 45). It is also possible that Ma Yuan used the Co Loa site as a base of operations, perhaps even adding to the fortification features in the first century AD (Nguyen and Vu 2007: 175). Interestingly, there is little direct mention of the Co Loa site in Sinitic texts—though there may be one of significance. In a geographic description of the Delta area produced in the early ninth century entitled *Yuan-ho chun-hsien t'u-chih*, writer Li Chi-fu appears to reference an ancient city built by the king of "An-Yang," which seems to be an allusion to Co Loa (Holmgren 1980: 142).

Compounding the situation are narratives that chronicle the overthrow of the Au Lac Kingdom by Zhao Tuo (also known as Chao T'o, or Trieu Da in Vietnam), a former official of the Chinese Qin dynasty, who brought the area under the rule of the Nanyue (also known as Nan Yueh or Nam Viet) Kingdom, but allowed the traditional Lac aristocracy to remain intact with its royal court at Co Loa (Taylor 1983: 23–27). The Nanyue period purportedly occurs during the second century BC and is seen as something of an anti-Han political period (Taylor 1983: 27). As mentioned, the Lac lords would only be fully dispossessed when they were subdued by Han soldiers in AD 43 (Taylor 1983: 30). Though the traditions describe the fall of Au Lac to the Nam Viet polity, O'Harrow (1979: 146–148) points out that caution is necessary when considering the validity of these accounts, as there are no solid grounds for accepting that *any* Chinese polity was actually in control of northern Vietnam during the second or first centuries BC. Given the intricate nature of accounts from various textual sources regarding the region before arrival of the Han, it is little wonder that debates have gone unresolved for many decades. Owing to the hazy and sometimes conflicting nature of the various

written accounts, the material record is vital for furthering our understanding of Co Loa's history and social evolution.

Another potential challenge lies in the circumstances by which the Vietnamese traditions were recorded. To be sure, the various textual sources from both ancient Vietnam and China are themselves to be treated as artifacts, and researchers must carefully examine their larger context, as many historians have done. The earliest Vietnamese text to describe kingdoms in the Red River Valley, specifically the Van Lang Kingdom, is the *Viet Su Luoc,* which dates from the thirteenth century and the Tran Dynasty, fully 1,800 years after the kingdom it is supposed to describe (Cherry 2009: 130). As observed by Ungar (1986), various chronicles were compiled and produced during a period from AD 1272 to 1479. Because these sources were documented so long after the historical periods they describe, they must be critically evaluated against the material record. Because much of this information about these early periods of history exists in Vietnamese works produced during the medieval period, much of which does not exist in Chinese sources, many scholars have generally concluded the Vietnamese must have had their own historical traditions that they transmitted orally and then eventually wrote down once their land had become free from Chinese control (Kelley 2012: 87). This assumption, argues Kelley (2012), is a spurious one. Some of the Vietnamese historiographic traditions may have been derivative from Sinitic textual accounts (O'Harrow 1979: 141; Kelley 2012). Kelley (2012) provides a strong argument as to why the medieval period Vietnamese narratives may have been "invented," motivated in part by a search for a pre-Sinitic past marked by an indigenous civilization just as sophisticated as that of China. In a response to Kelley's argument, Taylor (2012: 135) argues that, while some of the Vietnamese traditions may have been subject to "invention," it should still be acknowledged that "even invented traditions seldom come from acts of pure imagination or cloistered recondite musings." He adds, "To gain a balanced view, it is important to consider both the information about Vietnam recorded by Chinese historians and the historical traditions that preserve what the Vietnamese have remembered from this time" (Taylor 1983: xvii). I would agree with both researchers in their calls for critical examination of the extant sources, and would add that archaeology is needed as an independent and additional means to fully consider these research questions.

Due to the colonial and ethnocentric nature of the Han textual accounts, care must be taken when considering their historical details. Similarly, the Vietnamese traditions must be critically examined as well, since many of them were not recorded until the thirteenth or fourteenth centuries AD (Taylor 1983: 349–359), because portions of them may have been based on earlier Chinese texts, and because of the likelihood of embellishment. As noted by Cherry (2009: 130), these texts tell us what later Vietnamese and Chinese

scholars made of this early period in Vietnamese history, and they cannot be considered primary sources for that period—the only true sources of information for this period are prehistoric relics such as bronze drums, weapons, tools, ornaments, and household items, among others. Although traditions hold that An Duong Vuong overthrew the Van Lang Kingdom, and that his Au Lac polity constructed Co Loa and its fortifications, this claim may never be fully substantiated. Moreover, even the ethnic origins of the An Duong Vuong figure are subject to historical debate (see Papin 2000). What the material data can do, however, is describe the timing and development process of sociopolitical complexity emblematized by the Co Loa site, thereby either lending support to, or refuting, existing claims. As such, O'Harrow suggests the archaeological dating for the structures at Co Loa become all the more important for understanding this gray area on the outer edges of history.

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Co Loa's Material Record Prior to 2007

Virtually all knowledge about the past of Co Loa before the 1950s was based on historical and textual sources (Hoang 2002: 36). After the late 1950s, an increasing French scholarly interest in Co Loa's history sparked new archaeological research efforts. Within the expanse of the Co Loa site, there is ample archaeological evidence showing occupational and cultural continuity, with a material record exhibiting local development from at least the Neolithic through the Metal Age and into subsequent historical periods (Pham 2004). Initial settlement in the area began at around 2000 BC, with various agricultural communities and villages residing in the area (Lai 2004). Lai (2004) holds that, as the population level increased grew, Co Loa emerged as a center for cultural, social, and economic development. Various sites within Co Loa have been excavated by the Vietnamese, resulting in material evidence showing continuous and uninterrupted occupation and cultural change during Bac Bo's Phung Nguyen, Dong Dau, Go Mun, and Dongson cultural phases, all of which point to indigenous emergence of social complexity (Nguyen 2004; Nguyen and Vu 2007; Pham 2004; Trinh 2012). There have been over a dozen sites that have been excavated within the expanse of Co Loa's perimeter or just outside of it (see Table 7.1).

Regarding the fortification features, no full-scale archaeological investigation to understand their construction techniques, chronology, and cultural identity had ever been undertaken prior to the 2007–2008 Middle Wall and Ditch Project (see Kim et al. 2010). The only existing information available regarding the ramparts comes from a cursory excavation at a collapsed portion of the Outer Wall, performed in 1970 (see Nguyen 1970), which exposed Dongson pottery and iron

TABLE 7.1.

Selected Sites of Investigation for Co Loa: Previous excavation sites of the Co Loa area, in alphabetical order, performed by the Vietnam Institute of Archaeology from 1959 to 2012, based on the Institute's archive of site reports housed in Hanoi.

Site	Dates of Work	Cultural Sequence
Bai Men	1968, 1978, 1997, 2001–2	Dong Dau through Dongson
Cau Vuc	1959	Dongson, Co Loa
Den Thuong (Inner Wall area)	2004–5, 2006–7	Co Loa through historic period
Dinh Trang	1970, 1971, 1985, 1997, 1999, 2010	Phung Nguyen through Dongson, Co Loa
Dong Vong	1969, 1970, 1971, 1997, 2001–2	Phung Nguyen
Duong May	1968, 1971, 1983, 1985	Dongson, Co Loa, Han
Ma Tre	1982, 2012	Dongson, Co Loa
Thanh Ngoai (Outer Wall)	2012	Co Loa and Le Dynasty
Thanh Ngoai/Xom Mit (Outer Wall)	1970	Dongson (and Co Loa?)
Thanh Trung (Middle Wall)	2007–8	Dongson, Co Loa, Le Dynasty
Tien Hoi	1970, 1971	Dong Dau to Dongson
Xom Huong	1977	Dongson
Xom Nhoi	1976, 1977	Dongson
Xuan Kieu	1970, 1971	Dong Dau

slag under the rampart (Higham 1996: 122). Unfortunately, the investigation did not yield radiocarbon determinations, though the researchers did analyze pollen and spore samples recovered from various strata and apparent construction sequences. Essentially, the data indicate that the earliest level of initial construction contained traces of oak only, and that subsequent construction layers show oak disappearing. The interpretation offered by the researchers suggests that the immediate vicinity was initially hilly, forested with large trees, and not ideally suited for agricultural production (Nguyen 1970). From the sequences of pollen analysis, it would appear that intentional clearing in the area coincided with the initial construction of the rampart, and both activities hint at large-scale labor efforts. Unfortunately, the researchers could not offer chronologies for these activities. In the decades since, the dating for the rampart construction, and of the perceived environmental changes and possible large-scale clearance of forested areas, remained unclear.

In 1976, fragments of bronze drums were found at Xom Nhoi, located between the Middle and Outer Walls, with bronze arrowheads and other tools,

though the pieces found were not sufficiently diagnostic (Calo 2009: 59). In the early 1980s, excavations at the Ma Tre site located 500 meters outside the southeast corner of the Inner Wall uncovered an outstanding Dongson bronze drum, labeled as "Co Loa I" (Nguyen and Nguyen 1983; Pham 1982). A more recent investigation at Ma Tre yielded roof tile fragments, which I discuss in a later section. The drum contained within it a smaller drum ("Co Loa II") (Calo 2009: 58). The Co Loa I drum, weighing 72 kilograms, is the largest recovered from the region, and it also contained some 200 bronze objects, including 96 plowshares, six hoes, a chisel, and a variety of axes, spearheads, daggers, and arrowheads (Nguyen and Nguyen 1983). Some 20 kilograms of bronze debris were also found within the drum. Depending on the quality of the available ore, perhaps 1000–7000 kilograms of crude ore would have been required to fabricate this drum (Nguyen 1983: 185). Such hoards are very rare in Southeast Asia, and the hoard found in the Co Loa drum may be unique, providing us with a glimpse of bronzes that were in circulation, presumably during the last couple of centuries BC (Higham 1996: 122). Higham (1996: 122) observes that one of the pediform socketed axes within the Co Loa drum resembles the shape of impressions from a clay mold found at the Dongson Culture site of Lang Ca.

The drum also contained two very significant pieces of evidence (see Calo 2009: 59). First, a Chinese coin dated to 200 BC was found inside it, thus providing some general chronology. Second, there is an inscription in Chinese characters on the inner surface of the lower mantle. The presence of these clues suggests intriguing possibilities. One implication is that the Vietnamese traditions describing the conquest of the Au Lac by Nanyue at 179 BC (see Taylor 1983: 25) may hold some validity, and that this purported historical event and political shift may have occurred sometime after 200 BC. However, there is no additional direct evidence for a conquest event. Another implication, and one that has more material support, is that the rulers centered at Co Loa not only had contact with societies to the north, but that there may have been leadership strategies of emulation at work, a possibility I explore further in Chapter 10.

Nguyen and Nguyen (1983) suspect the drum may have been buried and hidden intentionally due to threat of attack and war. Interestingly, at the Cau Vuc site located just outside Co Loa's main entrance to the south, a hoard of about 10,000 bronze-tanged projectile points was found (Pham 2004: 199). I suspect that a similar scenario may account for the burial of this Co Loa I drum cache. That these materials were perhaps buried hurriedly in what appears to be a cache hints at the possibility that residents of Co Loa abandoned these valuable possessions either just before or during a potential conflict. Such bronzes probably served an additional function beyond an obvious utilitarian one,

symbolizing wealth and currency of some kind. In any case, these artifacts at a minimum suggest tremendous wealth being possessed by the inhabitants of the Co Loa settlement, along with specialized and perhaps centralized production of tools and weaponry.

Material Markers for Complexity and Political Centralization

The material record for the Co Loa area exhibits various characteristics and hallmarks of complexity, including markers for craft specialization, centralized control or governance, and agricultural intensification efforts. Surviving cultural materials at Co Loa dating from the last three centuries BC include thousands of ceramic roof tiles, bronze projectile points suspected to be crossbow bolts, plowshares, axes, and spearheads, and the stone casting molds for these bronzes. In particular, the roof tile artifacts belong to what Vietnamese researchers refer to as the "Co Loa Culture" (Lai 2004; Lai 2014a; Kim et al. 2010). Though overlapping chronologically with the overall Dongson phase, these Co Loa artifacts are marked by elite-level or royal characteristics and are found only within the Co Loa site and not elsewhere in Vietnam. The sheer quantity of bronze implements found at Co Loa reinforces the notion of centralized production, social stratification, and monopolization of materials (Kim 2010; Pham 2004). Dongson materials, however, are found not only throughout Co Loa, but also throughout the region, and Dongson materials lack the stylized roof tiles and bricks, along with massive quantities of bronze projectile points, plowshares, and associated casting molds, that have been recovered from the Co Loa settlement. Accordingly, Vietnamese researchers have identified the Co Loa Culture and its artifacts, distinguishing them from contemporaneous Late Dongson material remains, and this phase is generally considered to cover the third and second centuries BC (Lai 2004).

Over the course of two field seasons (2004–2005, 2006–2008), the Vietnam Institute of Archaeology excavated within the southwestern corner of the Inner Wall area at the Den Thuong site, identifying several cultural layers beginning with Iron Age occupation and extending continuously into the historic dynastic periods of the second millennium AD. This project was directed by Dr. Lai Van Toi, and I was able to visit the excavations while they were being performed. The earliest material remains included a foundry system, bricks, stylized ceramic roof tiles, and lithic molds for casting bronze projectile points of the Co Loa Culture (see Lai 2014a). Several lithic molds for casting trilobate bronze arrowheads and spearheads have been excavated, and all of the molds were disposed of in middens within the area. Within the firing kiln were fragments of Co Loa Culture roof tiles and casting molds for bronze arrows, and next to the firing

kiln was a small hole filled with black soil and charcoal, presumably a trash pit. Found within the hole were additional pieces of roof tiles and casting molds. A charcoal sample was recovered from the hole, subsequently yielding a radiocarbon measurement of 2190 +/– 35 BP (Nguyen Quang Mien, personal communication, 2010). Though this radiocarbon determination suggests a pre-Han chronology for these features, it is difficult to extrapolate for the rampart construction and the entire site. Nevertheless, the production of such a large quantity of tools and weapons suggests craft production under elite sponsorship, oversight, or management. In an analysis of craft specialization associated with crossbow technology during China's imperial Qin period of the third century BC, Li and colleagues (2014) convincingly argue that crossbow-related technology was not likely to be common or widespread at the time, and that associated knowledge, skills, and materials would have been restricted. Referring to the Cau Vuc site and recovery of the thousands of bronze points that may have been associated with crossbows, Pham (2004: 201) remarks that this level of production could not have been handled by an ordinary village workshop, but would have clearly necessitated an elite authority of some kind. This further reinforces the notion craft specialists were likely to be attached to the rulers centered at Co Loa.

Altogether, the evidence from the 2004–2005 and 2006–2007 fieldwork is suggestive of centralized control over production and distribution of various metal implements and goods, providing support for the hypothesis that a highly consolidated political structure marked society at Co Loa. The standardized mass-production of weaponry strongly suggests a monopoly over the use of deadly force, a distinguishing trait of state-level societies. In addition to weapons manufacture and distribution, the casting of metal plowshares is a direct application of metallurgical skills for the intensification of agriculture (Higham 1989: 198). Increasing intensification was undoubtedly tied to a growing population in the area, and an apparent centralized control over production of agricultural implements also hints at state-level control. The evidence from excavation in the Inner Wall area, in combination with the caches of a plethora of high-quality bronzes found at the Ma Tre and Cau Vuc sites, bespeak extensive and sophisticated production, one that was quite specialized and professional. For bronze-working on this scale, Nguyen (1983: 185) posits that specialization would have been required in a number of areas and stages, including: the extraction of ores (copper, tin, and lead); the preparation of a variety of different alloys; the manufacture of molds; the casting process itself; and the retouching and finishing of cast articles. In sum, having a production facility within the Inner Wall area indicates the likelihood that a highly centralized polity had some form of restricted control over the production of important implements of both war and agriculture. Still

to be addressed, however, is whether the ramparts were contemporaneous with these materials, whether they were constructed during the closing centuries BC or well after.

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Summary

Over the past half century, archaeological research performed in Vietnam has actively worked to either validate or invalidate both historical and legendary claims. Whatever the motivation, recent decades of archaeological research have unearthed considerable amounts of data indicating continuous and indigenous cultural development in northern Vietnam prior to Han annexation. Recent material evidence suggests that by the time of Chinese occupation of Vietnam, a well-developed, populous, and politically centralized civilization was already in place, implying continuous indigenous development over millennia, development not wholly attributable to a process of "Sinicization."

While I refrain from commenting on the validity of Vietnamese traditions and their accounts regarding specific polities such the Au Lac and Van Lang, these historical descriptions can, at the very least, provide some contextual clues and points of departure for investigations. Of greater significance, however, is how the material evidence can be assessed in regard to local changes in sociopolitical configurations. The increasing levels of agricultural intensification, social stratification, and craft specialization discernible in the Red River plain and at Co Loa are all suggestive of a politically complex society. Ceramics and other goods recovered at the site are of much higher quality and larger size than elsewhere in Bac Bo, and the inhabitants of the Co Loa settlement appear to have had access to greater amounts of wealth and restricted resources than those in villages of surrounding areas.

The presence at Co Loa of an abundance of bronze products, in combination with its monumental architecture and monopoly over specialized manufacture and distribution of standardized war and farming implements, suggests the presence of a centralized authority. Moreover, the roof tiles found only at Co Loa suggest its likely status as a capital site. These traits also raise the possibility that surrounding villages and communities paid tribute or taxes to the centralized polity. The tribute or taxes might have taken the form of agricultural surplus, manufactured goods, raw materials, *corvée* labor and military service.

Unquestionably, the nature and chronology of the system of rampart and moat features can provide substantive insights into when political centralization occurred and under what conditions, and whether or not the monumental

constructions were associated with a pre-Sinitic society. When were the ramparts constructed? What were the labor requirements? Was construction single-phased or multi-phased? Who was responsible for building them? If they were used as fortifications, who may have been posing a threat, and who or what was being defended? In the coming chapters, I discuss new data directly pertinent to these questions.

CHAPTER 8

RECENT FIELD INVESTIGATIONS AT CO LOA

OVER 30 YEARS AGO, HISTORIAN Stephen O'Harrow (1979: 149) argued that reliable dating of Co Loa's constructions would allow researchers to address debates regarding the prehistory and early civilization of Vietnam. Such chronological data would also afford a better understanding about the timing and developmental process of the Red River Delta's sociopolitical complexity, along with related causal factors. In particular, the nature and chronology of the rampart system can furnish substantive insights about sociopolitical conditions of the area at the time of construction, and whether or not the monumental architecture were associated with any pre-Han society. A chief question to be addressed is whether Co Loa and its monumental constructions existed before the area was fully annexed by the Han during the first century AD. As suggested by the variegated textual traditions, the list of societies and polities that may have been responsible for either original construction or amplification efforts includes a range of suspects, from the legendary Au Lac to the historically known Later Le Dynasty or Tay Son Dynasty of the late medieval period. Until recently, there was virtually no chronological information from archaeological data available to address resolve these questions. In this chapter, I present the findings from a series of investigations that address questions of chronology.

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Excavations of the Rampart System

Fieldwork performed at Co Loa in recent decades has considerably expanded our base of knowledge of the area, which appears to have been continuously occupied for the last 4,000 years. Recent field investigations have been

undertaken to inspect the extant monumental system of ramparts in order to elucidate the chronology and cultural changes associated with their construction. Specifically, examinations were conducted at selected portions of the ramparts to gather material data (see Figure 8.1). These were collaborative projects between American and Vietnamese archaeologists, the first such cooperative efforts ever conducted at Co Loa. They also represented the first full-scale and systematic investigations of the ramparts, thus providing unprecedented information. In this chapter, I present a broad overview of our main findings as they relate to larger implications about changing patterns of cultural lifeways and sociopolitical organization, and much more detail is available elsewhere (see Kim 2010, 2013a; Kim et al. 2010).

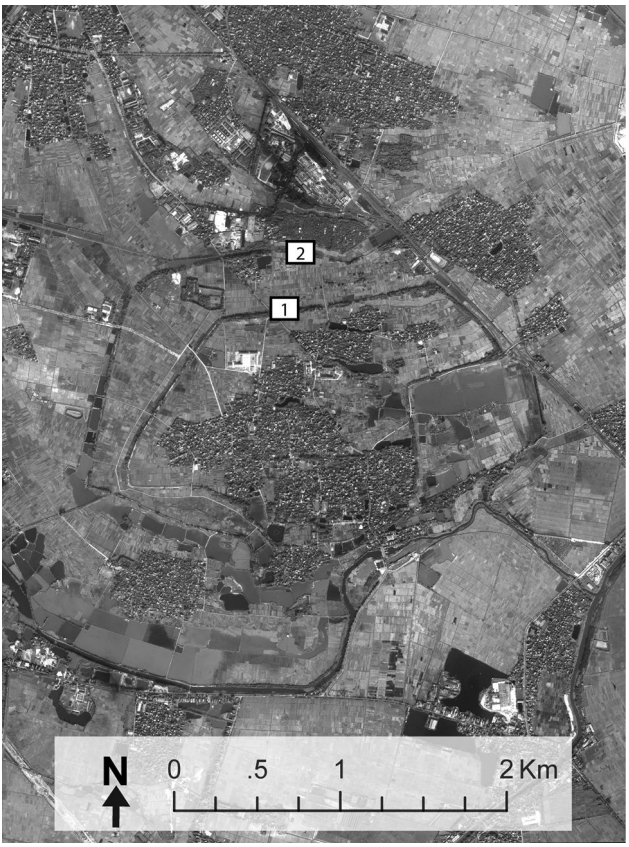

FIGURE 8.1.
Locations of the excavations of the middle wall (1) and outer wall (2).
Imagery provided by DigitalGlobe and ArchaeoTerra.

Since 2007, I have directed three separate excavations at selected areas of the rampart system, in conjunction with the Vietnam Institute of Archaeology (VIA). The first investigation, co-directed with Lai Van Toi and Trinh Hoang Hiep, examined the Middle Wall and its exterior ditch. The second and third excavations involved the Outer and Inner Walls, respectively, and were co-directed by Trinh Hoang Hiep. These latter two investigations were carried out more recently, and some of the materials and data are still being analyzed at the time of this writing. Thus, I will begin with an overview of the findings from the Middle Wall before presenting preliminary information about the Outer and Inner Walls.

For the Middle Wall excavation, the stratification showed several layers of construction deposits, which can be grouped into three main chronological periods (Period 1: Early; Period 2: Middle; and Period 3: Late), with several major phases of construction (see Table 8.1). Phase 1 falls within the Early Period, Phases 2–4 occur during the Middle Period, and Phase 5 falls within the Late Period (see Figures 8.2, 8.3, and 8.4). It appears that the bulk of the rampart, the portion corresponding to the originally constructed feature, occurred during Phases 2–4. Interestingly (and unexpectedly), a smaller set of features was discovered buried beneath the rampart, and these are designated as the Early Period, Phase 1 construction. We suspect this smaller set of features was constructed by a different, smaller-scale society predating the polity responsible for the earthen rampart.

The Early Period, Phase 1 features constituted the earliest structures found during the investigations, and they lay on sterile subsoil. The features consisted of a clay wall, a clay platform with a structure, and associated ditches. It appears the features were constructed using the same method and materials, with topsoil and reddish, laterized clay and soil being dug up from adjacent trenches and ditches. It is possible that these features served a defensive function, given their characteristics, although this interpretation is debatable (see Kim 2010). The exterior

TABLE 8.1.
Rampart Construction Chronology, Phases, and Dimensions

Period	Phase	Construction	Max. Height	Width	Date
1 (Early)	1	Clay wall and platform	1 m+	1.8 m	c. 500–300 BC
2 (Middle)	2	Dumped earth	2 m	17 m	c. 300–100 BC
2 (Middle)	3	Thick stamped earth	2.5 m	24 m	c. 300–100 BC
2 (Middle)	4	Dumped earth	3 m	24–25 m	c. 300–100 BC
3 (Late)	5	Thin stamped earth	4 m	26 m	Post–100 BC/Historic
3 (Late)	5	Thin stamped earth	4 m	26 m	Medieval period?

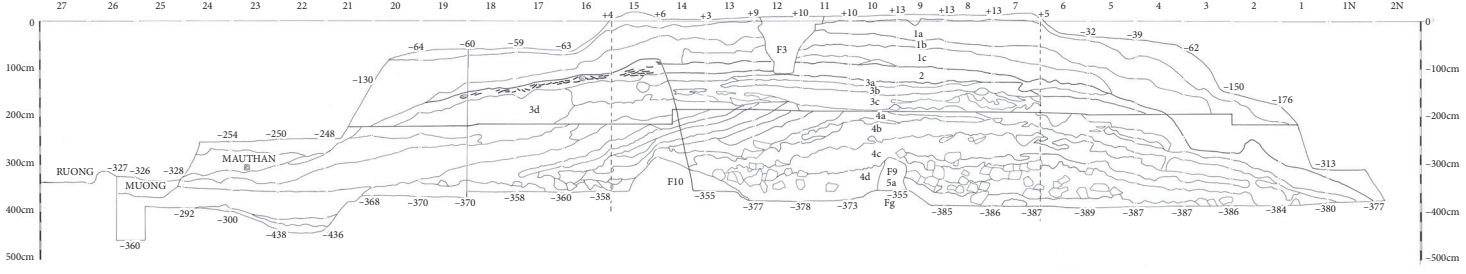

FIGURE 8.2.
Drawing of West section of excavation trench through rampart.
Drawing by Nguyen Dang Cuong.

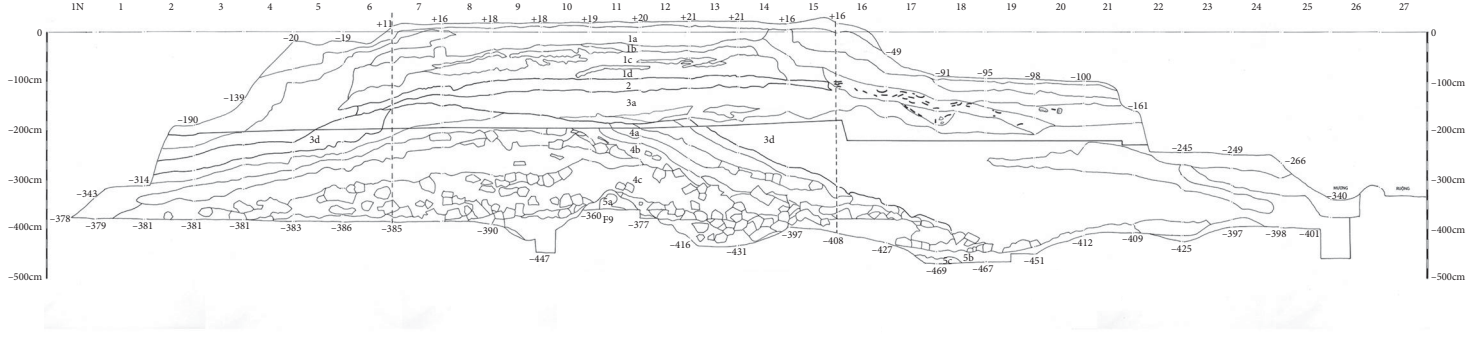

FIGURE 8.3.
Drawing of East section of excavation trench through rampart.
Drawing by Nguyen Dang Cuong.

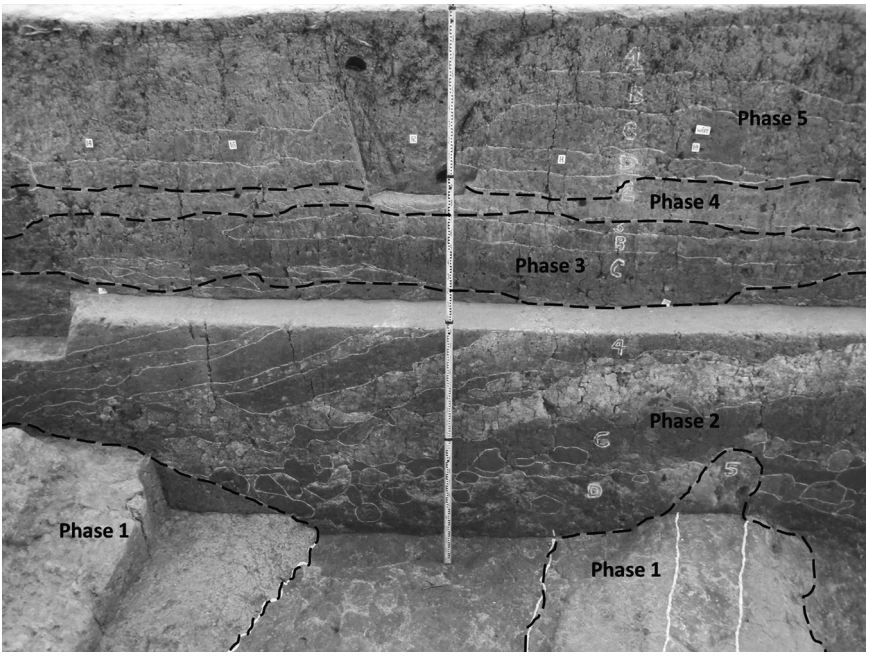

FIGURE 8.4.
Phases of construction. The five phases and three periods of construction seen in the West section: (1) Phase 1, Period 1 features (Early Period); (2) Phase 2 construction of piled earth (Middle Period); (3) Phase 3 construction of thick rammed/stamped earth (Middle Period); (4) Phase 4 construction of earth with roof tiles (Middle Period); (5) Sequences of thin rammed earth can be seen above the roof tiles in Phase 5 (Late Period), which may date to the Han or later historical periods.

faces of the smaller clay wall suggest that it was larger when first constructed, and may have suffered some period of disrepair before eventually being covered over and effectively preserved *in situ* by construction of the larger earthen rampart. Remains of the structure's northern wall were still standing *in situ*, having also been covered by earth during construction of the monumental rampart. The set of Phase 1 features appears to be architecturally unrelated to the larger earthen rampart wall, suggesting the possibility of its being put in place by a different society (see Figure 8.5). This notion was reinforced by associated artifacts and radiocarbon determinations.

Found *in situ* and in association with the Period 1 features were Dongson Culture artifacts. The Dongson artifacts encountered at this phase atop sterile soil were sealed by the rampart and did not recur in subsequent phases. On the floor of the platform's structure was a number of Dongson potsherds, a fragment of iron

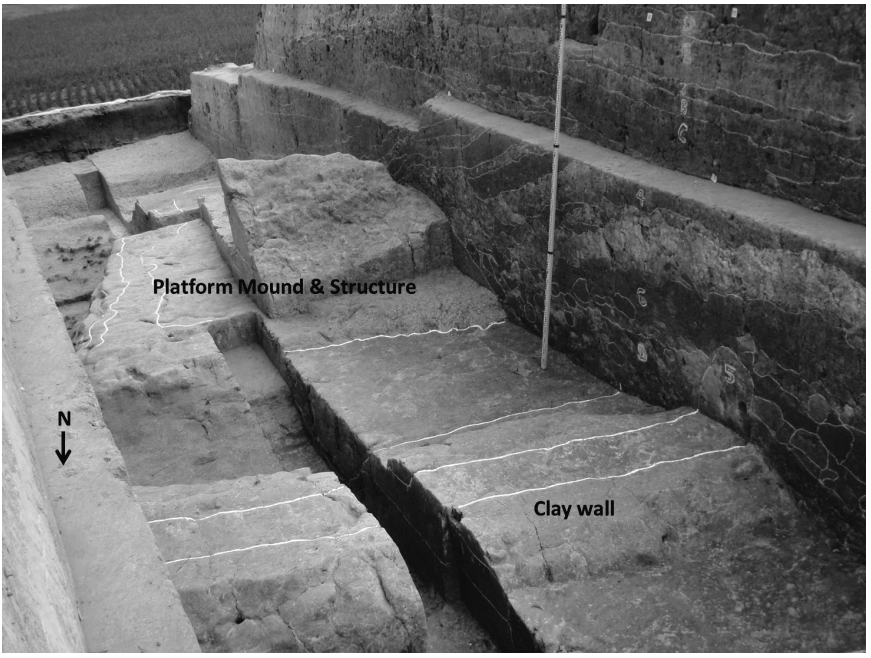

FIGURE 8.5.
Photograph of the excavation through the middle wall rampart, looking into the interior of the enclosure (southwards). In the foreground is the Early Period, Phase 1 construction of the clay wall, with the platform mound and earthen structure beyond.
Photograph by author.

slag, and a ring of charred earth. Dongson sherds were also found within the surrounding ditch of the platform as well, and many of the artifacts had wood charcoal in context with them. A total of 57 sherds were found, the bulk of which were in the ditch of the platform mound (see Figure 8.6). Some of the sherds may have been either intentionally discarded, or perhaps washed or eroded into the ditch from the platform during periods of dereliction. A total of 12 radiocarbon dates were determined from the charcoal samples of the structure floor and surrounding ditch, all in association with Dongson materials, ranging from approximately 500–300 Cal BC. Ultimately, the radiocarbon determinations indicate that the Period 1 features not only significantly predate the monumental rampart, but that they were constructed by a community culturally and politically distinct from the society responsible for the rampart.

As mentioned, the rampart was put into place right over the Phase 1 features, though with no obvious architectural relationship. The majority of the earth used to construct the rampart appears to have come directly from its exterior face, and

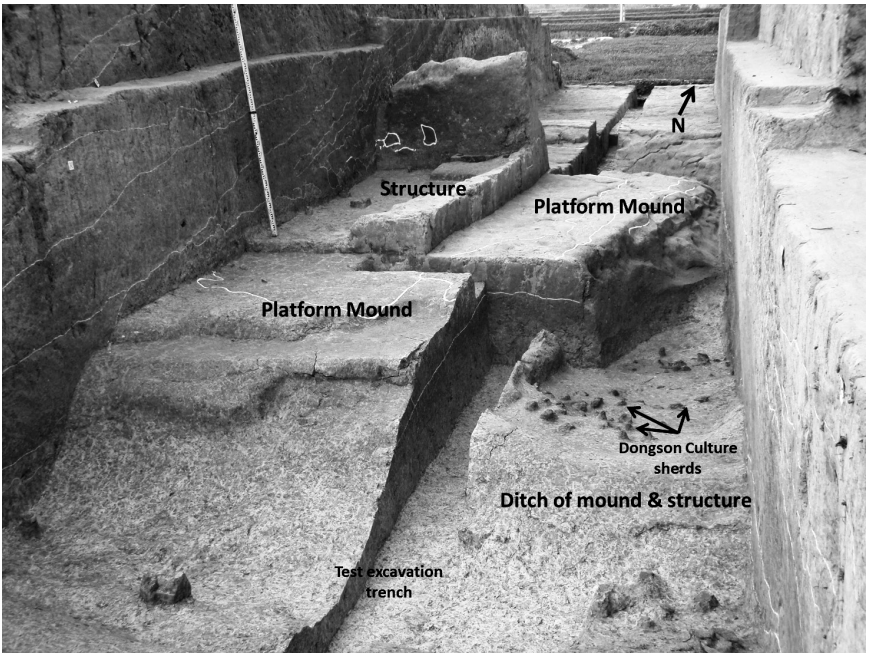

FIGURE 8.6.
Photograph of Phase 1 platform mound and structure. This feature was found *in situ* within the rampart's excavation trench. Note the presence of Dongson Culture potsherds found *in situ* within the ditch outside of the platform mound.
Photograph by author.

it appears the wall and outer ditch were constructed simultaneously. There were four main phases of construction, all through use of earthen materials. Most of the rampart, specifically Phases 2–4, appears to have been put in place within a relatively short time span. The stratigraphic evidence suggests the earthen material associated with these phases was deposited rather continuously, as indicated by a general absence of natural deposit or erosion layers between construction phases. Based on medieval-period artifacts found, a final construction sequence (Phase 5) was assigned to one or more refurbishment episodes. These materials include fragments of Le Dynasty ceramics (c. fifteenth to eighteenth centuries).

Phase 2 construction of the main rampart began with a foundation of spoil dug out from the ditch. Within this layer, it appears that clumps of soil were dug up and then deposited within uneven areas of the ground in order to create a flatter surface, one that would serve as the foundation of the large earthen wall. Above the initial foundation layer, additional blocks of soil, clay, and sand were then deposited in an organized fashion, resulting in a mounded, bank-like

feature, thus completing Phase 2. A radiocarbon determination was made from wood charcoal found at the base of Phase 2, giving us a 1-sigma calibrated range of 392–233 Cal BC. Consequently, we suspect the rampart's construction may have commenced sometime during the late fourth or early third century BC. Once this initial mounded feature was complete, Phase 3 involved building up the height and thickness of the wall. Within these layers was a significant amount of reddish laterite mixed with soil. Upon completion of this particular construction sequence, the height of the wall was approximately 2.5 meters, and its thickness had been increased to approximately 24 meters, close to its present dimensions.

Of particular interest is that within Phase 3, the builders used a stamped earth technique. The stamped earth technique bears some resemblance to such techniques seen in parts of ancient Sinitic civilization (known as *hang-tu*). The *hang-tu* method was often used to construct walls and foundations for buildings at Longshan (c. third millennium BC) and Shang Culture (c. second millennium BC) sites (Chang 1980: 90–92, 273), and the method persisted into the first millennium BC. Indeed, stamped earth was used during the Warring States period to build some of the earliest parts of what would eventually become the Great Wall. However, stamped earth layers at contemporaneous Chinese sites, such as those of the Qin and Han period, tended to be thinly stratified and uniform in thickness, approximately 12–14 centimeters (Chang 1986: 248), while the stamped earth layers of Phase 3 were much thicker, cruder, and lacked uniformity (Lawrence Keeley, personal communication, 2009). The presence of these thicker stamped earth layers suggests, in my estimation, some form of emulative strategy, and I discuss this possibility further in Chapter 10. Four radiocarbon dates were secured from wood charcoal found within Phase 3. Combining the 1-sigma calibration ranges, the samples yield an overall range of 389–192 Cal BC, clearly predating Imperial Han arrival.

Phase 4 involved another layer of dumped earth, further expanding the size of the rampart. Most of the artifacts from the excavation, consisting of ceramic roof tile fragments and stones, were recovered from the Phase 4 layers (approximately 1 meter below the current rampart surface) (see Figures 8.7, 8.8, and 8.9). These roof tiles and stones are part of the royal or elite-level material remains of the Co Loa Culture, similar to the materials found in the Den Thuong excavations of the Inner Wall area (see Chapter 7). Similar Co Loa Culture artifacts were also found in the exterior ditch or moat area, where they had probably been displaced from the top of the rampart by erosion and collapse. Several radiocarbon dates were secured from wood charcoal samples found with the Co Loa roof tiles and stones within the Phase 4 layer of the rampart, giving us a 1-sigma calibrated range of 357–54 Cal BC. I suspect that this layer represents the terminus

FIGURE 8.7.
Photograph of *in situ* Co Loa roof tile fragments. The Co Loa culture roof tile fragments and stones began appearing approximately 1.5 meters below the rampart's surface. The area in this photograph is at the southern side of the rampart, just as the uppermost surface slopes down into the tier below.
Photograph by author.

of the ancient rampart construction, and these data reinforce the notion that the bulk of the rampart was constructed well before Han annexation.

The radiocarbon dates of Phases 2 through 4 coincide with the radiocarbon determinations obtained from the lowest cultural layers of the Inner Wall area's Den Thuong site (see Chapter 7). This suggests that the roof tiles found within the Middle Wall were probably being manufactured at the same time as those found within the Inner Wall area, further bolstering the interpretation that the central area enclosed by the Inner Wall controlled production over high-status or elite materials, such as the tiles and various bronzes.

Acknowledging the potential issue of old wood, we obtained thermoluminescence determinations using a total of seven roof tile samples found in conjunction with the wood charcoal. The results indicate a range of 2133 to 2262 BP, generally corresponding to the radiocarbon dates obtained from wood charcoal found in Phase 4 with the roof tiles. In sum, these independent strands of

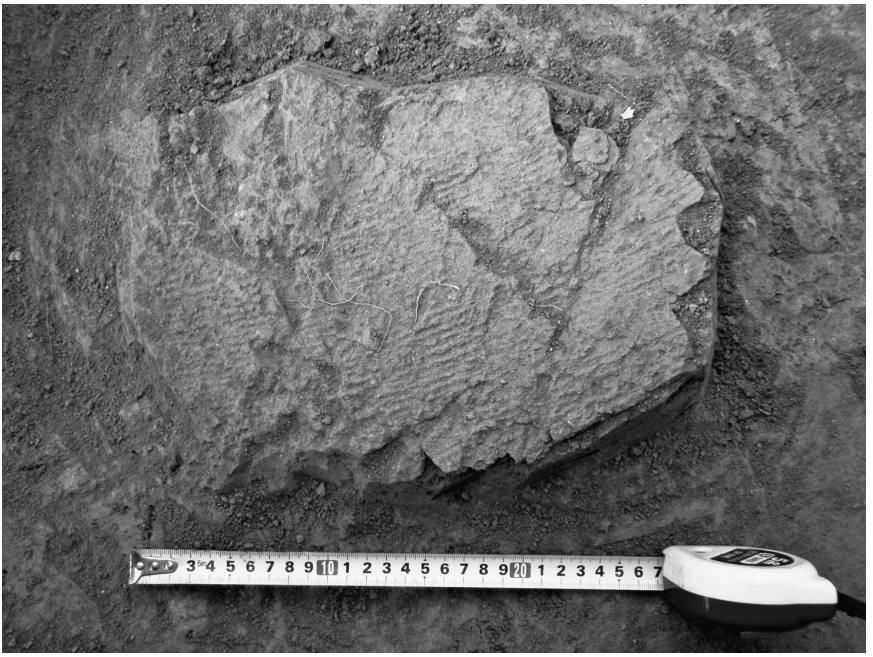

FIGURE 8.8.
In situ sample of Co Loa roof tile fragment.
Photograph by author.

evidence support the chronological scheme offered for the Middle Period (c. 300–100 BC).

The final, Phase 5 constructions expanded the rampart to nearly its final surviving dimensions, and the mode of construction included both simple soil deposition as well as stamped earth. The chronology of Phase 5 construction layers is indicated by historic and medieval pottery, and appears to be related to refurbishment or amplification episodes. Artifacts of the Vietnamese Le Dynasty were found within these upper layers, suggesting a refurbishment in the medieval period, if not earlier. The stamped earth of Phase 5 appeared to be thin and uniform, resembling the *hang-tu* method of Chinese construction more so than the earlier stamped earth of Phase 3. These more uniform stamped earth techniques hint that amplification may have been carried out under Sinitic direction. It is thus possible that Phase 5 was initiated during a possible Nanyue (Nam Viet), Han, or post-Han era as a reconstruction or amplification phase, with additional refurbishment occurring during the medieval period.

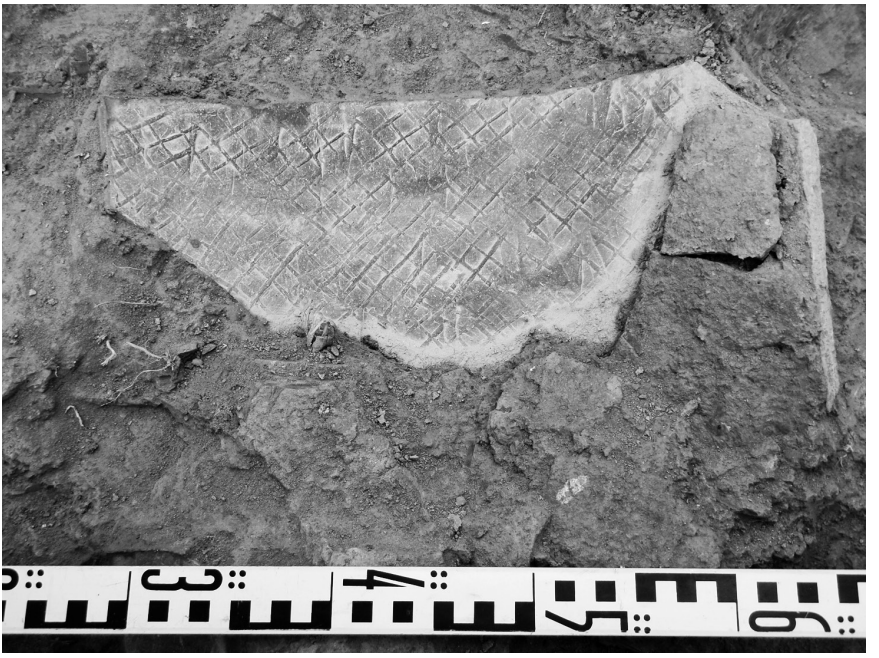

FIGURE 8.9.
In situ sample of Co Loa roof tile fragment.
Photograph by author.

Currently, identifying the society responsible for this last phase is difficult. For simplicity, I would characterize this last phase as "Post–Co Loa." Furthermore, if there was indeed a roofed structure on the rampart, it is also entirely possible that, as another political entity (e.g., Han) took control of the area, these structures were destroyed, leaving only remnants on the surface of the ramparts. It is also possible that other structures throughout the settlement were destroyed and debris was transported to the rampart surfaces for refurbishment and reinforcement.

In our investigation of the outer ditch of the rampart, we found more of the Co Loa Culture roof tiles just above the sterile soil. Based on the stratigraphic evidence and the location of cultural materials, the ditch was approximately 10 meters wide at the top and roughly V-shaped in profile, with a depth of 4.5 meters (8.8 meters below the wall's uppermost surface). The ditch was probably dry when originally constructed, but may have functioned both as a dry ditch and as a water-filled moat after construction, as indicated by the presence of alluvial layers (see Figure 8.10). This promotes the notion that moat was connected to a larger river system, connected ultimately to the Red River via the local Hoang Giang and Duong Rivers.

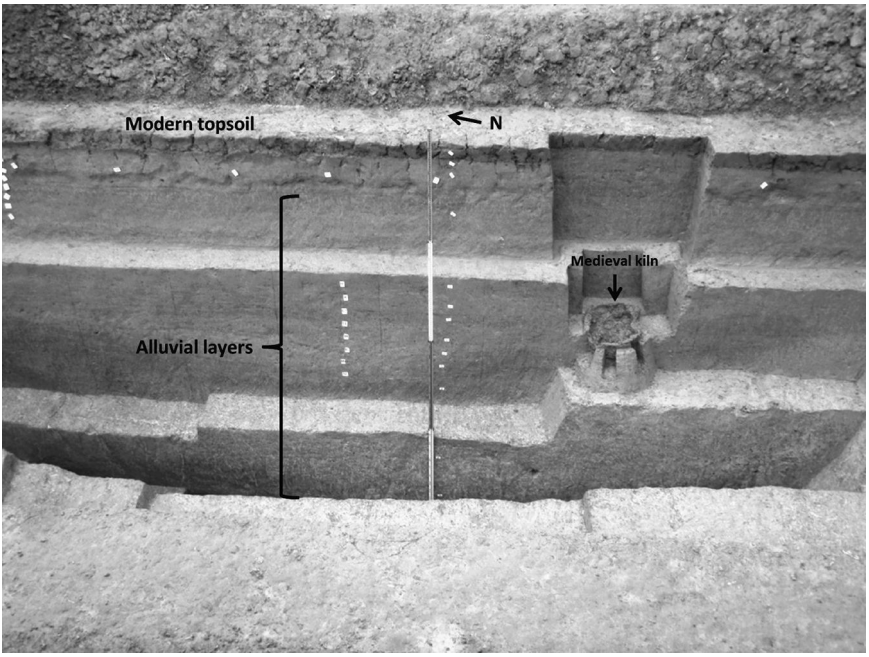

FIGURE 8.10.
Photograph of the East section of the completed ditch excavation. The very bottom of the ditch is obscured in this photograph. Note the location of the medieval kiln (Kiln 2—Le Dynasty), suggesting that the ditch and moat experienced alternating dry and submerged periods, even during the medieval period.

The ditch's shape and function undoubtedly changed over time, and changes may have also occurred seasonally. When dry, the ditch would have served a defensive function, an interpretation bolstered by the V-shape morphology. Based on cross-cultural comparisons, V-cross-section ditches of greater than 1 meter in depth have long been recognized as especially defensive (see Keeley et al. 2007). Of course, when water-filled and serving as a moat, the feature would have offered defensive utility as well. Moats would have facilitated water transport for various purposes, including boat travel connected to the Red River (see Figure 8.11).

A range of artifacts was recovered from the ditch excavation, from Co Loa Culture materials at the bottom to historic Le Dynasty materials within the upper strata, artifacts stylistically identified from the closing centuries BC through the eighteenth century AD. The lowest cultural layers yielded Co Loa roof tiles and stones, similar to the ones found within the rampart excavation. These artifacts appear to have fallen into the ditch when portions of the wall's northern exterior eroded.

FIGURE 8.11.
Photograph of the reservoir at Co Loa, known as Dam Ca. The depth of the water level fluctuates depending on time of year. The ancient moats were probably connected to this reservoir, which would have been connected to the local Hoang Giang River, and ultimately the Red River.
Photograph by author.

To summarize the chronology for the rampart, the consistent series of radiocarbon dates suggests that the Period 2 rampart (Phases 2–4) was under construction in the third century BC and remained in active use, probably until near the end of the millennium. Ultimately, given the size of the calibration range for each radiocarbon sample, it is impossible to identify the chronology of each construction sequence with high precision. Nonetheless, we can infer a fairly continuous progression of rampart construction, and it appears likely that construction began sometime near 300 BC. I suspect the bulk of the rampart was probably built continuously over a relatively quick timeframe, within two to three generations at most. Phases 2–4 constitute the bulk of the original rampart, dating to between 300 BC and 100 BC, and I would characterize this as the "Co Loa Polity" period. Again, because it is unclear when the roof tiles were deposited, and by whom, it is difficult to judge the terminus of the Co Loa Polity period. However, it is clear that these phases occurred well before the first century AD solidification of Han

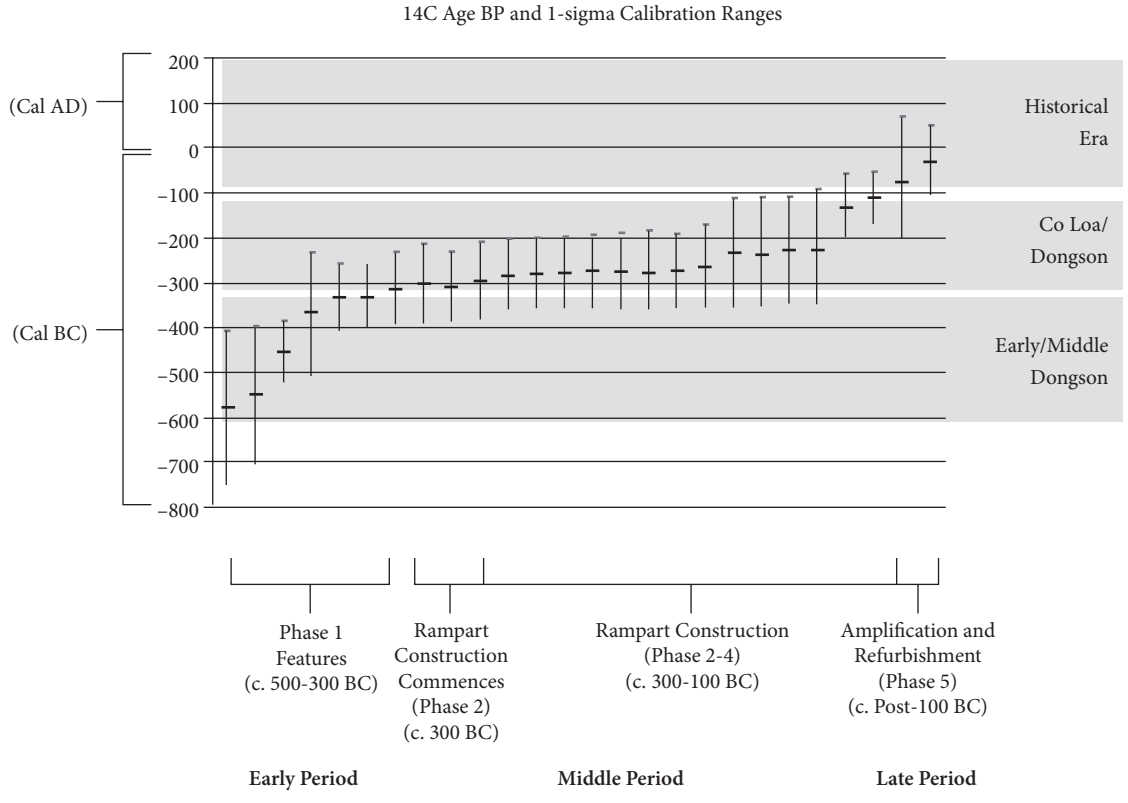

FIGURE 8.12.
All radiocarbon determinations for the 2007–2008 middle wall and ditch excavations. Includes all of the radiocarbon samples from the smaller-scale defensive features, the rampart's construction sequences, as well the ditch.

control over the area (see Figure 8.12). Essentially, then, the data show that a society (or societies) of local and indigenous people, arguably "proto-Vietnamese," was responsible for the founding the settlement and building much of the monumental rampart system. Overall, the combination of artifacts, construction methods, and radiocarbon dates work in concert to support this hypothesis.

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Supplementary Information: Investigations of the Outer and Inner Walls

In 2012, another round of excavations was undertaken, this time investigating a portion of the Outer Wall northeast of the Middle Wall excavation (see Figures 8.13, 8.14, and 8.15).

As with the Middle Wall, there were several construction sequences visible within the stratigraphy, though there was no evidence of stamped earth used at this location. Instead, there appear to be layers of construction using dumped earth, similar to Phase 2 of the Middle Wall. Moreover, the stratigraphy shows

FIGURE 8.13.
Photograph of the outer wall excavation in 2012. This image shows the northern exterior of the rampart.

Photograph by author.

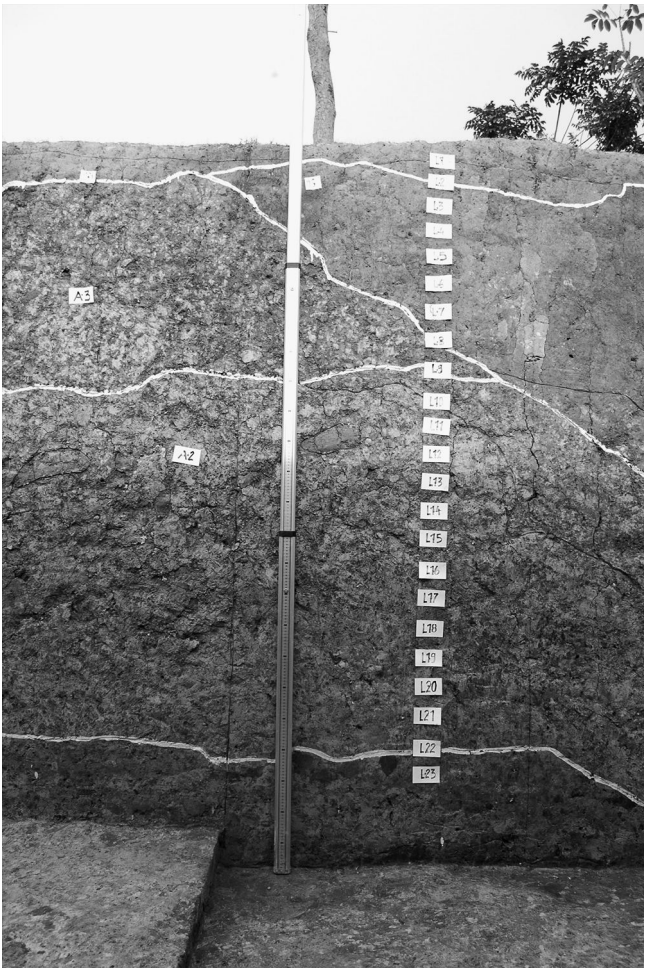

FIGURE 8.14.
The middle section of the Eastern profile of the excavation trench for the outer wall.
Photograph by author.

areas where amplification or refurbishment occurred to augment the width of the exterior faces, and there were at least two amplification phases (see Figures 8.16 and 8.17). This interpretation is supported by the presence of medieval-period materials found within the upper layers of construction. As with the Middle Wall, there was a layer of Co Loa roof tiles and stones, with a higher density in the south (see Figure 8.18). These materials appear to be within an early amplification sequence, prior to one that may have occurred during the Le Dynasty period, as indicated by radiocarbon dates.

FIGURE 8.15.
Photograph of the outer wall excavation, viewed from the South.
Photograph taken by Trinh Hoang Hiep.

Several samples of wood charcoal were found stratified throughout the various construction sequences, some in direct context with artifacts. Closer to the surface, radiocarbon determinations indicate possible refurbishment phases during a period from the seventeenth to the early twentieth century. This would correspond to late medieval societies of the Le, Tay Son, or Nguyen Dynastic periods. Below, three radiocarbon determinations were secured from the earlier layers of the ancient rampart construction, providing a 1-sigma calibrated range of 389–111 Cal BC. This is largely congruent with Phases 2–4 of the Middle Wall construction sequence. Two major implications can be derived from these data. First, the evidence supports the likelihood of contemporaneous construction for the Middle and Outer Walls. Related to the notion of contemporaneity, the second implication is that the rampart system entailed a large-scale, synchronous, and coordinated set of construction efforts, efforts that would have required centralized planning, direction, information management, and control. The ramifications for forms of social organization are discussed further in Chapter 9.

Finally, we have only just completed fieldwork focused on the Inner Wall at the time of this writing. Our excavation examined an area of the rampart as well as a portion of its adjoining bastion in the northeast corner of the Inner Wall (see Figure 8.19). As materials are still being analyzed, I can only present very

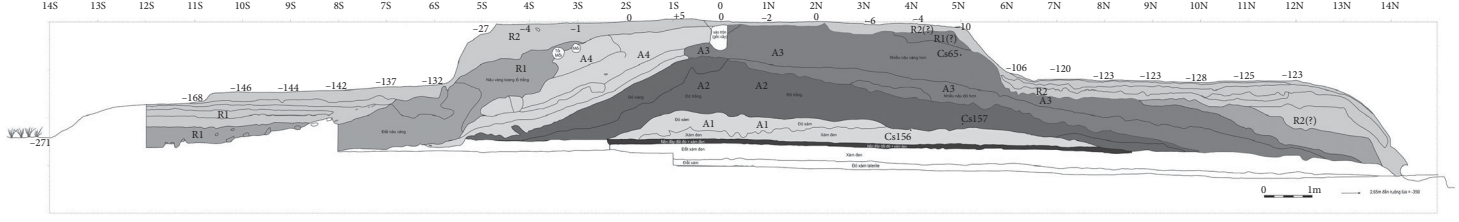

FIGURE 8.16.
Drawing of the Western profile of the excavation trench.

Drawing by Nguyen Dang Cuong.

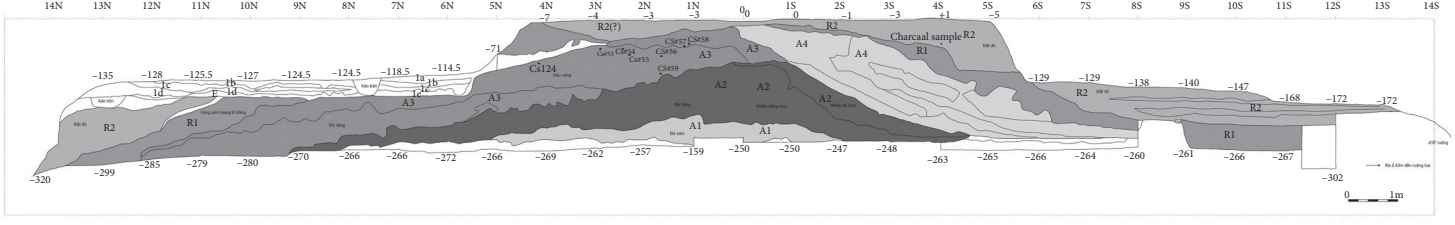

FIGURE 8.17.
Drawing of the Eastern profile of the excavation trench.
Drawing by Nguyen Dang Cuong.

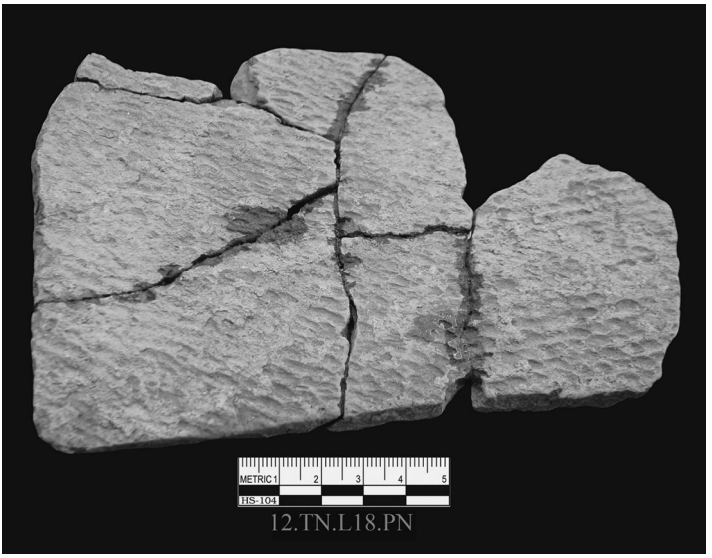

FIGURE 8.18.
Photograph of sample Co Loa roof tile fragment from the outer wall.
Photograph by Trinh Hoang Hiep.

preliminary information. Some of the construction methods resemble those seen in the previous excavations, particularly Phase 2 of the Middle Wall and the early sequences of the Outer Wall. Tellingly, we have recovered a significant amount of Co Loa Culture roof tile fragments, thereby indicating, for the time being, that portions of the Inner Wall construction are possibly contemporaneous with the other two enclosures.

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Co Loa Material Culture

Thousands of Co Loa ceramic roof tile fragments were recovered from excavations of the Middle, Outer, and Inner Walls. Over 5,000 were recovered from the excavations of the Middle Wall and its ditch, while over 300 pieces were found in the Outer Wall excavation. The presence of the roof tiles and stones, which are part of the Co Loa elite material culture, is still open to interpretation. One possibility is that there was a roofed structure along the top of the ramparts to protect defenders against missile attack, especially fire arrows, and that the artifacts are remnants of such structures. Another possibility is the tiles were placed here intentionally to protect the rampart core from erosion by tropical rain. More research is necessary before a stronger determination can be made.

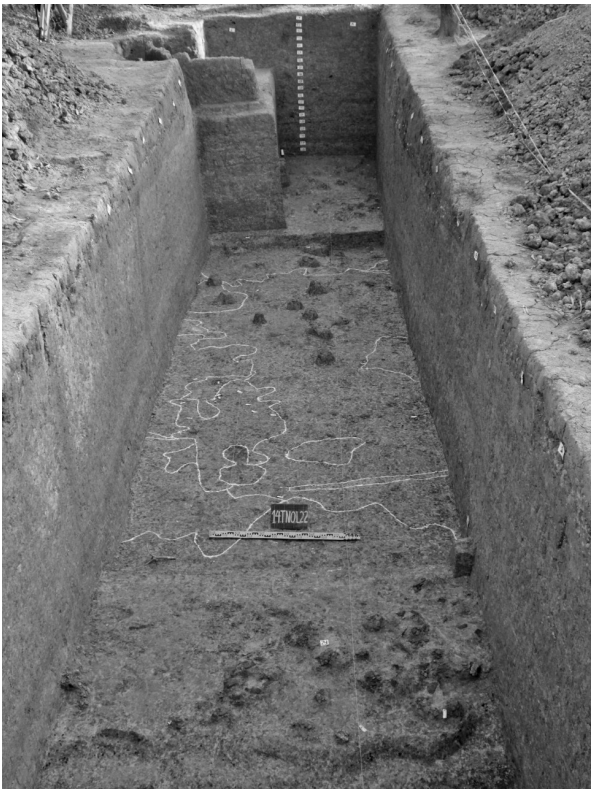

FIGURE 8.19.
Photograph of excavation trench of the Inner Wall in 2014. Note the presence of Co Loa roof tile fragments in the trench.

Whatever the case, the debris of tiles and stones seems to exist along the same stratigraphic layer throughout the complete transit of all three rampart circuits (totaling over 16 kilometers), as indicated by our excavations as well as surveys at collapsed portions of the ramparts. Some of the stone fragments found within the Middle and Outer Wall excavations appear to be pre-forms or discarded blanks of casting molds for bronze projectile points, similar to examples found within the Den Thuong excavation of the Inner Wall area. Moreover, roof tile fragments have been recovered at excavations at three separate locations in the Co Loa area (see Table 7.1) (see Lai 2012): (1) the Den Thuong site within the Inner Wall area; (2) the Bai Men site located just south of the Inner Wall perimeter; and (3) recently at the Dinh Trang site. Hence, the presence of Co Loa roof tiles is ubiquitous throughout the settlement.

An incredible amount of effort would have been required to produce all of these tiles. The enormous quantity suggests they were manufactured locally, and the material costs would have included timber fuel for the firing kilns to mass-produce these tiles. It is quite likely that the roof tiles were part of many edifices, though it remains unclear where all the buildings would have stood. Furthermore, that these tiles are found nowhere else in the Red River area is also revealing. It seems the production and use of the materials were fairly restricted to certain groups of people, and that they may have held symbolic weight.

There are thus several important observations to make about these artifacts. First, the presence of these tiles at Co Loa only, and nowhere else in the Red River Delta, indicates the importance of the settlement as some sort of culturally significant location, probably a political capital or seat of power. The production and uses of the tiles was apparently restricted. Second, the tiles would have differed from any previous form of roofing used in the region, and may well have required a different form of architecture. Given the physical weight of this type of roofing, a heavier investment in new forms of construction and structures would have been needed. This further signals a qualitative change occurring during the Co Loa Polity period. Third, it currently appears that the commencement of rampart construction (c. 300 BC) does not link chronologically to the manufacture and use of the roof tiles (c. 200 BC). It is possible the roof tiles were produced and used closer to the time when amplification phases occurred, when the tiles were deposited within Phase 4 of the Middle Period of rampart construction. Finally, the decorative motifs on the roof tile ends offer interesting clues about cultural trends.

As noted by Yamagata and Nguyen (2010:196), the earliest ceramic roof tiles found in Vietnam come from the Co Loa site, produced using a coiling technique (see Lai 2008). The Co Loa tiles were decorated with a "rolling clouds" motif, which was common during the Qin and Han dynasties of China, and also seen in examples from the palace at Nanyue (Yamagata and Nguyen 2010: 196; Francis Allard, personal communication, 2014). Based on the stylistic similarities between the roof tiles of Co Loa and Nanyue, and given the traditional and semi-historical accounts of Trieu Da and Nanyue (also known as Nam Viet or Nan Yueh) conquering the Au Lac Kingdom, Yamagata and Nguyen suggest that buildings with these tiles were erected after the Nanyue takeover of Co Loa and under the influence of Nanyue. While this is a very intriguing possibility, I am hesitant to accept this explanation without further evidence. At the moment, I argue it is safer to conclude that political leaders of the settlement would have been using Sinitic motifs as part of emulative strategies to legitimize their authority. This perspective, therefore, does not link the material evidence directly to any semi-historical

or legendary kingdom. (I further discuss the notion of a Co Loa Polity, strategies of emulation, and links to the north later in this chapter, as well as in Chapter 10.)

Nevertheless, the presence of the roof tiles and their stylistic similarities to Sinitic examples raises many interesting questions. Future studies would benefit from new methodological approaches, such as petrographic and compositional analyses. Stoltman and colleagues (2009: 196–197) maintain that, while stylistic analysis of pottery is indispensable for placing archaeological sites in proper cultural and temporal contexts, pottery composition has the potential to offer much additional, valuable information about human relationships to the landscape. They advocate the petrographic analysis of thin sections of sediments and ceramic artifacts to provide a baseline for subsequent investigations of production and exchange. This type of approach would be extremely valuable for answering remaining questions about Co Loa and its relationships with its northern neighbors. Some of this work has already been done in the form of a pilot study (Carlucci 2013), and at present it appears that the Co Loa roof tiles were manufactured locally.

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Functions of the Ramparts as Fortifications

Within both the archaeological and the historical records of the world, archaeologists have identified many forms of fortifications, which have been constructed by all kinds of societies, ranging from small-scale villages to larger, state-like societies. Thus, the term "fortification" refers to any type of human-made construction that serves a militarily defensive function. It includes, for instance, wooden palisades with exterior ditches, earthen walls or ramparts, or large structures of stone. In many cases, societies would use parts of the existing natural terrain and landscape when building their defensive works. I hold that this may have been the case for the builders of the Co Loa earthen ramparts as well, with the builders' having used existing waterways, rivers, and hills to construct their complex system of fortifications. An important point to note, especially when considering the system of ramparts, ditches, and moats of Co Loa, is that having a defensive function does not exclude other potential uses of a construction.

In Chapter 6, I highlighted the evidence for competition and coercive interaction in the greater Red River Valley. The current archaeological record for the region underscores the possibility of multiple competing polities during the mid–first millennium BC, wherein various strategies were followed to obtain economic wealth and political power. Because of their strategic location near the Red River, elites living in the Red River plain were probably able to accumulate considerable wealth and political currency through the exchange of bronze goods

within an interregional interaction network that connected southern and southwestern China, northern Vietnam, and parts of Southeast Asia through overland, riverine, and coastal routes. Military power and coercive force, especially after the introduction of bronze weaponry, probably presented additional avenues for consolidating power.

Given these perceived cultural patterns, and for a number of other reasons, my colleagues and I suspect the Phase 1 constructions to possess defensive utility (see Kim et al. 2010). As such, they may be the earliest potential fortifications archaeologically detected anywhere within Vietnam. In concert with other material evidence, these features highlight the likely impact of conflict on social change, reflecting the occurrence of intraregional competition and possible outbreaks of organized violence among smaller-scale, non-state societies of the area.

Moving into the third century BC, we strongly suspect that the larger rampart system of Phases 2–4 would have had tremendous defensive utility as well. The presence of two distinct defensive systems is not completely surprising, as later military fortifications have often been built on existing, older ones in many historical contexts worldwide. Variations in the type and scale of fortification features built by societies throughout world history has depended on several factors, such as scale of the society, the nature of its perceived threats, its available resources, existing landscape features, and the prevailing kinds of both offensive and defensive weapons being used at the time. All of these factors can influence decision-making around fortifications.

For Co Loa, the evidence of competition and concerns over security should not be completely unexpected, given its geographic standing as a crossroads of interaction and the agricultural potential of the area. These geographic and geological qualities probably contributed to making it valuable real estate. It is also interesting to consider how concerns over security may have shifted concomitantly with changing political topographies, as reflected by changing defensive strategies. The scales of construction and requisite resources for each separate defensive system are different by several orders of magnitude. That vast difference in scale also highlights different organizational structures and capacities. The differences also suggest that the nature of threats faced by the two distinct societies would have been very different, as well as their associated military tactics and technologies. In the end, the massive scale and morphological characteristics of the Co Loa ramparts would suggest that militarism and defense were important parts of social lifeways during the mid-to-late–first millennium BC. Again, this does not preclude other possible functions for these monumental features, including social demarcation, ritual practice, flood control, and waterway transport. Indeed, the impressive scale and extent of the rampart constructions would have served as a physical indicator of tremendous wealth and power. The ramparts, along with any

other associated features and constructions, would have conveyed considerable control over resources, labor, and physical power. In this sense, the walls were likely to have served an ideological function as well as a physical one. I explore the military and non-military potential uses of the ramparts further in Chapter 9. All that said, the totality of evidence suggests warfare would have been an important part of social lifeways, and the emergence of a centralized political authority would have required the means to both consolidate its power and safeguard it.

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The Co Loa Polity Period

For the Red River plain, widely considered to be the crucible of proto-Vietnamese civilization, the collection of artifacts and chronological determinations for construction sequences in the ramparts suggest that a very powerful society was responsible for Co Loa's monumental constructions during the Middle Period (c. 300–100 BC) (see Table 8.2). The newly gathered evidence from the recent rampart-system investigations supports the hypothesis that significant sociopolitical complexity was present well before the area's absorption into a Han imperial sphere. The material data paint a compelling picture of local trajectories toward centralized political authority, one that is not directly attributable to foreign imposition. Of course, the timing of rampart construction does coincide with the tail-end of the Warring States period of China (c. 475 to 221 BC) and unification under the Qin (c. 221 BC). Thus, while direct foreign imposition of "civilization" cannot be cited as a factor for sociopolitical complexity at Co Loa, it is not out of the realm of possibility that turmoil and events to the north might have played some role therein, even if minor. Perhaps conflict to the north affected perceptions of threat and safety in Bac Bo, thus playing a role, among others, in motivating fortification. Or perhaps turmoil to the north fostered a greater amount of movement and flux. In the end, I suspect a combination of local and macro-regional cultural developments and interactions would have contributed to the pivotal sociopolitical changes associated with the Co Loa phenomenon.

TABLE 8.2.
Construction Chronology for the Rampart System

Period	Phase(s)	Chronology	Suspected Societal Scale
Early	1	c. 500–300 Cal BC	Middle-range polity
Middle	2–4	c. 300–100 Cal BC	State-level polity
Late	5	Post–c. 100 Cal BC	State-level polity

As I will argue in the coming chapters, Co Loa was a state-level polity, given the scale and durable nature of its authority. It appears that the majority of the rampart corresponds to what I refer to as the Co Loa Polity period (c. 300–100 BC), and it is likely that during the early part of this period, a state-level power was able to consolidate political control of the area and establish it as a capital and seat of power.

To be sure, some of the new material data can be applied to long-standing historiographical debates. There is a tantalizing potential to attach the earliest material manifestations of the Co Loa settlement and its chronology to specific historical, semi-historical, and legendary societies. For instance, one obvious possibility is that the legendary narratives about the Au Lac emerging during the third century BC may hold some validity. Additionally, the stylistic similarities between Co Loa roof tiles and Nanyue forms indicate a possible link to the figure of Trieu Da (also known as Zhao Tuo) and the Nam Viet Kingdom. There is also the Chinese coin issued at 200 BC found in the Co Loa drum (Calo 2009: 59). However, there is insufficient evidence that I would find satisfactory for fully substantiating such claims. For example, we currently do not have any material evidence related to ethnic groups or languages for the local population at Co Loa. Indeed, Tong (2004: 202) points out that, while historical annals of both Vietnam and China describe how the Zhao dynasty from Guangdong ruled over Au Lac via appointed governors from 179 to 111 BC, no clear material remains distinctive of the Zhao polity have yet been discovered, and Dongson cultural remains persist throughout the Delta in this period. Thus, while the new material data offer clues that may be potentially linked to either the Au Lac or the Nam Viet, I would avoid making direct connections to societies that may be historiographically problematic—choosing, rather, to use an appellation of "Co Loa Polity" to cover the period of sociopolitical complexity corresponding to 300–100 BC. Suffice it to say, it is entirely possible that one or both of these kingdoms may have existed and been present at Co Loa, in some shape or form. Indeed, if one of those kingdoms is eventually shown to have existed, such as the Nam Viet, then perhaps the accounts regarding the Au Lac and maybe even the Van Lang may also hold some validity. It is also possible that the Nam Viet polity's attacks and eventual overthrow (c. early second century BC) of the Au Lac, as described in textual accounts, may have led to subsequent amplification of the ramparts after takeover. However, there is simply insufficient evidence at the present time to do more than speculate about such historiographical linkages. For the time being, I submit that the capital settlement was founded by the Co Loa Polity sometime near the third century BC, and that knowledge of this polity would eventually either fade entirely from history or would undergo transformation as a Sinitic period began. I explore these historiographical implications further in Chapter 11.

CHAPTER 9

AN ANCIENT CITY

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Revisiting Ancient FORMS OF Urbanism in Southeast Asia

V. Gordon Childe (1950b) made a case for the presence of core common traits that characterized the world's earliest civilizations, while acknowledging that both cities and civilizations were difficult to define. As discussed in Chapter 3, researchers today still struggle to agree on universally applicable definitions for a category of large-scale complex societies and the primate settlements usually associated within them. Where does the Co Loa phenomenon fit within this larger context of early forms of urbanism and sociopolitical complexity?

According to arguments offered by Wheatley decades ago (1975: 292; 1983: 420–421), urbanism in northern Vietnam only emerged as a byproduct of Sinitic civilization. Essentially, he argued that any urbanization occurring in the Red River Valley would have been significantly influenced by the Chinese, and that the Vietnamese urban hierarchy owes its origins and distinguishing characteristics to the imposition of Chinese patterns of authority. On the contrary, Davidson (1979: 306–307) argues that Chinese styles of urbanism, appearing during the historic era, subsumed existing indigenous forms of urban generation that are evident in sites like Co Loa. Material data gathered in recent decades allows us to revisit these contrasting perspectives. To be sure, there is little question that proximity to Sinitic forms of settlement and political organization had an effect on Bac Bo. However, the archaeological evidence makes clear two other observations. First, as I have already argued, the material record shows local historical trajectories toward complex social organizations and settlement patterns that a Sinicization model fails to fully acknowledge. Second, a Sinocentric perspective incorrectly severs the tie between northern Vietnam and other parts of Southeast Asia. Co Loa's position on the frontier between an emerging Sinitic civilization

and Southeast Asia resulted in a unique, and somewhat hybridized, trajectory of cultural change.

Linkages to the north notwithstanding, the Co Loa settlement is also emblematic of a Southeast Asian form of large-scale settlement that some see as precursor to early urbanism, marked by monumental constructions of earthworks and hydraulic systems (see Kim 2013a). With culturally varied antecedent roots dating back to the early Iron Age (c. 500 BC), this larger class of settlements is part of a moated-settlement pattern, given rough commonalities in the management of water at nucleated settlements in Cambodia, Laos, Myanmar, Thailand, and Vietnam. Indeed, Co Loa's brand of large-scale settlement and its inherited tradition of earthworks can be placed within a greater consideration of Southeast Asian urbanism and sociopolitical complexity, which is especially salient since the archaeological knowledge of Southeast Asian urbanization is currently lacking (see Junker 2006: 229–230).

In this chapter and the next, I lay out an argument that the Red River Delta was central to the florescence of a state-level society during the closing centuries BC, as manifested at the site of Co Loa. The Co Loa settlement was at the heart of a politically centralized society beginning in the third century BC, and established centuries prior to some of the historically known, classical kingdoms of Southeast Asia's Common Era.

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A Tale of Many Cities: Moated Settlements as Urban Precursors

A distinguishing feature shared by many early historic and classical period cities of mainland Southeast Asia is a strong concern with water management. Settlements such as Angkor, Beikthano, and Nakhom Pathom exhibit political, ritual, and economic concerns and practices related to the control of water, as reflected by very sophisticated forms of hydraulic engineering. This is hardly surprising, given environmental conditions and monsoonal rain patterns, especially in lowland and floodplain areas, that result in alternating stretches of high and low precipitation. Illustrating this, large moated towns were located in the Central Plains of Thailand during the Dvaravati period (c. the sixth to thirteenth centuries AD) (Indrawooth 2004: 132; Mudar 1999), and many of these settlements were near rivers that supplied water to moat systems in the Meklong-Ta Chin valleys, the Lopburi-Pasak valleys, and in the Bang Pakong Valley (Indrawooth 2004: 125–126). In Myanmar during the first millennium AD, sophisticated hydraulic works marked the Pyu or Tircul city-states of Beikthano, Halin, Kyaikkatha, and Sri Ksetra (Moore and Win 2007; O'Reilly 2007: 7–31; Stargardt et al. 2012). And in Cambodia, the power of the Khmer

empire (c. the eighth to sixteenth centuries AD) was heavily related to expertise in water management (Moore 1992: 26; see also Fletcher et al. 2008), with settlements such as Angkor categorized by some as "hydraulic" city (Groslier 1960).

These "hydraulic" cities and their elaborate systems of water management did not emerge instantaneously and their roots can perhaps be found in antecedent forms of settlement scattered throughout the region in the form of moated sites. From this perspective, we might consider a continuum of settlement and urban change from the Iron Age to the second millennium AD, with cities like Angkor representing a sort of culmination of urban development. In considering Angkorian civilization and examples of pre-Angkorian settlements, a moated pattern is evident at sites of the Mekong River catchment such as Oc Eo and Angkor Borei (O'Reilly 2007: 99–108). According to Stark (2006b), these sites are examples of early historic urbanization.

A cursory review of the archaeological record of the first millennium BC reveals a general pattern of prehistoric analogues. Variable forms of settlement occurred in areas where water management was vital for lifeways, and a pattern of moated settlements is discernible during the early Iron Age (c. 500 BC), if not earlier. Most moated sites in Southeast Asia typically exhibit a roughly comparable morphology of ramparts, interior depressions, and interior habitation (Dega 2002: 14). There are hundreds of such cases, attesting to the critical nature of water conservation and control (Moore 1992: 26). Such enclosed and moated settlements have been found in parts of modern-day Cambodia, Myanmar, Thailand, and Vietnam, with varied chronologies and suspected functions (Albrecht et al. 2000; Dega 1999; Fletcher et al. 2008; Higham 2002; McGrath and Boyd 2001; Moore 1988, 1989, 1992, 2007) (see Figure 9.1). These earlier analogues might be appropriately viewed as fledgling, proto-urban settlements—places of habitation, production, and ceremony—all with a general concern over common problems of water management. Of course, the forms and uses of these settlements varied greatly through time and space, as did the local cultural contexts within which they were situated. Nevertheless, a very broad pattern is evident when one considers the numerous settlements that employed extensive modifications to address concerns, uses, and beliefs about water.

For instance, within areas of Upper Myanmar, the most dominant ecological factor was aridity, which played a role in the water-engineering efforts at walled sites like Beikthano (Moore and Win 2007: 202). For sites in Lower Myanmar, such as Thaton and Kyaikkatha, environmental conditions saw higher precipitation along with flooding from salt water (Moore and Win 2007: 204). This environmental variety led to multiple functions for moat constructions, and major alteration of the landscape began with the emergence of precursor walled sites (c. 200 BC–AD 900) commonly associated with the Tibeto-Burman Pyu and the Austroasiatic

FIGURE 9.1.
Map of Mainland Southeast Asia, with Selected Sites Mentioned in the Text.
Map produced by Tegan McGillivray. Image adopted from Kim 2013a.

Mon ethnic groups (Moore 2007: 10). Moore and Win (2007: 207) posit that the first ramparts of the region were natural ones formed within certain landscape contexts. Consequently, early forms of a regional moated settlement pattern were possibly inspired by naturally occurring formations whose properties of water control were readily apparent.

In Thailand's Khorat Plateau, examples include settlements within the Mun River Valley, such as Non Dia, Noen U-Loke, and Non Muang Kao, as well as within the Chi Valley, such as Non Chai and Ban Chiang Hian (Higham 1996: 214–215; Moore 1992; Welch and McNeil 1991). Based on extensive research, Moore (1988, 1992) specifies general types of enclosed sites spanning from the Neolithic through the Iron Age: irregular moat-mound, territorial irregular, and rectangular. The first type features a moat-mound profile, with the moat taking the shape of the perimeter of the habitation mound. For a sample of approximately 100 sites, the land enclosed by the outer earthwork averaged 25 hectares. For the second type (territorial), sites tend to be larger in size, up to 89 hectares. The third type, more uniform in plan, consists of a size range from 1 to over 100 hectares. Moore (1992: 43) sees within this categorical continuum a common link in the use of water, as well as transitional patterns related to urbanism, art, and religion.

In portions of southeast Cambodia and southern Vietnam, there are numerous "red soil" circular earthwork sites, such as Krek 52/62, which also had embankments and moats probably dating to the first millennium BC (Albrecht et al. 2000: 43; Dega 1999, 2002). Dozens of circular earthworks within this area have been documented upriver from the Mekong Delta, situated along a 55-kilometer swath of basaltic plateau with minimal north–south deviation (Dega 1999: 184). The settlements, most likely rice-farming villages, are characterized by a concentric earthen embankment surrounding an inner moat, with site sizes ranging from 200 meters to over 250 meters in diameter (Albrecht et al. 2000).

Located on the Thai-Malay peninsula, another important site is Khao Sam Kaeo (c. fourth to second centuries BC), marked by a sophisticated system of embankments and ditches. According to Bellina-Pryce and Silapanth (2006), Khao Sam Kaeo exhibits markers of urbanism. Not unlike the rampart system of Co Loa, Khao Sam Kaeo's complex earthworks system encloses areas of specialized craft production and evidence for exchange (Bellina-Pryce and Silapanth 2006: 286). The site was important for a polity participating in trans-Asiatic exchange, with indications of Indianized imprints (Bellina-Pryce and Silapanth 2006: 285).

While there are variations and distinctions along local, subregional dimensions, the presence of this general pattern of settlements surrounded by water, numbering in the hundreds, reinforces both the importance of water and the nature of early settlements and cities for Southeast Asia. Overall, Moore (1992: 26) sees an evolution in settlements enclosed by water, from possibly natural, irregular moat-mound enclosures to territorial and later rectangular-shaped sites larger in size and scale. Co Loa can serve as an important example of this trajectory of urbanization in Southeast Asia.

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Co Loa as an Early Southeast Asian City

The research literature on the nature of ancient settlements widely considered to be cities or urban spaces is vast, and there is a wide range of settlement forms (see Marcus and Sabloff 2008; Smith 2006; Storey 2006; Yoffee 2005, 2009). In a discussion of the global variability of ancient economies, Smith and colleagues (2012: 7619) rightly point out that the course to modern, urban life had numerous trajectories. The inherent cultural and historical variations would suggest that there is no single definition or prototype, acknowledging diverse forms of nucleated settlements of varying sizes, layouts, functions, and population densities across time and space. Despite these variations, there are some common functional and physical characteristics usable as a starting point. Soja (2000: 4) writes that some of the earliest examples of urbanism as a way of life appear in places like Jericho and Catal Hoyuk, and with a more inclusive conceptualization of urbanism, he sees a densely settled habitat as the basic characteristic of early urbanization, wherein early cities incubated the development of full-scale agriculture and organized animal husbandry. Accordingly, regardless of whether domestication preceded or followed population nucleation, some form of large-scale population nucleation lies at the heart of early urban development. As argued by Smith (2010: 138), urban settlements functioned as the setting for institutions and practices that affected a larger, regional hinterland. Such a definition permits the inclusion of low-density settlements with large-scale monumental architecture, such as the Classic Maya or Khmer political capitals (Smith 2010: 138).

For the North American site of Cahokia, Pauketat (2007: 138) offers a succinct description: "A city is a relatively dense concentration of people disposed in such a way as to reveal central organizing principles other than kinship." Judged from this standpoint, Cahokia qualifies as a city during a span of about 100 years based on certain prominent characteristics; namely, its great scale and the proximity of its residents, along with its estimated peak population levels. In Western Europe, earthworks were associated with the oppidum (a fortified Celtic town) at Camulodunum (c. first century AD) over some 16 square kilometers, which was marked by a massive system of dikes and a defensive frontier utilizing rivers, streams, and other landscape features to enclose settled areas (Hill and Wileman 2002: 67). Places such as Camulodunum probably served as the beginnings of urban life in Britain.

According to Cowgill (2004: 527), cities are typically political, economic, and religious centers for a surrounding territory and loci for wider ranges of specialized production and services than are found elsewhere in the region. For many cases of local or regional centers of population, there are signs of control over intensified

agriculture and land-use resulting in surpluses. For Cowgill (2004: 526), "city," "urban site," "urban society," and "urbanization" are often under-theorized, and it is notoriously difficult to agree on a cross-culturally applicable definition of "city." He argues, however, that we cannot do without definitions altogether, and that no single criterion, such as sheer size or the use of writing, is adequate. Cowgill (2004: 526) "vaguely" defines a city as a permanent settlement within the larger territory occupied by a society, considered home by a significant number of residents whose activities, roles, practices, experiences, identities, and attitudes differ significantly from those of other members of the society who identify most closely with "rural" lands outside such settlements. Stark (2006a: 417) succinctly points out the consensus around identifiers such as "site permanence, a clear urban-rural distinction, and a shared urban identity."

Based on the above-mentioned criteria, I would characterize a city, at its most basic level, as a settlement with significant population nucleation, marked social differentiation, and distinctions between urban and rural parts of the landscape. The Co Loa settlement would fall within this general category of large-scale settlement, given its monumental constructions, sizeable population, evidence of agricultural intensification, and distinctly enclosed areas. Cities are active participants in constructing political landscapes (Campbell 2009: 822), and as a regional center, Co Loa involved active manipulation of both the political and the physical landscapes, with the latter being radically altered by intensification and resource extraction. As noted in an earlier section, Kealhofer and Grave (2008) see varying land-use strategies as strong indicators for the presence of centralized and complex societies. The spatial extent of Co Loa's ramparts signals significant landscape modification and tremendous centralized efforts, with riverways purportedly being diverted through an elaborate canal system feeding into the site's interior reservoir and system of moats, which flanked the rampart curtains (Kim 2010, 2013a).

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Models of Urbanism in East and Southeast Asia

There is much research left to be done for Southeast Asian ancient urbanism as a field of study. As noted by Junker (2006: 229–230), problems of poor site preservation, lack of visible architectural remains, difficult field conditions, and a general paucity of settlement data have all combined to severely limit our current knowledge about the process of urbanization in various parts of Southeast Asia. There is an excellent burial and subsistence-economy record for the Neolithic and Metal Ages, but little information on internal housing plans of individual settlements (Bellwood and Glover 2004: 11). This limited nature of available data makes

a long-range, diachronic process of urbanization difficult to assess. According to Junker (2006: 219), the most archaeologically visible traces of urban concentrations would usually be high densities of habitation debris, but in Southeast Asia, many of the tropical raw materials and technologies were perishable, such as bamboo, wood, rattan, cordage, textiles, and so on. Accordingly, sites like Co Loa with visible outer enclosures present ideal starting points to study Southeast Asian urbanism.

In agreement with Miksic (2000: 109), I would describe Co Loa as an early form of city for Southeast Asia. However, the current absence of specific settlement data from within the Co Loa site poses a challenge. What form of city does Co Loa represent? Though future research may clarify the nature of residential areas, administrative districts, and other kinds of micro-level information, one other possibility is that perhaps Co Loa may have been more of a ritual or ceremonial city, one more appropriately viewed as what Miksic (2000) categorizes an "orthogenetic city," in which a small population or community of specialists and elites resides within the enclosures, with the majority of the population residing in its surrounding locality. This interpretation would see Co Loa more or less as an example of low-density urbanism (Fletcher 1995: 93, 121). Throughout the world, there are numerous cases for such low-density urban sites in areas of the Americas, Asia, and Africa (Fletcher 1995, 2009; Kusimba et al. 2006), examples that generally stand in contrast with the densely populated urban centers of the ancient Near East.

Given the agricultural potential of the Red River Delta and of the importance of grain for emergent civilizations, it is reasonable to suggest a model of agrarian urban settlement, generally recognized as ranging from small towns of 20–30 hectares up to immense, dispersed giants of 100 square kilometers or more (Fletcher 1995: 188). Agrarian-based, low-density urbanism dominated parts of lowland Mesoamerica, Sri Lanka, and mainland Southeast Asia between the late–first millennium BC and the mid–second millennium AD, representing a distinctive path to urban life in tropical forest environments (Fletcher 2009; see also Fletcher 2012). In general, these agrarian low-density cities grew their food within their urban space, directly impacting their local environment, and they were often located in tropical forest regions with marked seasonal differences in rainfall (Fletcher 2009: 15). Though more evidence needs to be gathered to support this assertion, the currently available data strongly suggest Co Loa may have operated in just such a capacity. This is especially the case when we consider the presence of standardized implements of agricultural production—namely, the bronze plowshares—in conjunction with the moats and canals that probably served complementary functions related to defense, transportation, flood control, and irrigation.

In this light, Co Loa can be seen as an important case study within a larger discussion of developmental trajectories of urbanism for the greater region and for the global record of settlements. As an exemplar stemming from a general pattern of Iron Age moated settlements in Southeast Asia, its system of earthen embankments, ditches, and moats indicates affinities—though on a much larger scale—with many of the irregularly shaped enclosures of Southeast Asia. Co Loa's system of seasonally filled ditches and moats surely facilitated movement and transportation throughout the site, perhaps for naval forces as well as merchants, farmers, and other community members, if Vietnamese traditions are to be believed (Larew 2003: 15). One of the system's functions could have been seasonal flood control and the provision of irrigation water for agricultural intensification. Returning to the idea of a continuum of Southeast Asian urban development, with sites like Angkor situated closer to a more modern terminus, Co Loa's form of urbanism may sit at a transitional midpoint along a trajectory from the smaller moated sites of the early Iron Age to the large cities of the historic era, wherein concerns over water management continue (see Stark 2006a: 417–418). A practice of wall and moat construction for cities clearly persists in parts of Vietnam during the Common Era, with settlements benefitting from proximity to riverways and natural terrain that could be incorporated into artificial enclosures. These include the citadel sites of Hoa Lu (Ninh Binh Province), Thang Long (Hanoi area), Ho (Thanh Hoa Province), and Hue (Hue area) (see Vo 2012 for a thorough discussion; see also Lai 2014b). With its expanse of some 600 hectares, Co Loa's size is equivalent to slightly later, protohistoric or early historic sites such as Angkor Borei and Oc Eo, with enclosed areas of 300 and 450 hectares, respectively. But for the early Iron Age, Co Loa was the largest of contemporary moated settlements, signaling a trend toward more elaborate forms of city and political complexity that would follow during the historic period. What accounts for this significantly larger scale of earthworks? As mentioned earlier, a connection to earlier moated sites in Southeast Asia notwithstanding, interactions with and proximity to societies to the north cannot be discounted, especially given Co Loa's geographic location and the material data recently unearthed through the rampart investigations.

Early Chinese cities were similarly marked by earthen enclosures, oftentimes with outer moats. This is evident in sites such as Chengziyai in the Shandong Province, dating to 2500 BC (Steinhardt 2000: 419). During China's Longshan period (c. third millennium BC), most incipient urban sites were walled, and although unwalled settlement sites have been found, these tended to be smaller, suggesting that a walled enclosure reflected a degree of regional importance (DeMatte 1999: 123). Indeed, students of sinology know that the character for "wall" (*cheng*) is customarily translated as "city" (Steinhardt 2000: 421). According

to von Falkenhausen (2008: 209), the meaning of *cheng* as "city" is almost certainly derived from its meaning as "city wall," via a third, related meaning of "fortress." Steinhardt (2000: 421) argues that the "premodern Chinese city has no life independent of walls," although von Falkenhausen (2008: 210) offers a note of caution when dealing with ancient Chinese urbanism, stating that not all of the earliest instances of urbanism were marked by walls. Nevertheless, many cases of proto-urbanism in China did possess walled enclosures. Similarly, in Vietnamese, the word for "city" is *thanh pho*, which conveys a meaning equivalent to "a central or urban area enclosed by a wall." As demonstrated by the archaeological and historical records of various world regions, in fact, there is a correlation between walls and some of the earliest instances of urban spaces. These would include cases such as Harappa in the Indus Valley (Tracy 2000: 1).

Military and Non-Military Functions of Co Loa's Ramparts

Chronologically and geographically varied cases of urbanism plainly show a diverse range of functions for city walls (Smith 2003b: 278). While they can operate in a defensive capacity, they are often part of a social investment. Regarding Neolithic Europe, Parkinson and Duffy (2007: 98) remark how the wide geographic, temporal, and formal variability of monumental fortifications and enclosure features has "stymied" archaeological understanding of their functions. Concerning the Early Historic Period of sites in South Asia, Smith (2003b: 279) argues that, in the absence of compelling evidence for chronic warfare, other explanations for the development walled cities are more plausible, including flood control. Given the numerous archaeological and historical examples of enclosed settlements, there can be no doubt that ancient walls served multiple functions, either concurrently or with diachronic differentiation.

Despite the wide range of possible functions, a major impetus for prehistoric enclosures was concern over defense. In a comprehensive review of ancient cities, Yoffee (2009: 281) discusses the need to consider how tensions, struggles, conflicts, and warfare affected daily life for cities and states. As seen in numerous cases of enclosures throughout the ancient world, defensive and non-defensive functions are by no means mutually exclusive and are highly variable across time and space (Arkush and Stanish 2005; Hill and Wileman 2002; Keeley 1996: 55–58; Keeley et al. 2007; Marcus and Sabloff 2008: 325–326; Milner 1999; Moore 1988, 1992; Moore and Win 2007; Parkinson and Duffy 2007; Roscoe 2008; Underhill 2006). In parts of North American prehistory, for instance, leadership strategies to negotiate, contest, and renegotiate internal and external relationships included the construction of walls around communities, walls that served a combination of social, political, ideological, and symbolic agendas, some of which at times would

have overshadowed defensive functions (Schroeder 2006: 117). Walls functioned as both unifying and dividing features in ancient Mesopotamian cities, which were surrounded by fortifications that separated the cities from the hinterlands (Stone 1997: 19).

An important primary and ostensible motive for constructing Co Loa's elaborate system of ramparts and interconnected ditches and moats pertained to defensive utility, coercive power, and military symbolism. I suspect threats comprised both local adversaries and looming, powerful neighbors to the north. That the walls served a defensive function is highly likely, regardless of whether perceived threats were local or distant.

Regarding extraregional threats, the third century BC constituted the closing moments of the Warring States era of China, wherein imperial and increasingly predatory power was solidifying. A coalescing imperial power had a more direct impact on societies of the Yunnan and Lingnan, but Bac Bo inhabitants would have surely have known about potential threats. Indeed, Lingnan polities themselves may have been perceived as threats as well during the third and second centuries BC. Interestingly, it is within the Warring States period that von Falkenhausen (2008: 211–212) sees a pivotal stage of urbanism for Chinese civilization, wherein the estimated number of cities increases from tens of cases in the preceding Formative Stage (c. 2000–600 BC) to well over 400 in the Advanced Stage (c. 600–221 BC) in the core area of the early royal dynasties, namely the Yellow, Huai, and Middle Yangzi river basins and the Shandong peninsula. Essentially, a sudden expansion of urbanism corresponds to the middle of the first millennium BC, and, though some urban characteristics existed before then, it was at this time "that cities became a phenomenon of truly central importance for Chinese civilization" (von Falkenhausen 2008: 212). This combination of historical trends in emergent China could have played a role in motivating the construction of Co Loa's defenses. For comparison, the origins of the ancient Kyongju city on the Korean peninsula may have also been tied to warfare. In addressing the early stages of the florescence of the Silla state, Nelson (2006a: 194–195) describes how, according to legend, the capital site of Kyongju initially formed when a series of neighboring villages merged into a larger urban center for mutual defense against outside marauding enemies. In this respect, military threat could have played a central role in processes of both social aggregation and political consolidation.

Intraregionally speaking, it is also likely that local, potential adversaries could have fomented concerns over defense. As discussed in Chapter 6, the material record of Dongson societies shows ample signs of competition and coercive interaction. Hints about conflict come from Vietnamese traditions describing conquest warfare, as well as Iron Age weaponry and iconographic depictions of

warriors (Kim 2010: 189–193; Higham 2004: 58; Pham 2004: 190, 199). Within the crucial Dongson period, growing social differentiation and competition stimulated an increase in military and ritual activities. At Co Loa, the evidence also consists of the enormous quantities of bronze weaponry produced within Co Loa's Inner Wall area (Lai 2005) and found in various contexts such as the Cau Vuc site and its hoard of thousands of bronze-tanged projectile points (Pham 2004: 199). In sum, the totality of evidence strongly implies mounting competition and a growing significance for the use of military force from the mid–first millennium BC onward.

The ramparts of Co Loa most likely provided physical, symbolic, and psychological protection for the society responsible for its construction, a burgeoning authority, deterring potential or perceived threats. Hence, they also served in a semiotic capacity as well, displaying an unprecedented degree of power. As a social consequence of producing the walls and possessing the means to adequately defend its seat of power, the rulers at Co Loa would have also made apparent their capacity to project force afield when necessary. Defensive fortifications not only demonstrate the ability to defend, but also communicate this facility to project force, whether or not this message is intentional (Pauketat 2009: 255). Walls and ditches can thus be perceived as threats to neighbors, potentially redefining entire social and political landscapes by reconfiguring the spatiality of offensive or defensive force.

With increasing competition and occurrences of organized violence, both the physicality of the ramparts and the power that they represented could have had a pacifying effect. The monumentality of the ramparts dominating the landscape probably operated as a deterrent to conflict and aggression, thus enhancing security and stability within the region. The defensive nature of the ramparts would have been a crucial part of leadership strategies in the consolidation and legitimization of political authority, especially as wealth and higher status was being concentrated in fewer hands. Emerging rulers probably employed strategies related to intimidation and the application of force to defend the integrity of their newly consolidated authority.

Indeed, a motivation rooted primarily in defense or coercion does not preclude the uses of the rampart system for other purposes, nor does it preclude the addition of other architectural features, with different functions, to the original constructions. For example, the system of ditches and moats probably facilitated movement and transportation throughout the site, perhaps for naval forces as well as merchants, farmers, and other community members. According to the Vietnamese traditions, the Au Lac Kingdom deployed naval vessels throughout the site on the moats (Larew 2003: 15). Whether or not the Au Lac Kingdom existed, the system of reservoir and moats would have offered a secure interior

anchorage for a naval fleet and other commercial vessels, while also providing an entrance and exit (Larew 2003: 15).

Another significant use of the rampart and moat system would be for food production, in the form of either agricultural innovation or intensification. "Kinds and degrees of intensification are the underpinnings of social complexity" (Scarborough 2006: 402.) As in other Iron Age sites in areas marked by monsoonal rains, periodic flood control and the provision of irrigation water would have been important. Today, vast tracts of land within the Co Loa's enclosures are still dedicated to agricultural fields with irrigation channels, perhaps indicative of ancient water-management systems that have been built, refurbished, and rebuilt for countless generations. According to Chinese textual descriptions, during the first century AD and after putting down the Trung Sisters' Rebellion in AD 43, Han general Ma Yuan took the opportunity to seize what had been known as the Lac rice fields and their associated irrigation systems from local elites in the Red River Delta (Taylor 1983: 46). A few centuries prior, Dongson Culture farmers made use of innovations in plowing, using bronze implements pulled by oxen (Ha Van Tan 1997: 38–39). As discussed earlier, Co Loa's interior spaces may not have been densely populated, and it is thus reasonable to ask if the settlement may have been more of a "green city" (Graham 1999)—not characterized by dense habitation and clusters of buildings but instead full of rice fields. It is also possible that the moats could have been important elements of fish farming, though I have not seen studies on the possibility of such forms of aquaculture for Co Loa—this is a research question that requires future study.

Any consideration of cities needs to highlight distinctions between urban and rural spaces, or what might be viewed as interior/exterior or center/hinterland differentiation. From this perspective, the walls also surely functioned in a social demarcation capacity. Looking at the city of Teotihuacan in Mexico, Clayton (2013: 89) argues that the ways in which rural settlements were politically administered and how they participated in economic networks associated with the urban center varied considerably. The variations were linked to distinctions based on geographic space and notions of "interior" and "exterior." As with many walled preindustrial cities, any ritual or ceremonial separation of space at Co Loa could have been enhanced by the ramparts, thereby reinforcing and legitimizing social cleavages. Some people would have been allowed to work or perform cultural acts within the overall urban space; some may have resided permanently within the enclosed confines; and perhaps there were spaces population segments were not permitted to enter. To illustrate, Indus settlements such as Harappa had massive walls and gateways, and these features held importance as control mechanisms to facilitate taxation and limit commercial access to or exit from the cities, perhaps

more than for military defense (Kenoyer 1997: 263). In Mississippian towns and settlements, including as Cahokia, walls, fences, and enclosures divided space, simultaneously protecting ritual space, and potentially elite private space, from the outside world, while also excluding those on the outside from the interior's activities (Pauketat 2007: 100). Indeed, Pauketat writes (2007: 101) about how social distance and intracommunity stratification could have been an unanticipated outcome of an enclosure process that might have been defensive in its original conception.

A diversity of spatial functions within the Co Loa expanse is certainly intimated by the Vietnamese traditions, wherein precincts purportedly included administrative-religious spaces, a military encampment or barracks, and a central market (Tessitore 1989: 36). According to the chronicles, the Inner Wall area was essentially the citadel of Co Loa, and the polity's palace and royal guard were situated within it (Nguyen and Nguyen 1971: 11). Currently, insufficient archaeological evidence is available to speculate much beyond the tantalizing clues offered by the chronicles, but there is little reason to doubt the existence of functionally discrete spaces. Related to this line of thought is the concept of a "contained community," as offered by Connah (2000: 19) in his discussion of enclosed settlements and urbanization in tropical Africa. This idea is somewhat analogous to that of a shared identity, wherein residents of a settlement are connected through common experiences of a place. Through various daily practices, different communities converging in a city can help to make it what Yaeger (2003: 123) sees as a potent unifying symbol. This collective identity might be shared not only by the residents of the city, but also to varying degrees by those who regularly visit and perform activities in the city's spaces. Hence, how people experienced and moved through the constructed landscapes of Co Loa could have shaped their perceptions of Co Loa's social significance. Places had the power to define identities and might have sometimes assumed the qualities of communities (as imagined identities) (Pauketat 2009: 255). Writing about Mississippian societies, Milner (2000: 66) stresses that people gravitated toward powerful leaders, abandoning places between competing polities. In this respect, the striking ramparts of Co Loa could have also advertised power in a way that would attract adherents and followers, thereby monopolizing surplus labor in a given area. For Mississippian communities, Milner (2000: 67) states that siphoning off surplus labor to build imposing walls would have given highly ranked chiefs a distinct advantage in any internal power struggles by simultaneously reinforcing the impression of their strength while augmenting their defensive position. Co Loa's fortifications were likely to have produced an analogous effect on a very grand scale.

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Summary: Co Loa as an Ancient City

The Co Loa case strongly demonstrates an early form of city for Southeast Asia. In his seminal volume on the history of human settlements since the late Pleistocene, Fletcher (1995: 88) offers a preliminary assessment drawn from the overall trend of settlement growth over the past 15,000 years. This scheme indicates punctuation by three major familiar changes in settlement size. The first is the formation of permanent sedentary communities; the second is the growth of agrarian urban communities; and finally, the third is the formation of industrial cities. It may be useful to think of Co Loa as an example of an agrarian urban settlement. The absence of settlement data notwithstanding, it is fair to conclude that as a Dongson-era settlement, Co Loa in all likelihood represents the largest settlement for the entire Bac Bo region. It seems unlikely that Co Loa would have been situated at a subordinate level of any region-wide, settlement hierarchy scheme (though future survey may show otherwise). For the time being, the material evidence suggests Co Loa functioned as a regional center, a political, social, and economic nucleus within a wider hinterland, and one in which specialized functions were concentrated and carried out. These functions probably ranged from political administration, to both intra-societal policing and extra-societal military defense, to the oversight of a redistributive economy.

The many functions for the Co Loa city, and of its ramparts, were embedded in the temporality of its founding moments and within the duration of the Co Loa Polity. However, they certainly "morphed" over time. As asserted by Pauketat (2013: 37), "all such temporalities have a physical form, or a materiality, that endures beyond the momentary." Relational ontologies are thus necessary to consider—the ways in which people perceived the world and landscape around them, and of possible spiritual and ideological qualities imbued within places of importance. The walls of Co Loa, and other architectural forms that we no longer see, held not only multiple practical functions but many meanings as well, operating as variable symbols for different people in the area and beyond. These meanings no doubt changed over the generations and throughout the local-historical trajectories of the region, in consonance with the changing political, economic, and spiritual usages of the settlement. The act of building the walls could have also involved meaning and rituals in construction, as well as any rebuilding or refurbishment phases that occurred during the historic era, a topic I explore in a later section. Even the recent act of excavating the rampart involved an initial blessing ceremony, underscoring the ways in which the site possesses tremendous symbolic weight and value for the people who have lived and continue to live in the area (see Figure 9.2).

FIGURE 9.2.
Local Cleric Performing a Blessing Ceremony Prior to the Excavation of the Middle Wall on October 13, 2007. The ceremony was performed at the excavation location on the first day of the Co Loa Middle Wall and Ditch Project.
Photograph taken by author.

Ultimately, what we see in cities like Co Loa and others in Southeast Asia may represent alternative, tropical trajectories for forms of settlement or urban development, distinct from models derived from cases in other areas of the world such as the Near East. "Ancient tropical societies, such as the Maya, are often relegated to the unknown or mysterious or, worse yet, are seen as a result of outside influences because of the traditional bias in anthropology of largely focusing on civilizations in temperate areas" (Lucero 2006: 281). The situation in Southeast Asia is somewhat analogous, as an earlier generation of researchers saw the underpinnings of urban life in Southeast Asia in faraway places to the West and North. Instead of bringing to mind the possibility of indigenous sophistication and local patterns of change, encountering the presence of monumental systems of architecture at Co Loa brought about a different initial reaction, one seeing the imposition of Sinitic civilizational influence. Today, however, the archaeological database speaks to both an indigenous, local-historical trajectory, as well as linkages much more complex than the traditional models of unidirectional influence once conveyed.

There is still much work to be done for a greater understanding of ancient settlements and cities in Southeast Asia, with significant gaps remaining in the region's database of settlement information. Indeed, Fletcher (personal communication, 2013) comments that, while Co Loa is presently the largest of these prehistoric moated cities predating the Common Era, there may be an even bigger example still to be found in the region. Future research will surely clarify the research picture.

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Co Loa's Monumentality, Labor Requirements, and Population Size

With the available radiocarbon dates and stratigraphic evidence, it would appear that the system of rampart enclosures and moats was conceived of and constructed by the Co Loa Polity during a two-century span; namely, the period of approximately 300 to 100 BC. The massive investments of time, energy, and resources offer two important implications. First, concerns over defense and political signaling of some kind were an important aspect of the builders' motivation. Second, the relative rapidity of the monumental construction process, when combined with data indicating the labor requirements and organizational structures, suggests planning and direction by a politically centralized authority.

Scarborough (2006: 404) calls for greater research attention to be paid to labor organization to further our understanding of ancient political economies, because "societies make a living on the backs" of such labor pools. The size and scale of the Co Loa site hint at the presence of a state-level polity, an administration with the capacity to direct vast resources and labor pools in a sustained, multigenerational effort to construct one of the earliest urban sites of Southeast Asia. As monumentality, high population, and urbanism are important indicators for the presence of a complex, state-level society, I present in the following sections estimates pertaining to Co Loa's construction requirements and population size. Essentially, I contend that the sustained, organized, and directed construction effort necessary to result in Co Loa's monumental system of ramparts would have required a durable and bureaucratic political system, one marked by permanence and that did not dissipate with the death of any single individual or leader. Rather, the institutional trappings of a state would have been necessary to maintain such a large-scale construction project, and to ensure the upkeep and maintenance that such a construction would have needed through time.

Monumentality and Complexity

According to Nichols (2006: 334), the remains of ancient cities and their monumental constructions are among the most notable material manifestations of

preindustrial states and civilizations. Some of the world's earliest cities in southern Mesopotamia (c. fourth millennium BC) are identifiable mainly by their size (over 50 hectares), their monumental constructions, and the relative wealth and diversity of their material remains (Adams 2004: 45). Monumental constructions were part of nearly all ancient complex societies and early civilizations in regions such as Mesopotamia, Egypt, South Asia, China, Mexico, Peru, and West Africa (Trigger 1990: 120).

To be sure, we must be mindful of various interpretive possibilities when evaluating the presence of monumental constructions and landscape modifications. As noted in an earlier section, there are archaeological cases wherein the presence of monumental architecture was not accompanied by other evidence for centralized polities. For instance, the general absence of centralized ritual political structures in the ancient Indus Valley, such as palaces or royal burials, indicates the absence of any enduring centralized polity (see Kenoyer 1997). Hence, the mere presence of constructions of monumental scale does not automatically point to the existence of a state. Additionally, there are also anthropological and archaeological cases of smaller-scale, non-state societies producing monumental architecture, wherein public works are built communally and through accretion over long periods of time by sizeable work parties, and not necessarily through state-level control or coercion (Erasmus 1965: 278; Kaplan 1963; Milner 2004: 302; Parkinson 2002). Located along the southern shoreline of Brazil, for example, some of the more than 1,000 *Sambuquis* (shell mounds) found were quite large in scale, though these resulted from accumulation over a millennium (Gaspar 1998; Kidder et al. 2009: 136). We can also look to various megalithic constructions of Southeast Asia (Bellwood 1997; Miksic 2004), the dolmen of the Korean peninsula, the menhirs of Britanny, or Stonehenge in England. In the Pacific, the *ahu* and *moai* of Rapa Nui (Easter Island) constitute additional evidence for non-state monumentality. Related to these considerations is the notion of intentionality. In cases of monumental constructions built over longer stretches of time, the final forms may not have been premeditated at inception, but instead were the unintended, longer-term products of unplanned actions (see Joyce 2004).

With a diverse range of societies archaeologically shown to have engaged in monumental construction, it is useful to consider the ways in which scales of architecture can reveal complexities in the organization and control of labor and resources, thereby offering information about the political structures of the societies themselves. Examples include monumental temples of prehistoric Hawaii (Earle 1997: 169), the Kofun tombs of Japan (Mizoguchi 2009), the enclosures of Great Zimbabwe (Kim and Kusimba 2008), architectural features at Cahokia (Pauketat 2004, 2007), constructions at Anyang (Underhill and Fang 2004), and edifices at

Teotihuacan (Cowgill 2003). Co Loa's rampart system would fall into this broader category, distinguishing it from cases of accretional, monumental construction.

As indicated in Chapter 8, the recent field data show that most of the spatially extensive rampart system of Co Loa is contemporaneous and connected in an overall and planned design. Interestingly, the chronological data somewhat complement clues from Vietnamese traditions, hinting at a more centrally planned and premeditated initiative. The traditions claim the ramparts were originally intended to resemble a snail shell design (hence Co Loa's name, "Old Snail City"), with a total of nine enclosures purportedly following the concentric rings of a snail (Taylor 1983: 21; Tessitore 1989: 36). Although to date only the extant series of three enclosures has been identified, this claim hints at a preplanned construction project and clearly suggests construction under the direction and control of a single political entity.

The radiocarbon determinations and absence of natural fill episodes combine to reflect a relatively rapid construction process. Overall, Co Loa's design demonstrates an intention that the rampart system, once put into place, would endure, serving various functions over time. Aside from deterrence and defense, the walls would continue to display the durability of the power responsible for its commission and undertaking. Such persistence undoubtedly necessitated continued investment of resources and labor for maintenance, extending associated material costs indefinitely. This is a particularly salient point, especially when we consider the nature of the raw materials that were utilized—soil and clay as opposed to more durable materials such as stone or brick (Kim 2013a). Using contemporaneity as a starting assumption, I thus submit that the system's construction was centrally envisioned and directed, employing a vast amount of resources and labor. As I have argued elsewhere (Kim 2013a: 230), the rapidity of the construction project and the requirements necessary for indefinite upkeep combine to suggest:

1. centralized vision and implementation of a larger plan;
2. sustained control and direction of construction efforts and requisite resources;
3. availability of labor and personnel beyond construction, for indefinite maintenance; and
4. availability of a large-scale military force, expected to actually man positions for defense.

Combined, these characteristics signal a high degree of centralized control over labor that may have been voluntary, slave, or *corvée*. The upshot for the Co Loa Polity is the existence of centralized decision-making, control, or governance, clearly suggesting that political power was heavily consolidated, institutionalized, and concentrated.

Architectural Energetics and Co Loa

Examinations of monumental constructions, whether in urban or non-urban settings, have benefitted from approaches rooted in architectural energetics, which employs methods that quantify labor costs for ancient constructions (Abrams 1994; Abrams and Bolland 1999; Arco and Abrams 2006; Erasmus 1965; Sherwood and Kidder 2011; Trigger 1990). Energetics analysis affords us the ability to move beyond traditional volumetric studies by refining labor costs, acknowledging that equal proportions of material do not equate with equal labor investments (Abrams 1994: 5; Arco and Abrams 2006: 911). Such labor estimates can also be instrumental in providing analytical support for the presence of centralized authority, the kind of political consolidation that marks a highly complex society (Trigger 1990: 119). Though architectural energetics alone may not be sufficient to reveal all of the very specific and historic variations of power, use of this analytical approach can outline general relations of social power, providing the empirical basis for comparative analysis of a diverse range of complex societies (Abrams 1994: 79). Indeed, nearly two decades ago, Abrams (1994: 132) envisioned ever-increasing attempts to reconstruct power relations, especially in ranked and stratified societies, as a focus of architectural energetics, and argued that such research efforts ought to be pursued as completely as possible at all archaeological sites.

To be sure, there are challenges in such an endeavor, including the indeterminacy of the total cost of a building and the unknowable specifics of volume and behaviors in the past. In response, Abrams and Bolland (1999: 266–267) argue that perfect knowledge of the construction process is not necessary to conduct such energetic analysis. Required, they argue, is: (1) a general knowledge of the elements of the building itself; and (2) an identification of the major (i.e., costliest) activities responsible for those elements. Thus, in attempting to answer the question posed above, it is first necessary to delineate the pertinent constraints, variables, and parameters for construction and costs. With this in mind, I now turn to volumetric calculations for Co Loa's ramparts, estimating the amount of material that was moved, the nature of the construction process from extraction of earth to final deposition, and the likely rate at which a person or team of persons could perform such tasks within specified units of time. Doing so provides a baseline from which to extrapolate cost estimates for the system of monumental ramparts at Co Loa, and to allow inferences about social organization.

VOLUMETRIC DATA OF RAMPARTS

According to Higham (1996: 122), as many as 2 million cubic meters of material were moved in the construction of Co Loa's system of defenses. I use additional information to provide an independent approximation to juxtapose against the

figure of 2 million cubic meters. General dimensions of Co Loa's three rampart enclosures are based on recent field surveys and published reports (see Kim 2010; Nguyen 1970; Nguyen and Vu 2007). The following volumetric calculations pertain only to the ramparts, and do not include labor requirements for other edifices or structures within the site or associated with the ramparts (e.g., gates, towers, and so forth). Consequently, the estimates provided below constitute a conservative, minimal appraisal of energetic requirements (see Kim 2010 for calculation details).

The circumference estimates for the Outer, Middle, and Inner Walls are 8 kilometers, 6.5 kilometers, and 1.65 kilometers, respectively. In calculating the size and dimensions of the ramparts, I used the measurements of the portions where our excavations were conducted, as well as areas I have surveyed. My rough calculations show approximately 178,200 cubic meters of material were shifted for the Inner Wall, 510,900 cubic meters for the Middle Wall, and 368,000 cubic meters for the Outer Wall (see Table 9.1). Combining these estimates for each of the three enclosures, a conservative estimate for the total amount of earth moved to construct the ramparts would be approximately 1,057,100 cubic meters.

These calculations are based on all of the currently visible and intact ramparts, and are not without caveats. The assumption of coevality does not factor in the possibility that other portions of the Outer, Middle, and Inner Walls, in different locations, may have been constructed at different times by different polities. I am assuming that the available data taken from our recent excavations are representative for the remaining portions of each enclosure, respectively. Finally, as noted in Chapter 8, the data from recent excavations suggest that upper portions of the ramparts were added after the Co Loa period. Hence, a deduction is necessary in making inferences about the labor costs of the original rampart construction project during the Co Loa period. For this reason, I have deducted 25 percent (see Table 9.2): therefore, these figures represent total volume after a 25 percent

TABLE 9.1.
Estimated Total Volume of Earthen Materials for Three Ramparts

Enclosure	Perimeter	Estimated Volume (cubic meters)
Inner wall	1.65 km	178,200
Middle wall	6.5 km	510,900
Outer wall	8 km	368,000
TOTAL	**16.15 km**	**1,057,000**

TABLE 9.2.

Estimated Total Volume of Earthen Materials for Three Ramparts, with Deductions. These calculations are based on the assumption that the upper layers of deposition were part of refurbishment or amplification phases that post-date the Co Loa period.

Enclosure	Perimeter	Estimated Volume (cubic meters)
Inner wall	1.65 km	133,650
Middle wall	6.5 km	390,000
Outer wall	8 km	276,000
TOTAL	**16.15 km**	**799,650**

deduction was made for each rampart, as I assume that approximately one quarter of the constructions (closer to the surface) was completed after the Co Loa Polity period (c. 300–100 BC) and during an early historic or medieval period. This set of figures (also presented in Table 9.2) would give a potential total volume for the Co Loa Period at approximately 800,000 cubic meters.

In the end, it can be argued that periods of decay and dereliction after original construction could have reduced overall dimensions prior to amplification phases. Additionally, these calculations do not factor in any additional architectural features, such as watchtowers, guardhouses, bastions, walkways, possible roofing, gates, stone or brick facings, waterway locks, and the like, all of which would certainly have increased the overall construction costs. Making allowances for additional structures, significantly more than 1 million cubic meters of material may have been used to construct the original system, perhaps up to the 2 million cubic meters proposed by Higham (1996: 122). That being said, I would argue that 1 million cubic meters is a fair starting point for discussion for the present purposes.

LABOR RATES AND EXPENDITURES

With a figure of approximately 1 million cubic meters in mind, the next step is to determine an appropriate rate of construction. For the building process, all activities along its *chaîne opératoire* need to be considered, including extraction and procurement, transport and deposition, along with actual construction techniques. There is an extensive literature aimed at calculating labor and time outlays associated with construction of prehistoric monumental architecture, considering variables related to soil composition, differences in defining work-days, and diverse

digging implements. A review of some cross-cultural proxy data can provide insights for determining an appropriate rate of construction for the Co Loa case.

Addressing labor costs for late–first millennium AD Byzantine encampments fortified with embankments and ditches, Bachrach (2000: 215) estimates that a 3,000 meter wall with a ditch 3 meters in breadth and 2 meters deep would require a minimum of 18,000 cubic meters of earth to be excavated. The task of digging alone was estimated to have required 27,000 hours of labor, or 2,700 person-days. In my opinion, this rate of digging, which is in the neighborhood of 6 cubic meters per person-day, might be too aggressive to adopt. Based on field experiments in Mexico, Erasmus (1965: 285) estimates that a team of men using digging sticks could move approximately 2.6 cubic meters of earth per person-day, with the workday being limited to approximately 5 hours due to factors of heat. Similarly, in their sophisticated cost-estimate analysis for a Mayan structure at Copan, Abrams and Bolland (1999: 281) proposed a rate of 2.6 cubic meters per day for one person to dig earth. However, independent factors such as transportation, location of raw materials, and types of materials can play a significant role in calculating labor costs (Arco and Abrams 2006: 911). Elsewhere, Mesopotamian written sources, specifically Old Babylonian texts concerning canal excavation, state that a single worker could capably excavate 3 cubic meters of soil in a day, though the workday was specified as ten hours (Burke 2008: 145).

A ten-hour workday might be plausible for a more temperate setting, but workdays in a tropical zone would probably be shorter, especially for labor-intensive activities on an extraction-construction continuum, due to the risks of overexertion and heat exhaustion. A five-hour window seems more appropriate to adopt. For canal construction in the Moche Valley, Billman (2002: 376) estimates a rate of 1 cubic meter per day that a person can excavate, based on the specific gravity of adobe clay soil. Because excavation rates vary considerably given different soil conditions, Billman (2002: 376) errs on the side of caution and uses a lower rate of 1 cubic meter per person-day. In a similarly conservative approach for a Southeast Asian case, Chantaratiyakarn (1984) estimates that person could move 2 cubic meters of fill a day, with two other persons being necessary to move the material to the edge in studies of the moat excavations at the Ban Chiang Hian site in Thailand. This would then equate to three persons needed per day for every 2 cubic meters. In her study of the Ban Chiang Hian site, Moore (1988, p. 67) cites Chantaratiyakarn's (1984) rate of work, and estimates that, for the 1-meter-deep moat enclosing the site's 10 hectares, 100,000 cubic meters of earth were removed, costing 500 persons with iron tools 300 days of work.

In China, a recent experimental study conducted at the Longshan Culture site of Wangchenggang in the Henan Province collected data using traditional tools and *hang-tu* (stamped earth) construction methods (Rowan

Flad, personal communication, 2011). According to Flad, the results demonstrated that if tasks (which include digging, transport, and tamping) are appropriately proportioned, a single person could average 1.97 cubic meters per day, though this estimate does not consider the effects on the work rate as the borrow pit becomes deeper. Hence, he advocates using a more conservative rate of 1 cubic meter per person/day for stamped earth walls. With regard to Early Historic Period (c. 600–300 BC) cities of South Asia, such as the ancient city of Kausambi, Erdosy (1988: 113) proposes a rate of 0.58 cubic meters per person per day for the construction of earthen ramparts. With this value, one of Kausambi's ramparts (Rampart I), measuring some 6.2 kilometers with an estimated volume of 892,800 cubic meters of earthen material, would have required 1,539,310.3 person-days for its construction (Coningham 1995: 70). A 10,000-person workforce could have conceivably completed construction of the rampart in approximately 150 total days.

Keeping these assorted comparable rates in mind, I start with a conservative rate of one person required to excavate 1 cubic meter of earth per day, with an additional two persons required to move the materials to the edge and to the location of deposition, especially as the source ditch deepened. Additionally, it is necessary to account for at least two more persons required to work on the actual construction of the layers for the rampart, particularly for any sequences involving specialized deposition such as stamped earth, which can involve the construction of elaborate wooden structures and braces to be filled in by earthen materials. This is assuming that extraction, transport, and construction are all done simultaneously. Given these requirements, I posit that a safe, conservative estimate would be anywhere from three to five persons per cubic meter of material per day for the entire process starting from extraction to construction. Of course, the methods for construction varied by construction episode and sequence, with some involving simple piled earth, while others involved more specialized techniques. Based on the estimate of 1,057,100 cubic meters for the total volume of the ramparts, this would yield a total estimated range of 3,171,300 to 5,285,500 person-days to construct the rampart system (see Table 9.3). In terms of years required, the estimated costs are shown in Tables 9.4 and 9.5. Admittedly, this is a rather sizeable range, but the figures should adequately serve to quantitatively illustrate the enormous scale of construction.

Overall, an approximate 3–5 million person-day figure seems reasonable, especially when compared with cost estimates for other monumental constructions. For instance, an estimate of 3 million person-days has been proposed for the construction of the Pyramid of the Sun at Teotihuacan, which incidentally also involved 1 million cubic meters of material (Brainerd 1954). At Co Loa, assuming that work could be conducted year-round with no interruptions, and using

TABLE 9.3.

Labor Requirements for Construction of Ramparts in Person-Days. Calculations are based on different rates of construction (1-, 3-, and 5-person teams per cubic meter).

Labor Force	Number of Person-days Required (1 person per cubic meter)	Number of Person-days Required (3 persons per cubic meter)	Number of Person-days Required (5 persons per cubic meter)
1	1,057,100	3,171,300	5,285,500
100	10,571	31,713	52,855
1,000	1,057	3,171	5,286
10,000	106	317	529

TABLE 9.4.

Labor Requirements for Construction of Ramparts in Years. Labor costs for rampart construction, assuming a requirement of three persons per day for extraction, transport, deposition, and construction of 1 cubic meter of earth. The assumed total amount of earthen materials is 1,057,000 cubic meters over 3,171,300 person-days.

Labor Force	Number of Person-days Required	Years Required (working year-round)	Partial Years Required (working 175 days/year)	Partial Years Required (working 100 days/year)
100	31,713	89	181	317
1,000	3,171	9	18	32
10,000	317	0.9	1.8	3.2

TABLE 9.5.

Labor Requirements for Construction of Ramparts in Years. Labor costs for rampart construction, assuming a requirement of five persons per day for extraction, transport, deposition, and construction of 1 cubic meter of earth. The assumed total amount of earthen materials is 1,057,000 cubic meters.

Labor Force	Number of Person-days Required	Years Required (working year-round)	Partial Years Required (working 175 days/year)	Partial Years Required (working 100 days/year)
100	52,855	148	302	529
1,000	5,286	15	30	53
10,000	529	1.5	3	5.3

the conservative rate of five persons per cubic meter, the task for 1 million cubic meters of earthen materials, from extraction to construction, would require approximately 150 years, 15 years, or 1.5 years, respectively, for workforces of 100 people, 1,000 people, or 10,000 people. However, potential constraints stemming from social and economic factors, along with weather conditions, need to be considered. Such social factors can be related to beliefs about appropriate work intervals, labor related to agriculture, fluctuations in workforce size, and many other possible variables and circumstances. Accounting for such constraints, year-round work was improbable, and a more likely scenario would have seen partial work-years, which would have had a significant impact on project completion time. Using an estimate of 175 days per work year, for instance, affords requirements of approximately 300 years, 30 years, or 3 years for workforces, respectively, of 100 people, 1,000 people, or 10,000 people.

Overall, it is plausible that a workforce ranging from 1,000 to 10,000 would have been able to complete much of the construction of the ramparts in anywhere from 3 to 50 years, and this is assuming a very conservative rate of five persons per cubic meter. If we accept a more aggressive rate, with more earth being moved and molded into rampart architecture in a day, then the time requirements would obviously drop even further. Again, this estimated range does not account for additional architectural aspects and features of the fortifications, but it does convey the general cost requirements for basic foundation of the system. I would postulate that a total time frame of no more than two to three generations would have been sufficient for completion for the majority of the rampart system, using these assumed rates of construction.

For comparative purposes, we can look at data from the earthworks at the North American Archaic site of Poverty Point in Louisiana. The site consists of a 3-square-kilometer complex of nearly 765,000 cubic meters of mounded earth in six nested, elliptical half-rings, two massive mounds thought by some to be bird-shaped effigies, two conical mounds, and one flat-topped mound (Kidder et al. 2009: 1–2). The site's most prominent architectural feature is Mound A, which holds the distinction of being the largest human-built earthwork in what is now the United States at the time of its construction, and it remains the largest mound north of the Basin of Mexico. As with Co Loa, some researchers suspect the construction of certain earthworks could have taken place within a quick timeframe, as demonstrated by the work of Kidder and colleagues on Mound A of the site (Kidder et al. 2009: 115–116). Kidder and colleagues performed highly sophisticated field investigations and analyses to test hypotheses related to its construction timeframe. According to chronometric and geoarchaeological data gathered from Mound A, with an estimated volume of 238,500 cubic meters of

earthen materials, the researchers suspect rapid completion as part of a single, continuous effort, perhaps within a matter of months (Kidder et al. 2009: 77, 116). The researchers estimate that a minimum labor force of 1,000 to 3,000 individuals was simultaneously engaged in the construction of Mound A, indicating a significant population resident at Poverty Point, even if only for a brief period of time (Kidder et al. 2009: 137). With such estimates in mind, a major implication for the Co Loa case is that the ramparts could have easily been constructed within a single generation, given the right social conditions and availability of labor and material resources.

Bagley (1999: 165) discusses labor demands for the stamped earth city wall of the Zhengzhou site (c. 1600–1300 BC) in China's Henan Province of the Erligang Culture. This site is also extensive and massive in scale, and Zhengzhou's main feature is the *hang-tu* city wall nearly 7 kilometers in circumference. The *hang-tu* courses average 8–10 centimeters thick, with traces of planks found between the courses hinting that the layers were hammered within the wooden forms. The exterior faces are sloped, with the wall measuring 10 meters wide at its top and 22 meters wide at its base, with some portions surviving as high as 9 meters in height. These dimensions are not all that dissimilar from Co Loa's outer enclosure, which measures 8 kilometers in circumference. According to Thorp (2006: 84–85), a hypothetical force of 10,000 laborers might have needed some eight years to construct the entire wall at Zhengzhou, though other factors such as assumed number and length of workdays can affect this calculation. These calculations reinforce the notion that a Co Loa Polity workforce numbering in the few thousands could have constructed the basis of the rampart system within, at most, two to three generations.

Demography and Population Size

Having evaluated the probable labor requirements for the ramparts, the next logical question to address is whether enough labor would have been available to the polity during the closing centuries BC. For many researchers, sizable population levels generally marked prehistoric state-level societies, in the tens or hundreds of thousands (see Keeley 1996: 27). Settlement studies at the household, settlement, and regional levels can offer estimates on the size, growth, and decline of population levels for ancient societies, especially when using a broad-scale systematic survey (Fang et al. 2004: 79). Due to a scarcity of settlement data, archaeologists currently lack the means to effectively chart prehistoric demographic changes over time for Southeast Asia. For the Red River Delta, however, information is available to at least provide insights into the closing centuries BC, as there is a blend

of sources and approaches that can be used. Estimates of population levels in the Red River Delta, based on a combination of Han census data and cross-cultural comparisons with proxy sites, suggest there may have been thousands of people living in the immediate Co Loa vicinity during the third century BC. The data also hint at the possibility that tens of thousands of people, if not hundreds of thousands, inhabited the greater delta region. These numbers bolster notions of early urbanism and of availability for rapid rampart construction at the time of the city's founding as a political center.

According to Nishimura (2005: 99), not only does the Red River plain currently have one of the densest populations for Southeast Asia, it also has the longest period of occupation for any of the lowland plains of Mainland Southeast Asia. Unfortunately, there have been few systematic studies of the history of human occupation on the Red River plain, and its relationship to the natural environment, from the prehistoric to the historic period. Thus, to address questions related to population, I rely on two main sources of information; namely, textual records and cross-cultural comparison. It must be conceded, though, that assertions regarding population estimates for Co Loa and its surrounding vicinity are admittedly basic and speculative. Additionally, I do not make any attempt to show specific population changes over time, as my intention is to simply provide an illustrative snapshot for the area.

TEXTUAL ACCOUNTS

Once the Han began to encroach upon the Bac Bo region, they not only chronicled what they saw but also began to collect census data for purposes of taxation and tribute. One such census, taken at AD 2, provides a particularly illuminating glimpse into the demographic nature of the region. Some element of inaccuracy or Han colonial bias may be attached to these figures. Nonetheless, the numbers provide a valuable starting point, and according to Han estimates, the Bac Bo region was the most densely populated area in the Han Empire south of the Yangzi River. The estimated total population for the proto-Vietnamese territories was given as 981,735 individuals in 143,643 households (O'Harrow 1979: 156). More specifically, Han census statistics for the Chiao-chi (also known as Giao-chi) Circuit, whose jurisdiction stretched along the South China Sea for a thousand miles from modern-day Canton to Hue in Vietnam, contained a registered population of approximately 1.33 million, and more than half were in the Red River plain (Taylor 1983: 54). To clarify, the Giao-chi Prefecture was located in the Red River plain, and the name was derived from a term in an early Chinese text where it was used to describe the communal sleeping habits of "southern barbarians" (Taylor 1983: 26). According to Taylor (1983: 54), the Giao-chi Prefecture gave its name to the entire Chiao-chi Circuit, mainly because it was

the demographic hub of the South China Sea, and this also helps explain why the Chinese took such pains to conquer Bac Bo, for they could not control the economy of the South China Sea and secure unrestricted access to the southern trade routes unless they ruled this strategic area and the Vietnamese inhabitants who demographically dominated the region. At the start of the Common Era, the region was already a flourishing trade center with large households of merchant families dealing in exotic wares and controlling trade routes with the far south (Holmgren 1980: 71).

If these census accounts are even remotely accurate, it is entirely plausible that tens of thousands of people, if not hundreds of thousands, were living in the Red River Delta three centuries after Co Loa was founded. Although part of the elevated population levels may be attributable to Han immigration, this alone cannot account for the majority of the population numbers. According to Holmgren (1980: 66), there is evidence to suggest that population levels in Bac Bo were not radically affected by influx from the north until the second century AD. As a consequence, it is reasonable to see how the urban nucleus of Co Loa and its immediate hinterland could have easily supported a minimum population of thousands during the Co Loa period. As noted earlier, Dongson societies of the mid–first millennium BC were engaged in intensified and innovative agricultural production, and such production, especially with the advent of ox-drawn, metal plows, resulted in surpluses that would have sustained high population levels. Such plowing represents a radical change, affording surpluses well above subsistence requirements (Higham 2002: 177). In sum, the census information strongly implies a high population level for the wider region within which Co Loa is located, and not necessarily for the site itself.

In addition to indicating that the Red River Delta was possibly inhabited by hundreds of thousands during the first century AD, the census records offer two additional sociopolitical implications. First, the records suggest Han immigration into Vietnam was not overwhelming, and this is clear from a study of census statistics that indicate no abnormal demographic changes in northern Vietnam during Han times (Taylor 1983: 54). While there were apparently enough immigrants to begin forming a coherent Han-Viet ruling class society throughout most of northern Vietnam during the first century AD, there were not enough to administratively or culturally dominate the indigenous society (Taylor 1983: 54). Thus the arrival of the Han may have had very little impact on local society, lifeways, or language. "The strength of Vietnamese society rested on firm prehistoric foundations and was equal to the pressures of Chinese immigration" (Taylor 1983: 57). The second implication is that Han colonial officials and settlers found themselves adopting local customs and leaving much of the local political structures and hierarchies intact. Some researchers, such as Ozaki (1961), have studied

Han administration of the area and concluded the Han never devised a successful method of ruling the local population (see Taylor 1983: 58). In order to govern the Vietnamese, the Chinese had to adjust their habits to the local culture, as they were in no position to force their way of life on the local people (Taylor 1983: 59). In fact, it appears that "imperial law was never successfully imposed over the Vietnamese, and that during the post-Han era of the Six Dynasties, enfeebled imperial courts were repeatedly forced to compromise their authority and recognize the local power system in Vietnam" (Taylor 1980: 141).

Given these census data and later historical records suggesting the absence of true, regular colonial administration by the Chinese over the Vietnamese, the idea that the Imperial Han were responsible for the introduction of sophisticated forms of political governance and agricultural innovations, which could support higher population levels, seems spurious. The historically ascribed date of 111 BC for Han annexation might indeed represent the commencement of Han intrusion into northern Vietnam. However, this was not a transition that occurred overnight, and the available evidence strongly implies that the Han influence and control over local Bac Bo societies occurred gradually and in patchwork fashion. A Chinese administration was not immediately put into place, and local leaders were granted authority in return for acknowledging Han dominion (Higham 1996: 109). Indeed, the uprising that prompted Ma Yuan's AD 42–43 expedition into Bac Bo was provoked by a growing trend of Han interference into the local way of life, and up to this time the indigenous ruling class had remained intact as vassals of Han (Taylor 1980: 141). The uprising was precipitated by a Chinese governor's attempt to impose imperial law on the local aristocracy (Taylor 1980: 141).

Consequently, rather than a unidirectional flow of cultural exchange and influence, a scenario of mutual influence is likely to be more accurate. O'Harrow (1979: 142) posited that the incoming Han may have encountered a Southeast Asian set of technologies and agricultural practices already in place, one that was already developed, well-established and well-suited for the tropical environment, and that the already established practices would have been subsequently taken up by the Chinese newcomers themselves. Ultimately, then, I would conclude that Han intrusion was not a significant factor when an early state-level society centered at Co Loa flowered during the waning centuries BC.

INSIGHTS FROM CROSS-CULTURAL COMPARISONS

On the topic of ancient state population estimates, Feinman (1998: 97) sees a dearth of comparative demographic figures, an absence of consensus on such questions, and an enormous range of size estimates used for archaic states. Methods used to generate estimates in one time and place, such as Bronze Age Southwest Asia, may not be applicable or appropriate in producing estimates elsewhere and at different

TABLE 9.6.

Select Prehistoric Urban Centers. Sample of prehistoric urban and regional centers, with estimated population sizes.

Site	Location	Chronology	Area (ha)	Estimated Peak Pop.	Source(s)	Fortified?	Estimated Pop. Density (per km^2)
Anyang	Henan Province, NE China	c. 1250–1050 BC	3,000	100,000–150,000	Campbell 2009; Song 1994, p. 199	Yes	3,330–5,000
Cahokia	American Bottom, North America	c. AD 1100–1400	1,300	10,000–16,000	Fowler 1999, p. 10; Milner 1986, p. 227; Pauketat 2004, p. 37	Yes	770–1,230
Erlitou	Henan Province, NE	c. 1900–1500 BC	300	18,000–30,000	Liu 2006, p. 165, 183	Yes	6,000–10,000
Great Zimbabwe	Southern Zambezia, Zimbabwe	c. Sixteenth century AD	720	11,000–18,000	Pikirayi 2001, p. 130	Yes	1,530–2,500 (possibly lower, depending on area of hinterland)
Mohenjo-Daro	Indus Valley, Sindh Province, Pakistan	c. Third millennium BC	100–250+	40,000	Jansen 1989, p. 177; Kenoyer 1998, pp. 49–50	?	16,000–40,000
Monte Alban	Valley of Oaxaca, Mexico	c. 200 BC—AD 200	416	17,000	Flannery and Marcus 1996, p. 139, 174	Yes	4,090
Teotihuacan	Basin of Mexico, Mexico	c. 150 BC—AD 650	2,000	100,000	Cowgill 1997	No	5,000
Tiwanaku	Lake Titicaca, Western Bolivia	c. AD 700–1000	600	5,000–10,000	Janusek and Blom 2006, p. 240–242	?	830–1,670
Uruk	Euphrates River Valley, Iraq	c. 3500–3200 BC	100–400	25,000–50,000	Adams 1981, p. 71, 85	Yes	10,000–20,000

times, such as Iron Age Southeast Asia. Culturally specific perceptions of space and habitation can vary greatly, as does the agricultural productivity of disparate cases. In addition, exact, cross-culturally consistent definitions of settlement area are difficult to specify, making estimates of areal extent and settlement size inherently imprecise (Fletcher 1995). Despite these challenges, cross-cultural proxies can be a valuable way to generate baselines for comparison. Demographic data on preindustrial populations are obtained through two primary sources: specifically, written documents and archaeological remains, although no source or method for estimation is without problems (Nichols 2006: 331). For most ancient and preindustrial societies, there are no census records, and even where they might exist, population size must still be inferred indirectly from other types of data, including material evidence. Without direct settlement data from the Co Loa site, its immediate vicinity, and its wider, surrounding hinterland, it is impossible to accurately estimate its peak population level, density, and changes over time. A comparative method can provide an avenue to estimate population levels and densities for the Co Loa site and its immediate hinterland, along with the means by which to evaluate the efficacy of Han census data.

Following Yoffee's (2005: 43) research on ancient civilizations and his presentation of size and population estimates for a number of the world's earliest cities, I provide a table of urban and proto-urban sites (see Table 9.6, which, along with much of its related discussion, is from Kim 2013a). Pertinent to the Co Loa case, this table offers basic data related to settlement size and peak population estimates for cities regarded as part of centralized or complex polities of the world. It should be noted that the estimated peak populations are based on research produced in various sources, and that these estimates are snapshots in time, not capturing diachronic change. Unfortunately, similar information has not been compiled for settlements of the first millennium BC in Southeast Asia. This exercise, however, is a starting point for bringing Southeast Asian forms of cities, including Co Loa and its class of moated settlements, into a wider discussion. My objective with this preliminary sketch is far less ambitious than Yoffee's compilatory research, and serves simply as a heuristic device to generate insights about Co Loa's population levels.

Yoffee's (2005: 62) research on a number of the earliest cities shows that the core area for many was often about 150 hectares or more, whereas city-states tended to be 100 square kilometers or much larger. Moreover, population estimates for these earliest cities range from 10,000 to more than 100,000. As indicated in Table 9.6, many urban or centralized societies were marked by both expansive areal extent and high population estimates. The largest cases, Anyang and Teotihuacan, are 2,000–3,000 hectares, or 20–30 square kilometers, in areal extent with estimated population densities from 3,000–5,000 persons per square kilometers. These two

settlements have suspected peak populations of over 100,000. For the rest of the sites, areal extent ranges from hundreds of hectares to just over a thousand in the case of Cahokia, with estimated peak populations ranging from 5,000–50,000.

What can these estimates tell us about population size for the Co Loa site and hinterland? In generating an overall estimated range for Co Loa, it may be useful to consider the characteristics of cases such as the Tiwanaku (Bolivia) site. Discussing Tiwanaku's estimated population, Janusek and Blom (2007: 240) suggest adopting the lower ranges of Mesoamerican profiles for population density to account for the observation that significant proportions of the site consisted of nonresidential places and activities. The researchers thus make allowances for an estimated 25 percent of the site being used for nonresidential constructions such as temples, cemeteries, middens, and water-filled basins, and another 20 percent of residential occupations being unoccupied at any given time. This may be an appropriate basis for approaching the Co Loa case, with the understanding that significant portions of Co Loa's 600-hectare extent may have been similarly without residences, instead being dedicated to agricultural fields, a palace precinct, administrative structures, military barracks, and craft workshops. In addition, it is useful to consider that for some prehistoric and early historic settlements in parts of South and Southeast Asia, habitations have been found outside of the wall-enclosed space: at sites such as Oc Eo in southern Vietnam (O'Reilly 2007: 105), U-Thong and Nakhon Pathom in Thailand (Bellina and Silapanth 2006: 276), and Sisupalgarh in India (Lal 1949).

Trigger (2003: 121) observes that many cities of early civilizations were inhabited mainly by the upper classes and non–food-producing specialists, administrators, and political officials. At the moment, there is insufficient evidence to surmise what percentage of the population actually lived within the enclosures of the site rather than in the surrounding hinterland. It is also unclear what proportion of the enclosed space was dedicated to differentiated social groups and specific cultural activities. Hence I would propose subscribing to a lower range of population density for Co Loa. In many cases of city-states throughout the archaeological record, administrative relations between urban centers and rural hinterlands were shaped by the numerical dominance of the center, with those urban centers holding more than 50 percent of the population dominating their hinterland politically, economically, and militarily as well as demographically (Trigger 2003: 197). Great Zimbabwe, for instance, probably housed elites within its outer stone-wall perimeter, with its hinterland population of commoners and vassals making up a total population of 11,000 to 18,000 (Kusimba 2008: 243). For Co Loa, using its outermost enclosure as a boundary encompassing 600 hectares, the urban center may have had a population density ranging from 167 persons per square kilometer (assuming a population of 1,000), to 833 persons per square

kilometer (assuming a population of 5,000), up to 1,667 persons per square kilometer (assuming a population of 10,000) (see Table 9.7). Of course, these are speculative estimates, and the numbers do not take into account possible densities for the hinterland beyond the walls. We will have to await the results of significant future research. For the time being, I argue that the population density for the site would be below 1,000 persons per square kilometers, especially if areas would have been dedicated to non-habitation uses, such as extensive tracts of agricultural fields.

In combination with the extant census data, the available information from this cross-cultural survey permits us to infer a sizeable population was present within the region, perhaps on the order of thousands for the city, perhaps tens of thousands for the immediate hinterland, and certainly enough to have been appropriated as labor for the construction of the rampart system. This sort of population density, while not very high when compared to other cases such as Erlitou, Mohenjo-Daro, Monte Alban, or Teotihuacan, is still significant, and along the lines of Cahokia, Great Zimbabwe, and Tiwanaku. For a Southeast Asian settlement, the density is actually somewhat distinctive. Until recent centuries, most of Southeast Asia, with the possible exception of Bali, Java, and parts of central and southern Vietnam, had exceedingly low population densities relative to land and resources (Junker 2004: 229–230; Reid 1988, 1992). It is possible that the political complexity of northern Vietnam was unique in comparison to other areas of Southeast Asia, due in part to its relatively high population densities during the first millennium BC.

Summary for Co Loa Population Estimates

Any population estimates for Co Loa are admittedly speculative and require much more future research. Required still are data on residential structures and areas for activities within Co Loa, as well as the nature of the relationship between the Co Loa center and its surrounding rural areas. Nonetheless, the estimates can operate as a valuable starting point for further testing and fieldwork. Although we currently lack data for residential structures within and just outside of the Co Loa enclosed spaces, the thousands of roof tile fragments dating to the closing centuries BC strongly indicate the presence of a significant number of structures. While the majority of these artifacts have been recovered from the ramparts, they have also been found in different interior spaces, as well as in the immediate outer vicinity of the ramparts. For the moment, it appears a substantial Iron Age population was present in the area. As a baseline figure, I offer an estimate of approximately 5,000 inhabitants for the urban center, and this figure seems reasonable

when the extant Han census data are considered in conjunction with the other material data, including the architectural energetic calculations (see Kim 2013a). Such a population level would have been sufficient for the appropriation of labor in building the rampart system within the few generations indicated by the radiocarbon determinations. Some researchers, such as Webster and Kirker (1995: 383), argue that impressive scales of monumental construction do not automatically imply a large population. I would agree, but given the relatively rapid pace of construction, I propose that Co Loa was sufficiently populated. Accordingly, the evidence provides rough substantiation for the notion that labor was both abundant and sufficient for a highly centralized authority to direct in a complex and fairly rapid construction project. Combining this with the maintenance requirements of the system, an institutionalized power is exhibited as durable, permanent, and multigenerational in nature.

Another important implication of the evidence is that the societies of the Dongson Era, especially the one centered at Co Loa, must have been using significantly intensified or innovative agricultural practices in order to support such growing populations. It is likely that societies were utilizing some form of redistributive systems for agricultural surpluses. According to Wheatley (1983: 278), wet-paddy rice farming in parts of Asia represented an intensification of cultivation and a greater relative investment in agricultural labor. This type of agricultural practice had enormous consequences for growing social differentiation and inequality. "And what is equally important, by inducing significant differentiation in productivity, and hence inequalities in the value, of farm land, it may well have encouraged the development of social stratification" (Wheatley 1983: 278). Construction of even the simplest wet-padi field involves at least a minimal control of water (Wheatley 1983: 279). The combination of high population with the requisite level of coordination necessary for labor inputs associated with intensive agriculture supports the notion that decision-making was centralized and that societal leaders were able to induce the mobilization of large-scale labor. Speaking of Mesoamerica, Lucero (2006: 297) discusses how water and agricultural surplus factored into Classic Maya histories. She points out that for any surplus to be useful for political purposes, it had to be acquired from producers and harnessed to expand the political economy. Lucero convincingly argues that farmers thus needed to be accessible by rulers, and that for tropical settings, one avenue to facilitate this access would be to exploit seasonal water needs. "Providing water during annual drought and conducting key water ceremonies furnished the means for the majority of rulers to draw farmers into centers, not to mention into their political folds" (Lucero 2006: 297). From a similar perspective, another possibility worth considering is that the population levels within and immediately adjacent to the

TABLE 9.7.
Range of Possible Population Densities for Co Loa Site (Using Areal Extent of 6 km²)

Population Estimate	Persons per km²
1,000	167
5,000	833
10,000	1,667
20,000	3,333

enclosed space of Co Loa could have changed seasonally (Alison Carter, personal communication, 2013). Given seasonal patterns of precipitation and agricultural production, there would have been various farming and non-farming activities that would have attracted people to the city.

Based on the various energetic analyses and demographic estimates, Co Loa and its environs constituted an early form of urbanism for Southeast Asia, one marked by high, possibly dispersed, population levels within the surrounding hinterland, and by perhaps less density within the enclosed spaces of the settlement. As mentioned, a combination of sources implies a very large population residing in the Red River plain during the first millennium BC, especially after the introduction of metal farming implements. With considerable surpluses generated by the productivity of the land, the Co Loa Polity was probably the center of a redistributive economy.

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Social Organization Exhibited by Construction Data

In a consideration of agricultural systems and hydraulic engineering, Marcus and Stanish (2006: 8) note that matter–energy transactions become important, while also contending that sociopolitical information and ritual transactions can be just as significant. What can these energetic calculations reveal about the nature of social and labor organizations, and the cultural practices associated with building efforts? According to Abrams and Bolland (1999: 271), the majority of cases wherein architectural energetics are applied can partially, but empirically, describe societal complexity through the measurement of power, authority, and territorial inclusiveness as reflected by the scale and concomitant cost of construction. Monumental architecture can reflect how excess labor is diverted from other activities, along with a sociopolitical organization with the capacity to adequately orchestrate construction (Carneiro 2010).

The sociopolitical complexity of the historic-era classical kingdoms of Southeast Asia is clearly attested by the scale of monumental architecture exhibited at Angkor, Nakhon Pathom, and other similar cities featuring sophisticated hydraulic engineering and monumental religious constructions. For most Iron Age moated settlements, the scale of construction and size of settlement area are quite different, with most settlements ranging from a few hectares to several dozen in area. Accordingly, not all researchers view many of these settlements as cities or precursors to cities, or as associated with significant social complexity.

The Co Loa case, however, is very unusual, as its system of enclosures and moats demanded a much more sophisticated form of centralized planning and direction. As revealed in excavation stratigraphy, each construction sequence of the ramparts was complex, not just involving simple deposition of earth. The construction process shows foresight and a requisite understanding of soil composition and engineering demands. Overall, the enormous scale of Co Loa's ramparts implies not only engineering expertise and skill, but also tremendous political and, potentially, coercive power.

For Sherwood and Kidder (2011), stratigraphic complexity in earthen constructions can reveal sophistication in planning, with various factors being considered such as site preparation, acquisition of various building materials, allocation of labor, and so forth. In their research on complexity and mound construction in the Mississippi River Basin, Sherwood and Kidder (2011) employ a geoarchaeological and multiscalar approach, demonstrating how even the selection and transportation of soils and sediments reveal decisions about the organization of labor, pace of construction, and mound appearance. Mound-building and the construction of important earthen monuments involved far more than simply moving earth. These projects required considerable knowledge, skill, planning, labor coordination, and attention to symbolic and ritual meaning.

> Each step of the construction process, including planning the mound and preparing the land, acquiring various building materials, allocating labor, and actually constructing the earthwork, required a series of decisions, each of which reflect[s] cultural choices that encode information about the society, economy, politics, and culture of the builders. (Sherwood and Kidder 2011: 69)

Therefore, it is important for researchers to view building materials and construction processes as "artifacts," a position advocated by Sherwood and Kidder (2011).

As I have argued elsewhere, viewing the construction layers in Co Loa's ramparts as "artifacts" makes it clear that the degree of control and direction required for construction would have been extremely significant, and this is

particularly evident given the radiocarbon sequences suggesting rapid and not accretional construction (see Kim 2013a). A tremendous amount of coordination would have been necessary for the various phases of planning, construction, and long-term maintenance. In essence, the relatively rapid construction of Co Loa's ramparts necessitated consolidated control. As indicated, the majority of the rampart appears to have been constructed within a window of one to three generations, and there are no discernible signs of surficial weathering or episodes of natural fill or erosion within the stratigraphy of the Co Loa Period sequences. To my mind, the evidence suggests that the rampart system was commissioned and constructed in a fairly continuous manner, with both the areal extent and scale indicating centralized coordination and command over a vast labor pool. A communal workforce of a smaller-scale, non-state society numbering 100 people would have required over 300 (partial) years given a rate involving five people per cubic meter per day: and this assumes continuous and uninterrupted work annually for three centuries. This time frame is not consistent with the stratigraphic and radiocarbon evidence. All of the efforts related to the construction, from early phases of inception through completion and upkeep, would have required a far more organized and powerful political configuration.

In terms of labor organization, what can be inferred from these data? There are cases wherein participation in monumental construction was not coerced, resulting instead from what some have called "socially embedded action" (Sherwood and Kidder 2011: 84). But for Co Loa, rapidity of construction, combined with the military nature of the features, would indicate that many of the laborers participating in the project may have been coerced, though to varying degrees. This does not preclude the possibility that some participated willingly, perhaps as part of a larger sense of belonging and shared urban identity. Mechanisms resulting in compliance and participation are by no means mutually exclusive, and some may be coercive by nature whereas others can be more cooperative and induced by appeals to shared notions of duty. Returning to the Poverty Point site, Gibson (2001: 267) presents an interesting argument regarding the organization of labor and mound construction, discussing the idea of "beneficent obligation" wherein communities that spiritually benefitted from the power and presence of the mounds would have felt a desire to repay this debt through the donation of labor. Although this sense of obligation might be applicable for cosmological symbols such as the mounds, there is currently insufficient evidence that Co Loa's ramparts were originally conceived of as a ritual or cosmologically significant part of the landscape. There may have been a growing cosmological significance for the site and its ramparts during the construction and after completion. However, the primary impetus for building

them stemmed more from military or political motives. Consequently, I suspect construction did not occur through some sort of beneficent obligation, and that coercive power was a factor.

Returning to the example of Zhengzhou and its stamped-earth walls, Thorp (2006: 85) points out the need for significant social and economic stability, coupled with long-term planning, required to keep such a large-scale project going for any number of years, and how an element of coercion was probably necessary to realize the completion of such a monumentally challenging task. These are two very significant observations and imply the presence of a strongly centralized, managerial component, further reinforcing the notion that a state-level apparatus was in place from commencement to completion. The vast amount of people and resources, such as tools, raw materials, and food, would have necessitated a very powerful and centralized organ, one that had the means to coerce and compel.

For Co Loa, it would also seem that the labor force comprised full-time workers, rotations of *corvée* laborers paying tribute, or some combination of the two. Additionally, the effective execution of such an impressive construction project could have served an additional purpose of legitimizing and entrenching positions of power, as a leader or ruler might be measured in part by ability, and the successful completion of an architectural project may serve as a material endorsement of that leader's organizational skills (Abrams and Bolland 1999: 268). This does not mean that a state formed as a result of this managerial requirement. Rather, the presence of the monumental architecture clearly suggests that such a political entity was already present when such an engineering project was first conceived of and commissioned, that the monumental construction can be viewed as symptomatic of the presence of an early state.

The sheer size and massive scale of Co Loa's awe-inspiring ramparts clearly display the polity's ability to mobilize labor, harness resources, and sustain the construction process from inception to completion. Pre–Co Loa communities were likely to have been already familiar with smaller-scale communal works, but nothing on the scale of Co Loa had ever been attempted before, and I would suggest an element of coercion was essential for consistent effort and timely construction. Overall, Co Loa's ramparts also suggest a political apparatus whose rulers required military force to obtain and keep.

Essentially, the Co Loa rampart construction of the third and second centuries BC corresponds to a highly complex and politically consolidated society. Such a society would have had the requisite authority and control to initiate, carry out, and complete constructions of such immense and unprecedented scale in the allotted time. Moreover, a fuller consideration of the rampart system and

its uses over time affords ideas about the kind of governance structure required. The construction efforts not only necessitated control over tremendous resources and people, but also demonstrated a confidence that such control would be sustainable over time. Upkeep and use of the ramparts must have been anticipated from the beginning; otherwise, the anticipated costs of construction would have precluded commencement of the project. Given this reality, I would argue that forms of authority were not only integrated but also institutionalized. In other words, the durability of the site and its monumental architecture reflect the permanent nature of its political system. In the end, this would meet my criteria for an ancient state society, as delineated in Chapter 3.

CHAPTER 10

A PREHISTORIC STATE

TODAY, THE CITY OF Hanoi is the urban anchor of the Red River Delta, and within its city limits, millions of souls live in a society marked by differences in social strata and institutionalized inequality. One of the wondrous benefits of using the archaeological enterprise as a scientific approach is the diachronic nature of its evidence and sources of information, the enormous time depth at the disposal of researchers. Archaeological inquiry can thus offer an avenue to explore how an area like the Red River Delta reached its current state after millennia of enormous and consequential cultural changes, thereby addressing questions about the underpinnings of Vietnamese culture, society, and civilization. A *longue durée* perspective not only allows researchers a glimpse into different foundational moments, but also affords a deeper understanding of why momentous cultural changes have transpired.

As surmised by Adams (2001: 346), research into complexity and state formation continues to grow and diversify ever more rapidly. However, many of the mounting studies, replete with impressive masses of newly accumulated data, are still primarily directed toward improving our understanding of particular cases, while synthetic and cross-cultural approaches for understanding processes commonly involved in the growth of early states are receiving less attention (Adams 2001: 346). Accordingly, this volume has sought to simultaneously address two objectives—to elucidate the origins of an ancient state in Vietnam, and to place the Co Loa phenomenon into a larger theoretical context. It seeks not only to clarify and refine the cultural history of the Red River Valley's crucial Metal Age and the Co Loa settlement, but also to augment our theoretical understanding of culture change, the emergence of social inequality, incipient urbanism, and archaic state formation. As such, I now explore the theoretical implications of the Co Loa case.

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The Co Loa Polity

Decades ago, Winzeler (1976: 623) wrote that the "first evidence of urbanization and state formation in Southeast Asia does not appear before the first centuries of the Christian era, and that which does occur initially is commonly attributed, rightly or wrongly, to outside influence." Sparser population densities were cited as a possible reason for the absence of significant political development toward statehood, with the region containing only small, fragmented, and transient supralocal political entities (Winzeler 1976: 626). Although recent years of archaeological research have begun to challenge this notion, the idea that the region's earliest states appeared only during the Common Era still predominates. This perspective sees the first millennium AD as the crucial foundation for the region's later and better known civilizations, such as Angkor and Bagan (Stark 2006a: 407; see also Higham 2002: 170; Higham and Higham 2009; Moore 2007). Whereas recent perspectives clearly recognize emergent sociopolitical complexity in protohistoric Southeast Asia, I would take these assertions a step further, submitting that the new evidence from the Red River Delta points to even earlier forms of statehood, extant during the prehistoric Iron Age.

Part of this argument relies on the monumentality and associated labor costs of Co Loa's rampart system, as outlined in the preceding chapter. Ultimately, I submit that the Co Loa Polity's political leaders wielded consolidated power of an unprecedented nature for the region, and that the size and scale of Co Loa necessitated an administration with the capacity to direct vast resources and labor pools in a sustained, multigenerational effort for construction and maintenance. In reviewing all of the previous research, along with new data, analyses, and interpretations, it becomes clear a highly centralized and powerful sociopolitical organization was responsible for founding the Co Loa capital site, and that this occurred well before the Red River Valley's absorption into the Han Empire.

For decades, Vietnamese historians and archaeologists have proposed the existence of powerful kingdoms ruling over vast populations during the Metal Age. The Vietnamese have long seen in their Metal Age—from roughly the late second millennium BC to the start of the first millennium AD—the formation of a native civilization and the creation of a territorial political state, or states, with high levels of technical and artistic skills (Glover 2006: 26). The idea of pre-Han, Iron Age state-level societies ruling over the Red River Valley has long been proposed, with researchers seeing the area as a center of politics, ideology, economics, craft specialization, and social interactions (see Hoang 2002; Nguyen 1983; Pham 1996: 330–331; Tessitore 1989; Tran 1969). Nguyen (1983: 186), for instance,

speculates that a state-level society was present during the Dongson era, pointing out that a three-tiered settlement size hierarchy is discernible. In his estimation, settlements in the Red and Ma river valleys possess "grass-roots," village-level communities lacking the full range and sophistication of Dongson intermediary and upper-level communities. Ha Van Tan, one of Vietnam's most prominent archaeologists, argues (1997: 40) that the evidence of social differentiation seen within Dongson societies, combined with the Co Loa site, speaks to the presence of a state, one marked by social stratification, political centralization, and nascent urbanism. I believe the new data from Co Loa afford us new opportunities to revisit these research questions.

With the physical spaces of Co Loa functioning as parts of a city, the associated material data attest to its status as a political capital of some kind for the Co Loa Polity. This polity stands as an early example of Southeast Asian, prehistoric sociopolitical complexity. Decades ago, the idea of Co Loa as the center of a prehistoric state was generally downplayed. For instance, in his important volume on the origins of Southeast Asian urban traditions, Paul Wheatley (1983: 367) argued that, even if valid, the Vietnamese traditions regarding first millennium BC Red River Valley societies referred to chiefdoms and not true states. Indeed, all of the available evidence for Bac Bo at that time, as well as other areas of mainland Southeast Asia, strongly pointed to the existence of chiefdom-level societies during the mid–first millennium BC (see Higham 1996, 2002: 224–227). "Although the culture of Dong Son is the best-known expression of the transition to the centralised chiefdom in mainland Southeast Asia, it was not alone. The trend to centralisation was widespread" (Higham 2002: 179). In a review of material evidence from the rich Dongson-era burials of the Red River Delta, such as Chau Can and Viet Khe, Bayard (1992: 17) argues that, while the presence of stratification is suggested, the data available in the 1990s were not sufficient to clearly demonstrate super- and subordinate ranking and the presence of an apical elite class. Given an absence of firm data, these interpretations were reasonable. The currently available evidence, however, particularly in combination with new field data from the Co Loa site, combine to suggest that an apical social class did indeed exist during the first millennium BC.

Analogously, continued field investigations throughout China have also begun to alter archaeologists' perceptions about the advent of states. New research is now indicating that perhaps state-level complexity began to emerge before the Bronze Age, earlier than previously believed. "The argument for the formation of early states in the late Neolithic period has been gaining momentum recently in China, particularly owing to the new discovery of large public architectures at Taosi and Mojiaoshan" (Liu 2009: 227). The Neolithic examples share similarities with the known Bronze Age states (e.g., Erlitou and Erligang), including social

stratification, construction of large public architecture, and production of prestige ritual objects and utilitarian items in regional centers (Liu 2009: 227).

The archaeological knowledge in northern Vietnam is also undergoing a noteworthy and somewhat similar sea change. Prior to the field investigations at Co Loa, none of the monumental rampart enclosures had been reliably dated, and the settlement itself could not be conclusively linked chronologically to the Dongson era. Moreover, data were unavailable attesting to the degree of centralized control over potentially attached craft production, as exhibited by evidence recovered from the Inner Wall area. The new data may now be applied to revisit the issue of stratification and super- or subordinate ranking in the Red River Delta. The ramparts of Co Loa, and what they enclosed, now stand as testament to the presence of a superordinate site. In this scenario, an elite or royal class of society sat firmly at the apex of a social hierarchy, ruling over the Co Loa Polity and responsible for the founding and construction efforts associated with the Co Loa settlement. The aforementioned labor requirements strongly imply a high population density, a prospect also intimated by later Han census data. Adams (2001: 353) maintains that ancient civilizations tend to coincide with unprecedentedly large primate centers, with advantages and strength underwritten by larger populations. A large population would certainly have been sustainable due to the significant rice paddy agricultural potential of the Red River Valley region, which today produces several crop yields annually.

The monumentality of the rampart system and its overall construction process speak directly to the notion of enduring and consolidated political power. According to Smith (2006: 27), "the manipulation and transformation of space lie at the heart of how ancient states operated." The Co Loa Polity enacted transformation of physical space on a scale unprecedented for the region. The size and scale of the rampart system's construction would have necessitated tremendous labor expenditures and complex forms of labor organization, and with the newly available chronological data indicating a sustained and highly centralized building effort over a relatively short period of time, I propose that the ramparts effectively reflected the power and institutional resilience of the Co Loa Polity. Moreover, the archaeological record during the crucial period of approximately 300–100 BC yields important material indicators evincing centralized control over valuable products and resources, along with a monopoly over the use of deadly force. The scale of bronze production indicates different facets of raw-material procurement, processing, and craftsmanship, while also underscoring the capacity to reach into the hinterland to bring such resources to the city. In toto, the preponderance of evidence strongly implies that a permanent and durable political authority was in place when Co Loa was founded and its monumental constructions were initiated.

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The Co Loa Polity as "State"

To be sure, "urban society" and "states" are not always one and the same (Cowgill 2004: 526), but urbanism as an economic system and states as political systems are often closely intertwined Stein (2004: 61). This latter point is an especially salient one. While I do not argue that the Co Loa Polity was "a state" based on any urban characteristics, I do contend that both a form of urbanism and political consolidation are coeval and evident for the Co Loa case. Cities and urban sites are the nuclei of emergent states, and they fostered the development of tremendous economies of scale that allowed unprecedented concentrations of population both as military forces and as labor *corvées* to construct civic, defensive, and irrigation works (Adams 2004: 45). In her examination of moated settlements of central Thailand during the Dvaravati period, Mudar (1999) examined a settlement size hierarchy within which the 600-hectare site of Nakhon Pathom is considered the only primary center and the largest in the sample. For Bac Bo, we currently lack the data to conduct a similar, comprehensive regional settlement-size study, but given Co Loa's size and the current knowledge of Dongson sites, Co Loa was an unprecedentedly large regional center. The current constellation of over 100 smaller, contemporaneous Dongson Culture sites scattered throughout the region already hints at a possible settlement hierarchy. Dongson burial data from hinterland areas display a high degree of status differentiation along social and economic dimensions (Chu 1973; Murowchick 2001; Pham 2004), further suggesting a possible hierarchy of settlements.

In Chapter 3, I discussed the concept of the state. Despite the presence of significant definitional variations, there are some areas of commonality. At its broadest level, I believe the state is marked by institutionalized forms of leadership, and not transient rule based on charismatic qualities of individual leaders. As discussed earlier, the conceptualization of state favored in this study pertains to a socially stratified society, in which political authority and governance are centralized, institutionalized, and permanent, and where rulers hold a preponderance of coercive power with a territorial base. The state is therefore distinct from middle-range societies (e.g., chiefdoms) because leadership is not merely based on social power that stems from ascribed status, wherein forms of political authority can dissipate within a generation.

Defined in this way, the term "state" is applicable for the Co Loa Polity, in which we can identify elements of territoriality and coercive power, clearly manifested by the monumental fortification system. "Both the rampart system and the institutions necessary to direct and organize its construction are symptomatic of the

presence of an archaic state" (Kim 2013a: 244). Many cases of ancient, large-scale, asymmetrical political structures were marked by fragility and instability (Marcus 1998: 94). Multigenerational and durable governance is necessary to keep a polity from undergoing volatile periods of cycling between integration and decentralization (Tejada 2008: 88), of consolidation and dissolution (Marcus 1998). Ensuring the continuation of monumental construction efforts at Co Loa would have necessitated a resilient form of political authority, with rulers expecting to successfully complete the rampart project, while also anticipating the polity's persistent capacity to maintain the architectural structures indefinitely. In addition to upkeep, military personnel would have been required to use the defenses if and when necessary.

This form of permanent authority would have had another important effect—it would have nurtured a powerful sense of community revolving around the built landscape. Co Loa operated as a regional center, a sociopolitical and economic nucleus fixed within a wider hinterland, and specialized functions were probably carried out within its protected and potentially sacred spaces. I suspect Co Loa would have been the center of ceremonial and ritual activities, perhaps sponsored by the state.

According to Higham (1996: 133), participation in ceremonials was part of the aristocratic society of Dongson Culture communities. Archaeological findings from Dongson sites throughout the region hint at specialized control by elites, wherein various sophisticated bronzes such as the famous bronze drums, and a variety of large vessels, agricultural implements, and weaponry were cast (Higham 2004: 58). Vietnamese researchers suspect craft specialists in Dongson settlements and at Co Loa may have been under the control of a single polity (Pham, personal communication, 2008). A class of craft specialists at Co Loa was involved with the manufacture of bronze utilitarian and ritual goods, the bulk of which was likely to have been restricted in access and consumption. Bronze-working on that scale would have required a professional labor force free from subsistence chores, one that oversaw a series of specialized activities from ore extraction and procurement, to preparation of alloys and sophisticated molds, to casting and retouching of products (Nguyen 1983: 185). Given the disparities in material wealth between the Co Loa settlement and all other Dongson era sites, it appears the polity's leaders held power and influence over surrounding villages and communities within the region. More data are still needed on settlements in the surrounding hinterland and on the nature of secondary administrative centers. For the time being, though, the Co Loa case offers an interesting counterpoint to any traditional notion of an urban landscape, and Co Loa illustrates what form a prehistoric city and state society could take in a more tropical Southeast Asian milieu.

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State Formation: Causes and Strategies

With the preponderance of empirical data supporting the hypothesis that a centralized, state-level society was fixed at Co Loa, the case can be placed within a larger theoretical consideration of the formation of ancient states. What can these data tell us about the various exogenous and endogenous conditions contributing to state formation? How did trajectories of cultural development and historical change combine with local strategies and actions to culminate in momentous changes to social organizations? Were consequences intended, or did the state arise from the collision of disparate agendas? Why did the Co Loa Polity emerge when it did and why in that specific location? More pointedly, why is there no archaeological evidence of a state prior to the third century BC?

To qualify as a state, a society must become politically centralized, and this form of governance must become permanent and institutionalized. How does a state come to exist, especially if there are so many disparate agents and factions with varying and sometimes conflicting agendas? As argued by Peregrine (2012: 166), ancient "political formations are best perceived as fluid and changing, representing the strategies of political leaders as they attempt to establish and maintain authority." Blanton and Fargher (2008:1) argue that state-builders, whether modern or ancient, generally face the same kinds of constraints, challenges, and opportunities, most likely responding to them in similar or at least analogous ways. Accordingly, the authors see a need to integrate political science and anthropological theories about complex societies. I would agree, and this is reflected throughout sections of this chapter.

A "generativist" perspective within the social sciences seeks to explain how decentralized interactions of agents that are both heterogeneous and autonomous generate outcomes (Epstein 1999: 41). I would consider this an appropriate question for the formation of politically centralized, complex polities, where many people are involved with a diverse range of social and political interactions in a society.

State formation can be analyzed in many ways. For instance, we can examine different temporal scales to evaluate causality and changes. Also to be considered are different units and levels of analysis, from contrasting agentive sizes (e.g., individual, group, village, and so forth) to spatial, geographic scales. Over a long-range chronological scale, we can surely identify trends and factors that contribute to conditions favorable for the emergence of a state. These, of course, would make changes appear to be more patterned and less random. However, when we shift our focus onto a proximate temporal scale, I submit that state formation is a somewhat stochastic process, in that numerous variables on different

levels of analysis interact to bring about an outcome. Of course, the outcome is but a snapshot of ongoing social change, but it is one that we might equate with the emergence of a state. What I propose is that we are ultimately dealing with a probability distribution and not a deterministic set of functions—given the right conditions and variables, there is greater likelihood of a consolidation of political authority and its institutionalization. But what brings about the final outcome, whether intended or not, is the product of negotiation, resistance, coercion, contestation, and competition. Any explanation involving the interactions of human behaviors and social phenomena must be cognizant of this stochastic nature. The theoretical explanation of state formation thus needs to identify the most consequential variables involved, and attempt to assess their relative impacts. Some of these variables are more readily identifiable and archaeologically visible than others.

"Evolutionary trajectories towards states occurred all over the world after the Pleistocene and were based on varying means of gaining power and access to goods and labor" (Yoffee 2005: 197). Captured in Yoffee's statement are two important ideas: (1) long chronological stretches must be examined; and (2) state formation hinges on differential possession of power and access to resources. The important longer-term trends and factors contributing to emergent complexity in Bac Bo have been outlined in Chapter 6. In this section, I now revisit these factors, and will devote greater attention to the importance of short-term, agent-based strategies related to power. Ultimately, no explanation for social change can be satisfactory without a consideration of the larger context, emphasizing both the decisions and actions made by people, along with the social and environmental arenas in which these occur.

Carneiro (2012) maintains that all states in human history have certain common features, arising through the combined action of a relatively small set of circumstances. He further argues that the role of each factor or circumstance need not have been exactly the same in every case, but their joint operation must be sufficient to bring about the state's emergence wherever it occurred. I would tend to agree with this idea, although I would stress that we must still be mindful of unique cultural and historical trajectories, events, and circumstances for each case, and how they may have resulted in differential impacts of the pertinent factors. Furthermore, I would also assert that how one accords the weight of impact for certain variables will also depend on the level of analysis or perspective. In other words, the kind of time slice or scale in question will accentuate different factors, bringing some sharply into focus while obscuring others from view. In reviewing the sociopolitical trajectory of the Red River Valley from the Neolithic through the efflorescence of the Co Lo Polity, it is quite evident that a number of both long-range and proximate variables were significant in fostering social

differentiation and inequality, and, eventually, state emergence. Assessing the impact of each variable depends on which scale is in focus.

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Co Loa State Formation

In tracing the arc of sociopolitical development in Bac Bo, we see that villages may have been relatively autonomous prior to the Iron Age. By the Dongson phase, clear signs are present in the material record for emerging social cleavages, demarcating societies some consider chiefdoms or middle-range polities. Such societies were connected to, and shared similarities with, counterpart societies in other areas such as the Dian communities of the Yunnan, and perhaps even the Luo Yue of the modern-day Guangxi Province of China (see below). Generally speaking, Dongson Culture societies were marked by increased social differentiation, agricultural intensification, growing populations, and militarism. Elites and leaders within such complex societies often exercise strategies to effectively control resources, wealth, and surpluses through agricultural improvement and intensification or the production and importation of specialized crafts and prestige items (see Earle 1997). These leaders may also utilize other strategies, such as conquest or warfare, in combination with economic strategies to gain opportunities for investment and control. Such opportunities can lead to greater extraction and usage of surplus production from the subsistence economy to finance the operations of polities (see Johnson and Earle 2000: 34–35). According to the evidence presented in this study, Dongson-era elites appear to have exercised such various kinds of strategies in their political, economic, and ritual control over agricultural intensification and bronze production. During the first millennium BC, the leaders and rulers of populous, regional polities probably controlled and militarily defended fairly extensive territories. The political economies of the Dongson Period polities are consistent with descriptions of complex polities, and they were likely to have functioned in support of the redistributive capacities of elites.

The formation of the Co Loa Polity and the founding of Co Loa as a capital site were momentous developments in the social evolution of the Red River Delta, wherein middle-range societies, engaged in variable forms of cooperation and competition, became subsumed within the ambit of one superordinate polity during the third century BC. It is unclear whether the state emerged through outright conquest, the threat of violence, or perhaps both. Nevertheless, the evidence of surging militarism during the Dongson Culture era indicates that coercive power was an important factor among several. Before I discuss coercive power in greater detail, I turn first to a discussion of other variables that played consequential roles.

Exogenous and Long-Range Factors

In Chapter 6, I discussed the key characteristics of the Red River Delta's geography in providing important advantages and opportunities for groups to capitalize upon. These would have included access to ideal routes of transportation and movement, proximity to metal resources, use of agriculturally productive land, and a growing population base that could be supported by innovations in farming practices, among others. To be sure, each of these characteristics would have been an important exogenous factor for long-term cultural change, and I will not repeat details of them here. Instead, I will expand on one factor—that of interregional interaction.

Again, the connection to various peer communities throughout parts of mainland Southeast Asia and southern China would have been significant, and perhaps one of the more significant interactive relationships for Bac Bo communities would have been linkages with societies to the north. The modern national boundaries for China and Vietnam did not exist 2,000–3,000 years ago, and for much of the Neolithic and Metal Age periods, the landscape and geographic terrain would have been the only major challenge to the open movement of people, materials, and innovations between regions. Higham (2006: 13–14) argues that the prehistory of each of southern China and northern Vietnam should be considered as one, and that despite deeply rooted differences in cultural traditions, there has been for tens of millennia a high degree of unity for the larger area. By the Metal Age, Co Loa's geographic locale within the wider Red River plain was home to a long history of interaction between emerging and highly overlapping cultural worlds.

Regarding Bac Bo, Higham (2002: 224) writes that it was one of few areas of Southeast Asia to witness the development of centralized authority and ranked social structures during the Iron Age. What may partially account for a somewhat distinctive path to urbanism and complexity is its proximity to an expanding Sinitic civilization. As noted in Chapter 9, Co Loa is part of a pattern of Southeast Asian moated settlements, but its size and scale are far greater than those of nearly all its contemporaneous peer sites. Additionally, it does not conform to usual forms of early urbanism as seen in emergent Chinese civilization. What might account for the unique nature of Co Loa? I believe the answer lies in its geographic position at the boundary between two larger, cultural worlds. Access to these two worlds meant avenues to two general influences and sources of cultural information. One would shape local social trajectories of change, bringing societies more or less under a widening Sinitic umbrella, while the other allowed societies to remain culturally distinct along unique strands of civilizational development.

Although the Central Plain is not immediately adjacent to Bac Bo, the sociopolitical topographies of the former area would have been felt, at least indirectly through a buffer, by the latter area. The various societies of Lingnan (present-day Guangdong and Guangxi) in southeastern China may have served as this collective buffer, softening (and delaying) the impact of Sinitic imperial expansion that would eventually reach Bac Bo. Nonetheless, it is this impact that may account for the timing and scale of sociopolitical change in Bac Bo. Higham (1989: 287; 1996: 134; 2002: 170, 224) recognizes the impact of an expanding Han Empire on the region, how major events of the Yellow River basin to the north, particularly at the end of the Warring States period, would have had an effect on Red River Delta communities. For instance, various innovations in military practices of the Warring States period in the Central Plain may have influenced changes in Bac Bo, such as development of the crossbow, increasing application of iron in armaments, and the greater use of walled cities (see Higham 2014: 328). Indeed, even before expansionary movements by the Han, the locals of Bac Bo had extensive interactions with neighboring communities to the north. Aside from connections between Bac Bo and northern neighbors via the Red River artery, connections via coastal travel were also important. In that respect, it is quite instructive to understand the impact of the Qin and Han imperial ambitions on local societies of the Lingnan region, as these interactions would have in turn had an impact on Bac Bo.

While I do not see validity in traditional models of Sinicization, wherein unidirectional flows of cultural practices are seen as responsible for emergent civilization in Yunnan, Lingnan, or Bac Bo, it is nevertheless plain that the Red River Delta did not sit within a cultural or historical vacuum. There is no doubt from the archaeological record that societies all throughout northern Vietnam, southern China, and areas to the west and south were in contact, with ties evident as far back as the Neolithic. Accordingly, the geographic location would have meant access to additional classes of resource for ambitious leaders, resources beyond metal goods and agricultural yields. There would have been proximity and access to exotic political ideas and concepts, ideas and symbols that had already fomented tremendous cultural change in the Central Plain and that could have been appropriated for local strategies of power, and I discuss this in greater detail below.

Endogenous Factors: Strategies of Power

For the Co Loa Polity period, it appears political leaders were able to compel others to perform significant feats of labor both for the wider Co Loa community as well as for the benefit of a centralized political structure. Such compulsion almost certainly occurred with the backing of physical power, probably coupled with an

ideological belief system. Though the communities of the area would have benefited from the presence of a supravillage political entity, I find it difficult to accept the argument that the cession of autonomy necessary for such a political structure to emerge and become permanent would have occurred without physical power and coercion, whether actually applied or merely tacitly threatened.

Like all other instances of complex polities and civilizations, Co Loa's sociopolitical structures were the products of localized historical trajectories and events. Many researchers point out decision-making and leadership strategies associated with individual agents in effectuating changes in culture and social structure (Blanton and Fargher 2008; DeMarrais et al. 1996; Dornan 2002; Earle 1997; Hodder 2000; Junker 1999; Parkinson and Galaty 2007; Pauketat 2004; Stanish 2004). Here I consider trends associated with micro-scalar phenomena, blending perspectives of the regional level with those on a more local plane. Consequently, agentive actions and leadership strategies are key factors. To be sure, leadership strategies can operate in both cooperative and competitive contexts (see Blanton and Fargher 2008), and the means, tactics, and choices available to leaders will vary, depending on historical and geographical circumstances. Nonetheless, if we are to accept the assumption that certain forms of social inequality will result in situations wherein those with better status and higher standards of living will seek to perpetuate these conditions, then competitive contexts will exist. Besides accrual of wealth and status through trade and production, there are other methods and associated bases of power required to perpetuate disparities of status and rank. Elements or forms of social power (Mann 1986) or structural power (Wolf 1990), especially if physical or ideological by nature, are necessary to maintain an unequal distribution of wealth and status, to begin centralizing political decision-making and authority, and to ensure that these inequities persist over generations. For those wishing to gain or maintain positions of wealth, authority, and power, various strategies can be employed, and some of these will leave archaeological signatures and clues. Here I discuss tactics related to a strategy for the accumulation, legitimization, and maintenance of power. These relate to coercion, ideology, and emulation.

COERCIVE POWER AND THE CREATION OF THE STATE

Robert Carneiro (personal communication, 2012) notes that, although the motivations will vary, in the case of chiefdoms or middle-range societies, warfare can become more frequent and intense, and it is within this form of warfare that larger political units of state-level size and complexity develop. I submit that a combination of conditions during the mid–first millennium BC led to an increasing role for political violence, culminating in the use of coercion as a strategy to consolidate state-level authority. Given the importance of growing population levels as

a long-term trend, this perspective is not dissimilar from the main assertion of Carneiro's circumscription theory (Carneiro 1970, 2012), which essentially holds that a heightened incidence of conquest warfare gave rise to the formation of successively larger political units.

The creation of the Co Loa state apparatus was surely the result of multiple trends and conditions. One of the most significant trends relates to competition between groups of people on different scales of analysis. As discussed in Chapter 6, a model of interaction between peer polities (Renfrew 1996), or what Stanish (2003: 283) sees as competitive relations between peer polities, may have marked interchanges between various autonomous societies situated throughout the length of the Red River. On a more micro-scale, it is important to consider decision-making and actions by individuals and groups as they sought to concentrate tremendous political power into their own hands through "factional competition" (Brumfiel 1994), power that saw political autonomy forcibly or coercively overcome. With power concentrated into the hands of fewer people, there can be little doubt that the region would have been marked by significant social inequalities. As noted by Higham (2011), forms of competitive emulation enacted by social aggrandizers are evident in the mortuary data of the Bronze Age site of Ban Non Wat in Thailand. It is reasonable to assume similar trends were occurring as bronze was introduced into parts of Bac Bo, leading to considerable competition by the Iron Age. As put forth by Yoffee (2005: 42), the world's earliest cities and urban centers may have evolved as central arenas in which the processes of differentiation, integration, and social struggle occurred during the formation of ancient states. Regarding the evolution of social inequality, Flannery and Marcus (2012: 563) recognize that each escalation of inequality required the overcoming of resistance—that there seems to have been an ongoing struggle between those who desired to be superior and those who objected. "That is undoubtedly why some of our most complex and stratified societies formed in a crucible of intense competition among clans, chiefly lineages, and ethnic groups" (Flannery and Marcus 2012: 563).

In regard to state-level societies, Stanish (2010: 116) acknowledges the coercive nature of political change, as "political elites assume policing powers and other forms of subordination, both material and ideological, over the rest of the population." Trigger (2003: 240) writes that military force played three important roles in early civilizations:

1. securing and defending frontiers of states;
2. enriching powerful rulers by enabling them to exploit peripheral areas that contained valuable resources, control lucrative trade routes, and impose tribute on conquered peoples; and

3. maintaining internal order—suppressing rebellions, ensuring the collection of taxes, maintaining social peace, and protecting the power and privileges of the upper classes.

In the Red River plain, coercive power and physical force were important for both intrasocietal and extrasocietal dynamics and relationships. The Bac Bo region was home to competing middle-range societies. Various strands of evidence attest to competition and organized violence, as described in Chapter 6. Bac Bo's material record supports the idea that a mosaic of communities was engaged in competition and forms of warfare during the Dongson Culture period, if not earlier, wherein elites used a combination of strategies to obtain economic wealth and entrench their political power. I would argue that most of these politically autonomous societies would not have ceded political autonomy very easily, and would probably have done so only through either direct application of force or under threat of it. As detailed in earlier chapters, there is evidence of standardized production of bronze projectile points suspected to be crossbow bolts. The cache of points found at Cau Vuc, combined with the casting molds found within the Inner Wall, suggest centralized and monopolized production. Instructively, Li and colleagues (2014: 129) point out how crossbows were complex technologies, and the introduction of trigger-fired crossbows during the Warring States period of China revolutionized military warfare.

The massive fortifications and standardized weapons-production associated with Co Loa demonstrate the importance of coercion as an instrument of political change and power during the centuries preceding the founding of the Co Loa site. Once power had been consolidated, political offices would have had to endure and undergo some form of institutionalization. In all of these efforts, a military force of the Co Loa Polity would have been instrumental. The presence of competition and military power became physically manifested and symbolized by a massive and imposing fortification system. While they provided a practical means to defend against attack, such fortifications also functioned as a material symbol of tremendous power, to help maintain order, to deter any behavior at odds with the interests of the polity or society at large.

IDEOLOGY AND THE PERSISTENCE OF THE STATE

To qualify as a state, a centralized political entity must persist and avoid fragmentation, with its leaders maintaining social cleavages and positions of power indefinitely. Writing about power, Arnold (2011: 152) contends that ideologically sanctioned systems of social inequality are often associated with the first phase of the consolidation of power structures, though there is considerable variability in how this consolidation is effectuated. I would generally agree with her assertion.

Once political consolidation occurs, physical power alone might help ensure its persistence over time, but such a base of power can be expensive, viewed negatively, and invite significant resistance. While state-level, authoritative institutions need physical power to protect them and render them permanent, costly military force can begin to be enhanced or replaced by ideological bases of power that connect the various segments of a society with a shared sense of identity. Consequently, potent ideological symbols left in the archaeological record can be especially revealing.

Unfortunately, there is currently a gap in the material record of Co Loa for daily activities that may reflect the presence and differential impact of political ideology on various segments of the society. It is my hope that future fieldwork will address this gap; for the time being, we can begin with an examination of the monumental ramparts. As the Co Loa Polity emerged and evolved, it is quite likely the use of the ramparts would have changed over time as well. In addition to performing a militarily defensive function, the monumental ramparts also functioned as an ideologically powerful and symbolic demonstration of that authority. Beyond the walls, there were surely other forms of verbal and ceremonial activities that promoted a larger, political ideology, evidence for which would not necessarily be captured in the material record. Van Dyke (2011: 234) argues that hegemonic factions can foster the illusion that their power is the culmination of a self-evident progression of events rooted in the past, and that we should also note how subaltern groups produce alternate versions of past events. The upshot is that ideological tenets can be used as political instruments. In early states, powerful leaders marshaled symbolic "capital" in order to recombine differentiated social units into new and viable political systems, creating ideologies of the state (Yoffee 2005: 197). "States were not simply enclosures of power but guardians of ideas about themselves" (Yoffee 2005: 197).

In reference to the modern nation-state system, Scott (1998: 7) writes that the state "is the vexed institution that is the ground of both our freedoms and our unfreedoms." Although he is referring to historic and modern examples of states, the underlying sentiment is perhaps apposite for most cases of the phenomenon. The manifold actors and subjects of the state are simultaneously liberated and fettered by their links to it. Embedded within this perspective is one of the key defining characteristics of the state: institutionalized inequality.

In political science, researchers refer to the uses of deterrence and compulsion (also referred to as compellence) by unitary, state-level actors in their political strategies of coercion. With regard to deterrence, a demand that potential adversaries refrain from undertaking a particular action is linked to a threat to use force if they do not comply, whereas compulsion couples a demand that adversaries undertake a particular action lest a threat to use force be enacted if they do

not comply (Freedman 1998; Schaub 2004: 390). Essentially, deterrence involves a demand of inaction, and compulsion (or what I would call coercion) involves a demand for action (Freedman 1998: 19). Whereas the Co Loa Polity may have consolidated its power through coercion, entailing some possible combination of threat, intimidation, and/or outright conquest, once this power was obtained, a less costly means of keeping and sustaining it surely would have been couched in a strategy of deterrence. This kind of strategy would have been necessary in order to render the political and governance institutions of a state-level apparatus more permanent. Thus, the walls not only protected the polity, but served as a potent symbol and reminder of the military power possessed by the state, as both psychological barrier and physical deterrent against attack, noncompliance, and defiance. The walls ultimately served to ensure stability and peace of the region, and to begin the ideological process of legitimizing the social stratification inherent in the society. In this way, peace and the avoidance and mitigation of conflict would have become embedded in ideology, cultural values, and perhaps even religious belief systems. The construction and maintenance of peace, even if that tranquillity is only intrasocietal, often requires a crucible of power and coercion. Over time, the ramparts surely accrued an additional function beyond symbolizing power, eventually coming to symbolize the peace and stability that such power had brought to the region.

Belief systems, ritual practices, and cosmological ideas probably factored into the consolidation and maintenance of political authority, and could have been integral parts of resistance to social inequality (Aldenderfer 2010). Non-elite members of a polity are not passive consumers of the "clever and bedazzling" propaganda of the "wily detainers of power" (Kus and Raharijaona 2011: 62). As Wolf (1999: 282–283) argues, imaginary worlds can have an important effect on social struggles and transformations, and the founding of a society or polity is probably tied to potent symbols and narratives, much of which can function as tools of legitimacy as well as of struggle and resistance. In such ways, ideology can be codified and materialized to promote ideals and norms of behavior (DeMarrais et al. 1996), sometimes working in conjunction with coercion and violence as instruments of power and control, enhancing the unity of coalitions and sustaining state power (Brumfiel 1998). Such control by the state over ideological symbols and ritual processes can be clearly seen with the Shang Civilization, for instance (Flad 2008).

Ideology can also be a powerful instrument in engendering a sense of identity, especially in highly populous and complex states that may be marked by geographic separation. In many state-level societies, there may be a geographic, social, political, and economic dichotomy between the capital and its surrounding hinterland, where lifeways and daily practices are quite distinct. A shared identity,

perhaps as encapsulated within a polity's ideological tenets, can serve to link various segments and members of a given society, regardless of their socioeconomic status or class. Thus, the political center can function as a core for social and economic engagements. In this way, both inhabitants of the city and of the surrounding hinterland become and remain interconnected through social practices (Yaeger 2003: 123). Owing to the qualities of materiality, we ought to recognize these links between people, places, and things (Pauketat 2013: 38). In the next section, I consider the materiality of ideology, and how this might reflect political strategies on a more micro-scale.

EMULATION

In their discussion of political topographies and landscapes of interaction throughout the Yangzi River region, Flad and Chen (2013: 278) call for studies to focus on how indigenous residents engaged with and adapted some of the customs of other regions, such as those of the Central Plain. As they rightly note, these are important local processes that should not be viewed in simple terms of core–periphery relations, a sentiment shared by Allard (2004) in his consideration of relations between Lingnan societies and those of the Central Plain. I would agree, and see emulative efforts as part of localized and agentive leadership strategies.

Related to the notion of ideological power are tactics rooted in emulative strategy. Although the Co Loa state emerged without direct imposition of "civilization" from the north, a review of the material evidence does suggest some degree of influence. The data suggest knowledge of, and contact with, Sinitic forms of leadership and authority, which may have affected local decisions and leadership strategies, especially during the crucial Dongson period when political consolidation occurred. As mentioned in Chapter 7, the bronze drum found at Co Loa contained a Chinese coin dated to 200 BC, and there was also an inscription using Chinese characters on the inner surface of the drum's lower mantle (see Calo 2009: 59). This evidence, combined with the use of stamped earth and Sinitic-style goods (e.g., roof tiles), reflects the plausibility that some elites and aspiring leaders in this area utilized a strategy of emulation, one in which appeals were made to exotic and distant forms of political authority. Such exotic forms could have been used to supersede the local and traditional (i.e., Dongson) symbols of authority. Consequently, the Co Loa Polity and settlement potentially represent an interesting case of hybridity, with Co Loa Culture showing affinities with societies of both the "Southeast Asian" and the Sinitic worlds. Overall, the methods and styles of construction at Co Loa not only demonstrate continuation of regional, Southeast Asian traditions and patterns, but also signs of northern influence. This should not be surprising, given Co Loa's geographic position near the coast and as a sort of hub between various communities in areas of southern China and those to the

west and south. This appropriation of material symbols of authority and leadership institutions is clearly and materially reflected by certain classes of artifact and remnant architecture.

A northern affinity can be seen through specific classes of data. First, there is the evidence of a stamped-earth technique being used in certain portions of the ramparts. As this *hang-tu* method was often used to construct walls and building foundations at Sinitic sites, its use at Co Loa prior to Han arrival suggests the possibility of emulation. Appeals to distant and exotic forms of power were probably important as legitimizing components in the consolidation of centralized power. Beyond emulation, some researchers suggest the possibility that local Dongson leaders may have even had access to Sinitic military advisors (Larew 2003), though this scenario is difficult to demonstrate archaeologically. At a minimum, I submit, local, indigenous rulers appropriated symbols and methods of leadership as part of a larger strategy to consolidate and maintain power, reconstituting these symbols and methods with local cultural and political meanings.

The second and more obvious indicator for affinities to the north comes in the form of roof tiles. As mentioned, the Co Loa roof tiles are stylistically comparable to Sinitic examples. Importantly, the decorative motifs visible on the tiles reflect both similarities to and differences from contemporaneous northern examples, though to my knowledge the Co Loa tiles were produced locally. Only a few dozen roof tile ends have been recovered at Co Loa, offering glimpses into their decorative elements. Many of these artifacts show a "rolling clouds" motif. As noted by researchers (see Yamagata and Nguyen 2010), the rolling clouds motif was common during the Qin and Han dynasties of China, and was also seen in examples from second-century BC elite and royal contexts of Nanyue and Minyue societies in the Lingnan area of southern and southeastern China (Francis Allard, personal communication, 2014). Within this area, the Nanyue capital of Panyu is located in the Guangdong Province at the mouth of the Pearl River of present-day Guangzhou. What is believed to have been the Minyue capital is located in the Wuyishan region of northwest Fujian (Francis Allard, personal communication, 2014).

Despite the common motif, there are also clear signs of both difference and local character. For instance, the Co Loa specimens found lack any sort of Sinitic stylized script such as tends to be seen in examples from the Central Plain or Lingnan. For instance, the characters for *wansui* ("long life") are prominently featured on roof tile ends from these regions (Francis Allard, personal communication, 2014). Moreover, some Co Loa tile ends appear to have a localized trait, namely a prominent sunburst or star-shaped motif, which bears a striking resemblance to similar designs seen on various Dongson (and even Dian) bronzes such as the tympani of bronze drums (see Lai 2012). To my knowledge, no evidence of such a motif has been found in Lingnan or the Central Plain. There are significant

implications for this evidence of both similarity and difference, which I discuss further in the next section. Ultimately, the fact that roof tiles have not been found anywhere else in Vietnam during this time period clearly signals the potentially elite status of the Co Loa settlement. It also bolsters the idea that rulers of the Co Loa Polity were employing leadership strategies that appropriated ideological symbols and models of authority from the north. Indeed, it may be worth considering the roof tiles as part of an "emergent high culture" (Parkinson and Galaty 2009), a notion I have already discussed for products such as bronze drums (see Chapter 6).

Much like interactions between Sinitic and non-Sinitic societies along China's frontier areas in the north and west, frontier relationships to the south were probably marked by mutual impact and not simply passive reception of Chinese "civilization." In a treatment about the expansion of Central Plain societies such as the Chu, Allard (2004) discusses how Lingnan communities were not simply passive recipients in some form of core–periphery model of interaction, but were agents actively appropriating what they needed for their own political and economic strategies. Bac Bo societies were also involved in a more complex set of interactions with their northern neighbors, and were not part of a unidirectional flow of Sinitic "civilization." Seen as "barbarous" others by the elites of the Central Plain, factions and groups in all of these "peripheral" areas were active agents in selectively appropriating aspects of Sinitic culture, and these actions were tied to local, indigenous political strategies. This kind of emulation need not be direct, as appeals to distant forms of authority and power may have been part of "down-the-line" imitation in which practices and materials were adopted with a general understanding of the power they held. This kind of phenomenon can be seen with the spread of Shang traditions of oracle-bone divination throughout East Asia, for instance (Flad 2008). A "down-the-line" form of emulation could have seen the use of certain symbols or materials or practices that came to take on specific meanings, whose original political and cultural contexts may have been unfamiliar to the current users. Hence, contact could be indirect and may be separated by both space and time.

Bronson (2006) suggests that models for political regeneration can occur with any contemporary polities (perhaps even belonging to enemies). Perhaps such a model can at least partially explain the emulation strategies seen at Co Loa, with appeals to being made to proto-Chinese and Sinitic elements of rulership, authority, and politico-religious ideology. That this occurs towards the end of the Warring States period and not earlier is also interesting, as it clearly suggests the events leading to a unified Qin state may have been known to Dongson leaders. It is possible that the monumental fortification system at Co Loa was both inspired by, and erected as a response to, the growing power and potential threats in the

north. These perceived threats could have included any number of entities, such as the Qin, Han, or Nanyue. In South Asia during the third and second centuries BC, the Mauryan polity was marked by what may have been competitive emulation, a situation in which various societies were not politically linked to the Ganges plain but may have shared social, ritual, or cultural ties (Smith 2005: 843). The idea of competitive emulation is an intriguing one, and perhaps the appropriation of Sinitic leadership symbols by Co Loa rulers constitutes some form of competitive emulation.

Finally, there is also a possibility of what I would call "settlement emulation." Again, the use of embankments and moats for controlling water is prevalent throughout Iron Age Southeast Asia, but the vast majority of these sites were much smaller in scale and extent than the Co Loa case. Perhaps the trend toward urban genesis in the Red River Delta was partly influenced by the trajectory towards larger scales of settlement to the north, associated with emerging Chinese civilization.

Thus what we see at Co Loa may reflect a form of hybridity, with authority and power resting on a combination of existing Dongson models and symbols of political authority and foreign elements. In describing the "Yue" societies of Lingnan, those sitting along the southern periphery of a growing Han Empire, Brindley (2010: 35) writes, "We have encountered examples in which kings co-opted Han titles and administrative and ritual (mortuary) practices while at the same time remaining distant and separate from the Han by ruling in accordance with local practices and customs." Brindley (2003) also contends that the history of the Yue kingdoms during the Han period was one of Han imperial conquest and incorporation, as well as a gradual, cultural and political encroachment upon local ruling elites and communities in the southern regions. I agree, and would take this assertion a step further—political elites of the Red River Delta had already begun a process of emulation and appropriation centuries before Han annexation. Of course, for the Bac Bo region, we lack the degree of textual information available about Lingnan. This lack notwithstanding, the historical details and clues about Yue agency in Lingnan, comprising acts of appeasement, subterfuge, diplomacy, resistance, and rebellion (Brindley 2010: 35), all bespeak the likelihood of political agency in Bac Bo, with emulation being an important strategy.

A CULTURAL BELT OF RECIPROCAL COMPLEXITY As outlined in previous chapters, the cultural contacts between Yunnan, Lingnan, and Bac Bo suggest that there may have existed at the end of the first millennium BC what Tessitore (1989: 42) refers to as a "sort of cultural confederation." For Tessitore (1989: 42) the evidence indicates "a broad cultural belt" of societies sharing many cultural traits. In recent years, researchers have accumulated insightful new data. For

instance, Yao and Zhilong (2012) present findings from a full coverage survey of the south Dian area, and the authors demonstrate that during the first millennium BC, regions south of the Yangzi River simultaneously witnessed the beginning of sociopolitical complexity associated with the Yelang, Dian, Dongson, and Lingnan. Materially, these societies were linked by a common sophisticated bronze tradition characterized by the production of large ritual vessels, ornate socketed weapons, and farming implements (Yao and Zhilong 2012: 353).

Within this broad, geographic belt, from the coastal areas of Lingnan and Bac Bo to the interior areas of Yunnan, we find a series of multiethnic societies that shared many cultural practices, as reflected by their material remains. For some researchers, some of these communities would constitute the "Bai Yue" or populations of various "Yue" identities (see Brindley 2003 and 2010). Based on the archaeological record, I think it fair to raise the existence of a broad interaction sphere of some kind, with many of its participating societies arguably falling within a category referred to as "Yue". To be sure, the category of "Yue" reflects a Central Plain–biased perspective, referring to all peoples at the extreme Southern periphery (Brindley 2010: 5). It is thus worth noting that not all peoples would have necessarily identified themselves as part of the same cultural or ethnic category, and that perceptions of what constituted "Yue" changed over time. For instance, textual sources refer to some groups of "Yue" people in terms of small kingdoms such as Western Ou and Luo (with the latter known historically as Ou Luo or Au Lac) (Brindley 2010: 5). All this being said, I invoke the term "Yue" loosely here merely to denote the wide array of culturally and ethnically varied societies of a geographic area roughly corresponding to parts of present-day southern China and northern Vietnam.

In Chapter 6, I highlighted the impact of peer polity interaction between Bac Bo and Yunnan communities through use of the Red River as a thoroughfare of movement. This interaction extended back in time to the Neolithic, if not earlier, and became all the more apparent by the Iron Age. "The emergence of complex sociopolitical formations in southwestern China must be viewed as a region-wide phenomenon, inclusive of concurrent developments in the Dong Son region in northern Vietnam" (Yao 2010: 219). During the Dongson period, however, it also seems that ties to the coast became just as impactful, if not more so, thus augmenting the network of connections. There was a strong appearance of a maritime orientation, which probably fostered greater levels of linkages with coastal parts of Lingnan. As detailed in Chapter 6, parallels in artifacts between Bac Bo communities and societies to the west and south, such as sites in the Khorat plateau of Thailand (Higham 2002: 152), indicate the wide range of this exchange network.

In some sense, it can be argued that the prehistory of what Tessitore (1989) calls a broad cultural belt, comprising Bac Bo, Yunnan, and Lingnan, should

be considered as one, and that despite differences in local, historical trajectories of cultural change, there had been a high degree of unity for the entire area for millennia (see Higham 2006: 13–14). This is clearly reflected, of course, by the well-known case of the bronze drums and their distributions throughout Yunnan and Bac Bo. Beyond that, we may also point to recent investigations of rock art in parts of Guangxi. The rock art at the Huashan site, located not far from the modern border with Vietnam, is believed to have been created sometime during the last centuries BC, and some of the motifs signal affinities with Dongson and Dian societies (see Gao 2013). The star-shaped motif is visible, along with possible uses of drums. Indeed, bronze drums are conspicuously absent from the records of areas to the east in Guangdong (Imamura 2010: 38). Moreover, roof tiles appear to be absent in Yunnan prior to the Han period (Yao and Zhilong 2012).

Higham (2014: 200) argues for the existence of a series of powerful polities in Lingnan and northern Vietnam during the last few centuries BC. I am in general agreement and see in this timeframe extremely pivotal changes for many populations and societies all throughout these areas. For Lingnan, emerging sociopolitical complexity appears to have been partly associated with access to material and behavioral elements that originated north of the area, not unlike pathways to complexity seen in other parts of southern China (see Allard 2014). Allard (2014) points out, however, that complex societies in some of the more southern areas of Guangxi seem to have emerged more independently of such contacts than did their northern-region counterparts. I see two important implications with his assertion. First, those areas of southern Guangxi would have been marked by closer ties to various communities of Yunnan and Bac Bo, as potentially seen with the rock art evidence mentioned above. Second, it is clear that distance from the Central Plain resulted in different forms of interaction and degrees of impact. More specifically, I suspect Bac Bo's trajectory of state formation benefitted from having the Central Plain at "arm's length," with Yunnan and Lingnan regions operating at times as cultural buffers, facilitators, and filters.

As noted by Allard (personal communication, 2014), some Chinese historians think that the Nanyue kingdom extended over almost all of present-day Guangdong and Guangxi, and that the Minyue kingdom covered a large portion of Fujian. These Lingnan polities operated between the Central Plain and Bac Bo, as reflected by archaeological materials. For many centuries throughout the Iron Age, the various Yue societies of southern China had been in close interaction with counterparts in the Central Plain. According to Higham (2006: 19), the Yue profited from trade with northern Chinese polities, supplying them with exotica including turtle shells for divination, rhino horn, cowry shells for currency, pearls, and kingfisher feathers. Nanyue royal tombs, for instance, yielded both Dongson and Central Plain types of artifacts. Additionally, Allard (2014: 821) outlines how

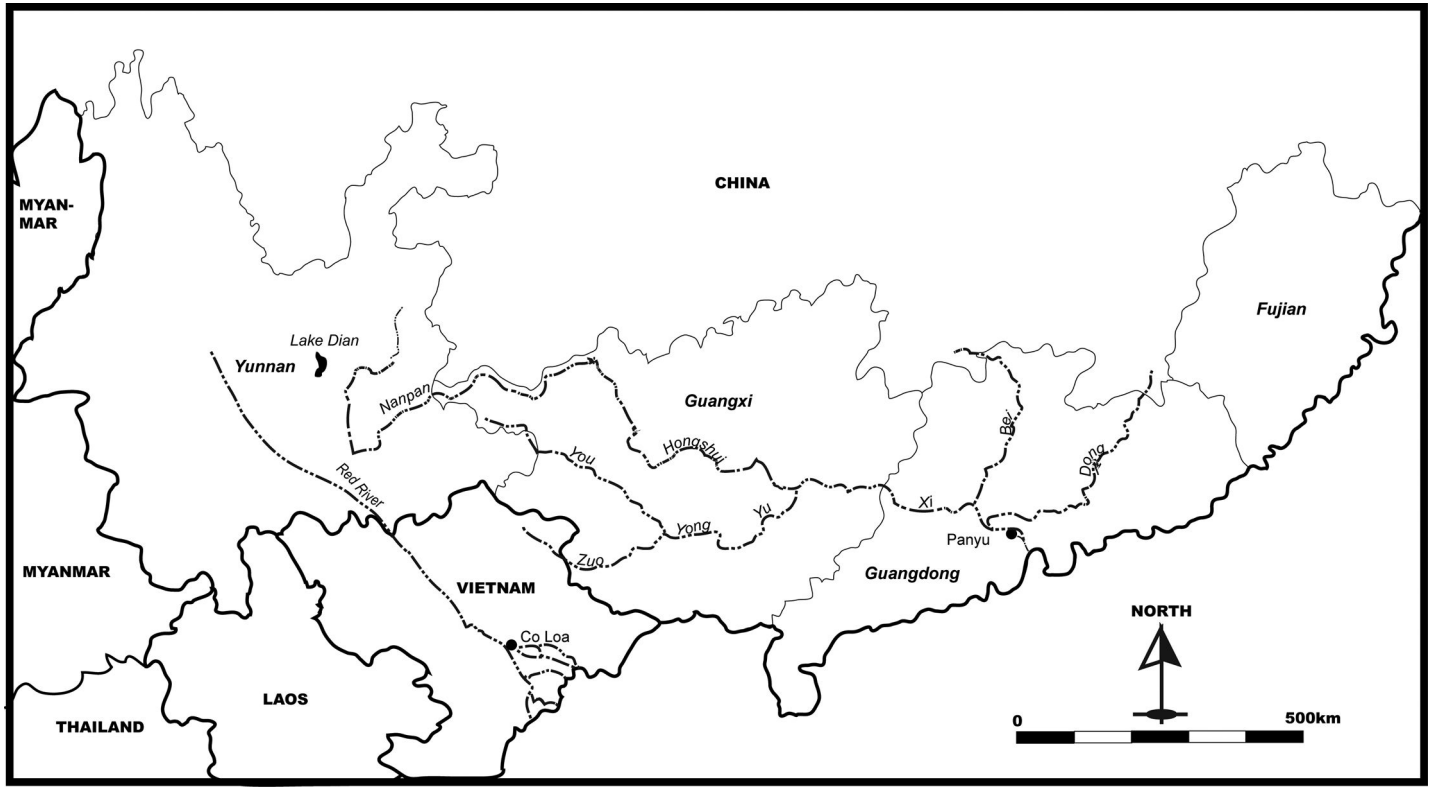

FIGURE 10.1.
Map of Northern Vietnam and Southern China, with the Locations of the Co Loa and Panyu Sites.

Figure produced by Alison Carter. Map data from Google, mapabc.com. River data from Natural Earth (http://www.naturalearthdata.com/) and Google Earth Library (http://www.gelib.com/).

the material records of the Nanyue and Minyue polities show ample evidence of highly developed material cultures, elaborate burials, and architectural remains that together indicate a fusion of distinctive local elements and external influences. In his argument, emulation by Nanyue and Minyue elites and royalty can be seen in the construction and contents of burials, as well as in palaces with Han-style gardens and ponds. Overall, Allard (2014: 819) convincingly argues that the period of 600–200 BC witnessed a proliferation of complex societies in many parts of Lingnan, often along rivers that facilitated access to regions north of it, and how grave contents point to the role that extraregional contact appears to have played in emergent complex organizations and economic systems.

Given the mounting material data from Co Loa, it would seem that Bac Bo societies were part of a growing belt of reciprocal complexity, though much more research is needed to fully consider this line of inquiry (see Figure 10.1). For instance, researchers could compare the cultural developmental and trajectories of urbanization for the Panyu and Co Loa settlements, exploring their roles as political capitals and emphasizing differences and similarities. These societies were interacting with one another, but were also linked either directly or indirectly to growing Qin and Han imperial expansion, and were all part of a wider series of complex polities emerging during this crucial period of the closing centuries BC. For now, we can consider common presence of roof tiles within the capitals of these polities and how the materials reflect shifting strategies and complex interconnections.

Though we may point to the existence of a belt of reciprocal complexity, what accounts for the absence of any other contemporaneous settlement of the size and nature of Co Loa anywhere else within Yunnan, Lingnan, and Bac Bo? Directly related to this, what accounts for the different trajectories of political change between the Co Loa Polity and its counterparts in other areas of this cultural belt, as well as in other areas of Southeast Asia to the west and south? The 600-hectare city was quite simply unparalleled for that wider region at that time, in its scale of monumental construction, fortifications, and degree of landscape modification. As I intimated above, I suspect that the Red River Delta's location would have been a key reason both the polity and settlement of Co Loa were able to emerge. It benefitted from indirect linkages with powerful models of authority, while still being safely distant from them—at least until the arrival of the Han. "Beyond the Truong Son range, however, known to the Chinese as the 'Fortress of the Sky,' the peoples of Southeast Asia forged their own path to the formation of states" (Higham 2006: 20). Although I believe Higham is referring to certain Common Era polities of Thailand and Cambodia, I believe the preponderance of evidence now also points to the existence of a distinct pathway to state formation in the Red River Delta.

To recapitulate, my current suspicion is that interregional interactions most significant for Bac Bo sociopolitical change during the first millennium BC underwent a shift in emphasis. Whereas connections to Yunnan and Guangxi were significant early on, by the closing centuries BC, a greater coastal orientation is apparent, accentuating ties to areas of Guangdong and, whether directly or indirectly, even to areas of Fujian and further north. This appears to coincide with pivotal changes occurring in the Central Plain, which probably had major ripple effects throughout adjacent regions.

INTERACTION AND BARBARIZATION As mentioned, the interactions between Sinitic and non-Sinitic societies along the Chinese frontiers should not characterized as unidirectional, with so-called barbarians passively receiving and consuming cultural wisdom from Chinese civilization. It is clear that local agents within these "barbarian" peripheral regions were actively engaging with and appropriating materials and ideas, reshaping and applying them as they needed to in local sociopolitical contexts (see Allard 2004; Brindley 2010). Beyond this, another argument I would make sees cultural changes as mutually influential, and that such interactions probably affected communities in each respective domain. In the case of Bac Bo and the Central Plain, we might consider parallel and concurrent processes of Sinicization and what I would consider its antithesis, namely "barbarization." The Han were motivated to expand into distant southern regions partly due to what Lewis (2007: 151) refers to as the "cult of exotics." A motivation to expand into areas such as the far south came in part from a desire to obtain exotic and rare goods. "The Han obsession with rare objects from distant places originated in the idea that the ruler's power was measured by his ability to attract people and their products to his court" (Lewis 2007: 152). The more exotic a product, the more potent a ruler's power could become, especially if the prestige of the exotic also figured into religion. To this point, Lewis (2007: 154–155) argues that the prestige of the exotic demonstrated points of contact between people and spirits situated at "the edges of the earth." In this way, a cult of the exotic not only would have been concerned with economic opportunity, but perhaps would have involved a fetishization of the barbarian world in the southern peripheries of the Sinitic world. Consequently, from its origins in political and religious life, it is plausible the cult of exotics spread from Han elite to commoner, with foreign objects permeating various levels of society.

Another motivation to consider for the Han desire to expand into the far southern periphery would have been because expansionary campaigns of this sort clearly identified an "Other." Having an "Other" in distant lands necessitated both physical power and militarized frontiers, in order to maintain a stable center. In juxtaposing Han identity against the preceding Qin identity, seeing the

latter as cruel, coercive, and not unlike the "barbarian" Other, Han authors could thus celebrate the moral superiority of their new dynasty (Lewis 2007: 39–40). Positioning Han identity in contrast with the Qin was one way to legitimize the new political authority. Over time, a Han identity may have required the presence of other forms of the barbarian Other in order promote its own internal cohesiveness. Thus, movement into the outlying frontiers such as the far south might have offered a mechanism to do so. Interestingly, as the exotic lands of the southern barbarians came increasingly under Han control, a clear dichotomy between Han versus "Other" became increasingly blurred, as evinced by an emerging Han-Viet elite class (see Chapter 11). Judged from these perspectives, it would appear that Han society was also affected by its interactions with the far south, with resulting gradations of barbarization (or hybridization) that were more intense in the Red River Delta and gradually less so towards the north. Thus, the Co Loa case can offer insights into how interactions with neighboring non-Sinitic populations affected Sinitic societies and their own self-perceptions and self-identification. Such interactions, whether with communities of the Xiongnu, the Dian, the Dongson, or native societies on the Korean Peninsula, could have all had an important effect on society and culture in the Central Plain (see Pai 1992 and Yao 2012).

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A Proximate Theory of State Formation

In a reformulation of his circumscription theory of the origins of the state, Carneiro (2012: 6) writes that a parsimonious theory ought to account for the largest number of instances of a phenomenon with the smallest number of factors. For Carneiro (2012: 27), the core of circumscription theory remains intact: "A heightened incidence of conquest warfare, due largely to an increase in population pressure, gave rise to the formation of successively larger political units, with autonomous villages being followed by chiefdoms, the process culminating in certain areas with the emergence of the state."

Regarding the Co Loa case, I see elements of this theory demonstrated. Growing population levels and militarism do appear to be coincident in the Red River Valley, leading to significant political changes. Moreover, the natural features of the valley meant that those societies in the area were geographically bounded, given the presence of the sea to the east and southeast and mountainous terrain to the north and west. Population growth would have enhanced the effects of circumscription. Of course, conquest warfare was not the only factor, nor has outright conquest been sufficiently documented by the archaeological record. Instead, the archaeological evidence indicates a mix of factors, but with coercion still being an important piece. With the presence of larger-scale societies during

the Iron Age, owing to innovations in agricultural production such as ox-drawn metal plows and irrigation channeling, I suspect opportunities for greater levels of interaction were present, with conflict being part of this range of both cooperative and competitive interaction between communities.

Accordingly, this case illustrates the importance of long-range cultural changes in a given locale for the formation of ancient states. Just how much time and how many long-term variables one needs to examine depends on what specifically requires explanation. While trends were in place leading to social ranking, large populations, and higher levels of complexity and integration, the actual emergence of a state-level political structure probably requires a different set of conditions and short-range factors. Political integration resulting in a state requires the actual and permanent cession of autonomy by various families, groups, villages, and societies, and I propose that this will only occur through coercion. In that respect, state formation depends on a pivotal, short-term catalyst of coercive activity, which may include actual conquest, compulsion, economic sanctions, or aggregation in defense against military threat. Furthermore, as stated earlier, physical and ideological power are also central in guaranteeing that a state, once formed, does not fragment and will endure.

"Violence is generally assumed to be an exception to normal stable sociopolitical orders, in our modern statist way of thinking, but a cursory look at any hundred years of human history will show the omnipresence of violence and its role in the creation, dissolution, or dynamic maintenance of social and political networks" (Campbell 2009: 824). Competitive and coercive strategies have been employed by groups in numerous archaeological cases throughout human history, but they do not always result in the formation of a state where one was absent. To me, this would suggest that coercive power is by no means a sufficient condition for the consolidation of state-level political power. Carneiro (2012) recognizes this, acknowledging the possibility that auxiliary factors can be and ought to be tested in order to potentially supplement circumscription theory.

> And even though, up to this point, the theory has proved itself reasonably successful, if some previously unrecognized element were to be found which served to increase the incidence of war, with all its cascade of consequences, the new factor could no doubt be readily accommodated within the essential framework of the theory. (Carneiro 2012: 27)

That being said, what about some of the other traditionally cited causes or variables, such as agricultural intensification, emergent religion, long-distance exchange, and others? As discussed in Chapter 3, theorists have long searched for monocausal explanations for emergent complexity and state development, and

generally not finding a single identifiable sufficient condition. Why does the state emerge and persist in some times and places and not others? In my opinion, the intentional use of coercive power still needs to be considered, and is arguably a pivotal or necessary condition.

As persuasively put forth by Robb and Pauketat (2013: 19), archaeologists cannot assume that long spans of time have no structure different from that of short-term time. Along this line of thought, I would recognize agentive strategies related to coercion as critical for the emergence and persistence of state apparatuses, whether in explicit forms of physical power or in tacit forms of ideological influence. This can help explain why states are not omnipresent in the archaeological record of the Holocene Epoch, despite the many instances wherein certain seemingly embryonic conditions are present. Ultimately, state formation requires the actions of competing people, grouped in opposing factions with different agendas and interests. The interactions can be quite complex, mixed with periods of cooperation and alliance-building.

The transition from a nondurable form of centralized polity (marked by more transitory leadership) to one marked by more durable forms of institutionalized authority does not happen in a unilinear progression, automatically, or as a matter of natural course. It happens as an outcome, whether intended by agents or not, resulting from some combination of events, trends, and proximate decisions and actions. Accordingly, we must note the important role of agents and their involvement in the process of state formation, even if their existence, specific motivations, and behaviors are not always visible in the archaeological record. In his studies of Neo-Assyrian cities, Ur (2013: 2) writes that despite decades of substantial scholarly attention and fieldwork, much is still unknown about the nature of daily life for non- elites because the enormous dataset derives almost entirely from the investigation of the spaces and creations of the king. He rightly asserts, though, that the goals of archaeology have evolved, and we are no longer concerned as exclusively with kings and their courts, and that we have become social historians, with new concerns about interactions of kings and commoners alike. In that vein, I would stress the need to consider the potential role of various agents and groups within the Co Loa society, even if they are not all yet archaeologically visible.

For the time being, I would advocate a general assumption that those in leadership positions would want to hold their positions of power, higher status, access to better standards of living, and other advantages. On the other hand, those who do not occupy these positions must accept, ignore, resist, or reject such inherent states of inequality. And there would be those moving between these two general categories. This is analogous to Fargher and Blanton's (2007) idea of a juxtaposition of the state and the taxpayers, those who govern and who are governed.

For the latter, acceptance of degrees of economic, political, and social inequity stems from one of two reasons: they either see the benefits of the configuration, or they have no choice in the matter. In terms of benefits, the state can offer peace, prosperity, privileges, protection, food, links to deities and ancestors, and various other public services. There may be an ideological component tied to these benefits, a belief system encoding the apparent benefits that the state or its leaders provide. However, the governed may have little choice in the matter. In these cases, it is physical power that underwrites this relationship—the state holds a monopoly over the use of deadly force, and is thus equipped to ensure compliance and acceptance of the status quo through threat of sanction. The benefits may be there, but beneath the veneer of public goods and welfare is the tacit threat of sanction and punishment for noncompliance. The current North Korean totalitarian regime with its powerful, state-sponsored mythos and ideological systems comes to mind as a modern-day example.

As noted by Mann (1986: 1), societies are not unitary actors, but comprise "multiple overlapping and intersecting sociospatial networks of power." Building on this notion, I propose that the emergence of state-level societies, marked by durable institutions of power that persist beyond the life or career of a particular leader, is the product of a combination of human interactions, which can be human–human and human–environment by nature. This perspective is similar to ideas put forth by Blanton and Fargher (2009) regarding a behavioral theory of collective action and the formation of a collective, premodern state, in which variations in the juxtaposition of power between different groups and factions will affect the development and ultimate forms of the state. In their argument, collective action can account for varying strategies across a continuum of interactions, from cooperative to conflicting. I would agree with this argument, given the enormous variation discernible in the category of premodern states. Moreover, I would see shifting political circumstances as affecting the weight and impact of different variables, thus leading to different pathways to state formation.

Governing bodies do not emerge from a social evolutionary trajectory—rather, they emerge in punctuated fashion when certain conditions are present. The formation of a state is a highly complex and interactive process, with countless agendas and motivations, ensuring that state formation is by no means a smooth process or inevitable development. Carneiro (1998) asserts that there is a flashpoint when autonomous communities transform into chiefdom-level societies. In this view, political complexity requires some form of short-term catalyst, and a similar "flashpoint" may be involved in the formation of a state. Claessen and Skalnik (1978) argue that several factors, regardless of historical sequence, played a relatively important role in the formation of early states, including population growth and/or pressure, war in the form of conquest or raiding, or threat of war,

and the influence of previously existing states. Building on these various perspectives, I posit that the nature of state formation may actually be more appropriately viewed through a lens that recognizes a punctuated nature of political development, in contrast to an approach stressing long-term trends that envision the state as an almost inevitable outcome of cultural development. Citing various factors related to circumscription (both social and environmental) and resource concentration, Carneiro (2012) makes a very convincing argument about the role of warfare in the development of complex societies. To his overall argument regarding state formation, I would add an addendum, as exhibited by the Co Loa case. While certain key ingredients made conditions ripe for state formation for centuries throughout the first millennium BC, it was only by the closing centuries that the Co Loa Polity emerged. Resource concentration and circumscription marked the Red River Valley for quite some time, probably resulting in sporadic outbreaks of warfare, but it was only in the third century BC that a state-level authority materialized, as exemplified by the Co Loa settlement. Why then, and why not earlier? To answer this, perhaps it is necessary to consider an additional, complementary veneer of causality.

Punctuated Regime Transition

In a recent reevaluation of Carneiro's (1970) original circumscription theory, Feinman (2012: 46) argues that researchers ought to engage in "a conceptual reframing that shifts our modeling from the construction of law-like propositions and deterministic, unitary sequences toward an approach that examines processes and mechanisms, the interrelationships between key variables that may lead to varied outcomes." I would agree with this perspective, especially with its emphasis on complex processes and mechanisms that lead to varied outcomes. When it comes to state formation, I see no inexorable social evolutionary path—instead, I see the complex interplay of variables that sometimes leads to the formation and persistence of political organizations we can define as states.

The fact that we have lived in smaller-scale, less complex, non-state societies for the majority of our history as a species is evidence of the extraordinary set of conditions, historical circumstances, and products of interactions between people that must be necessary for the emergence and persistence of state-level societies in different places and times of the world. The theoretical search for the causes of states is important for a closely related research question: Why did so many societies marked by complexity not become states? Along this line of thinking, then, state emergence does not necessarily conform strictly to a gradual process of accumulated sociopolitical changes. A combination of long-term variables and

trends is necessary to create the right kinds of permissive conditions for a state to eventually emerge. However, this does not mean that a state will always form in all cases where these conditions are present. In my opinion, some form of coercive power is probably a necessary condition, and since both the application and use of coercive power are based on human choice and strategy, the state cannot form automatically and mechanically. The development of states is a product (or sometimes byproduct) of human decision-making, strategies, and interactions. I would argue, then, that social transformations resulting in state-level societies are marked by punctuated change. Instead of viewing state emergence as simply a unique developmental event or historical endpoint, I believe it is more useful to consider it in terms of regime transition.

In what I would characterize as "punctuated regime transition," ancient state emergence is more appropriately viewed as an outcome of change, not necessarily reflective of conscious strategy or decision-making by leaders and social agents in an attempt to bring about the formation of a state-level apparatus of governance. Human behavior is subject to many factors that make prediction difficult, if not impossible. This is especially so the more individuals are involved in interactive processes. When individuals and groups of people make decisions in a political environment, varying strategies and goals, along with incomplete information, can all influence events, making final outcomes unpredictable. A resulting state formation can be seen as the product of a series of variables that occur within different scales of time and geographic space. For ancient Bac Bo, the geographic setting was ideal for such "accidents" in history to result in the form of politically complex societies of the Dongson era. But the pivotal factor moving sociopolitical configurations into a domain of statehood was competition and the use of coercive power.

The theoretical notion of punctuated regime transition is inspired and somewhat analogous to ideas such as punctuated-equilibrium frameworks (see Baumgartner and Jones 1993), although such frameworks were developed and used in political science as a way to explain political changes in modern nation-states. In turn, this body of theory was somewhat inspired by biological notions of punctuated equilibrium. Although these ideas were not born out of archaeological interpretive frameworks, the notion of punctuated regime change is a useful one. Essentially, the idea sees how most social systems exist in long periods without substantial change, only experiencing sudden shifts of radical change in punctuated fashion. Accordingly, this kind of framework sees the importance of interacting political subsystems and actors, on both collective and individual scalar planes, in effecting political change. The outcomes, then, need not be premeditated or intended—they can be the product of disparate agendas.

Bentley and Maschner (2008: 256) detail how the ideas of abrupt change, catastrophe, and collapse have been explored by archaeologists for decades (see Tainter 1996). The idea of punctuated equilibrium was originally proposed for biological evolution (Gould and Eldredge 1977), and applying this type of concept to social evolution is not new (see Zeder 2009 for a discussion on use of evolutionary models in archaeology). Having said that, I am not advocating the wholesale grafting of a punctuated equilibrium concept onto events and processes associated with state formation; rather, I am drawing an analogy. The point is simply that archaeologists cannot study state formation solely from a macro-temporal scale of long-range processes, developments, and changes, but must also consider a micro-temporal timeframe, even if the material record does not always lend itself to such fine-grained examination. Accordingly, the pivotal moments of political transformation for societies when crossing some imaginary threshold from non-statehood into statehood can be seen as resulting from an extremely complex interplay of trends and factors on varying analytical and temporal scales. For instance, in his research on Mesopotamian emergent complexity, Stein (2002: 913) argues that processes of interaction at any given point in the Uruk trading network were structured by a combination of local agency, environmental parameters (such as distance), demography, and, finally, macro-level aspects of political economy. Indeed, this is the sort of approach recommended by Kardulias and Hall (2008: 578) when they assert that the issues under scrutiny should dictate the appropriate scale of theorizing—both spatially and chronologically. In this way, multiples scales can be integrated in complementary ways (Kardulias and Hall 2008: 578). Ultimately, we must acknowledge that the formation of a state does not guarantee its longevity or durability. That it exists is a sign of some minimal degree of permanence, allowing the polity to transition from a middle-range society or chiefdom into a state-level configuration. However, the durability or longevity of a state-level regime is relative. How long it persisted in its form, shape, or configuration is rather difficult to judge archaeologically. The material markers indicating continuity may be present, but the specific characteristics of a regime were probably in flux and shifting on a constant basis, with changes in leadership and its relationships with those being governed. While civilizations or cultures may tend to persist, their constituent unique regimes may come and go in an archaeological blink of an eye. It thus becomes imperative to consider the micro-levels of analysis, keeping these in mind in overarching research endeavors.

In complementing social evolutionary perspectives that see the long-term trajectories of state formations, it is thus productive to consider a combination of specific agent decisions, short-term environmental events (such as natural disasters or economic crises), and particular, local historical events that can combine

to influence shifting political strategies. This is not all that different from a macroevolutionary approach in archaeology that recognizes how major culture changes can be very quick and even revolutionary, with periods of rapid change separated by periods of relative stasis of actively maintained stability (Zeder 2009: 1). In the macroevolutionary perspective, human agency plays a key role as well, thus distinguishing cultural evolution from a direct analogy with biological evolution. It is thus an element of intent, of deliberate human action in developing new behaviors to address recognized needs and problems, that is the principal factor responsible for the directed nature of culture change predicted in macroevolutionary models (Zeder 2009: 47). On this scale, individual or group decisions about whom to trade with, whether or not to go to war or initiate raiding activities, to establish alliances, to adopt certain technologies, and the like, can all have profound sociopolitical consequences.

Overall, the formation of a state is not necessarily a natural outcome or derivative of social actions and interactions. Chance is certainly involved, as is an extremely complex hierarchy of variables at work in causing changes in sociopolitical systems and structures. Some of these factors relate to the surrounding environmental conditions, while others stem from the decisions, actions, strategies, beliefs, and perceptions of individuals and groups of individuals. It is our task to draw correlations between the material data and the substantive variables. Throughout the history of a region in which a state does emerge, it is quite possible, and highly likely, that numerous instances of near-emergence preceded the eventual formation of that state. Not all instances of socially stratified or differentiated societies become states (Yoffee 2005: 15). As put forth by Yoffee (2005: 15), we must be cognizant of the various subsystems of ancient complex societies, different local community authorities, ethnic groups and their leaders, and social corporations of elites, all or some of whom can "aspire to their own autonomy are at least partly independent of other parts of society, and compete for power according to accepted social rules." Because actual intentionality will vary for different people, why one group of elites would want to pursue strategies and enact changes that result in permanent establishment of state-level practices and institutions may be different from the motives of another group elsewhere. Thus I agree with Lewis's assertion (1981: 216) that new institutions of a state arise through the innovations, whether consciously or not, of human actors, and that when groups or factions within a society form and compete, outcomes can often be unpredictable. The upshot is that the state does not necessarily develop as a result of direct intentionality, and it can emerge as an unintended consequence of the complex interactions of multiple parties. That being said, archaeologists should also consider strategies and activities being pursued and enacted by people that would have prevented the emergence of states.

Analogously, in evaluating the onset of hierarchical sociopolitical systems and the development of centralized and permanent leadership in middle-range societies, Kantner (2010: 281) stresses the importance of considering the role of agentive behavior and decision-making in the face of social and structural forces. Were there points in time for certain regions where agents or factions were actively trying to prevent political consolidation, whether for middle-range or state-level societies? This is not to necessarily say that people were consciously trying to prevent "the formation of a state," but perhaps factions were actively attempting to maintain the political status quo, thereby effectively, whether intentionally or not, averting state emergence. Indeed, Kantner (2010: 280) identifies, for most of human history, the presence of what he calls "the collective force of reverse dominance hierarchies and leveling mechanisms" that prevents the perseverance of inequality. Seen in this light, agency approaches that recognize the efficacy and significance of strategies carried out by various segments of a society, and not just those considered "elite," can complement perspectives on competition and conflict. If various agents and groups, within a society or between neighboring communities, are fulfilling different objectives and agendas in their interactions, there will be occasions of conflict that can either be peacefully negotiated and resolved, or that might lead to struggles wherein physical power becomes an instrumental tool. In this manner, conflict, coercion, and sometimes outright conquest can lead to consolidation of power, and this momentous event need not be premeditated.

In conclusion, various intentions and motivations notwithstanding, the cession of autonomy that is a necessary prerequisite for state formation will not happen, at least not on any permanent basis, without coercion. Related to coercive power, warfare can occur cyclically through time, and it does not always result in profound social changes. However, sometimes it does, and I posit that many cases of ancient state emergence would have been preceded by decisions to attack, flee, or defend, along with other coercive strategies and behaviors within respective regions. I argue that the Red River plain may have been marked by just such a set of circumstances, wherein centuries of relatively peaceable history witnessed intermittent eruptions of collective violence before the momentous event of state emergence actually occurred. Ultimately, I suspect that once warfare emerged as a cultural adaptation in the world, various forms of conflict, coercive power, and outbreaks of organized violence were of critical importance in generating tremendous culture change throughout human prehistory, and that they may have been of singular importance in the proximate, pivotal moments of political consolidation and state formation. Perhaps future research and new empirical cases will provide compelling evidence to counter this theoretical perspective, but for now I believe the evidence for the impact of coercive power in sociocultural change and state formation is undeniable.

Punctuated Regime Transition and Co Loa's Cultural Landscape

One way to illustrate the potential efficacy of punctuated regime change is to complement archaeological data with historical information. As a test case, we might consider the changing uses of the Co Loa settlement throughout important phases of Vietnamese history, specifically in regard to the uses of its heavily modified landscape for both military functions and political regeneration. Elsewhere I discuss the changing patterns of sociopolitical usage of the Co Loa settlement from the first millennium BC through the historic and modern eras (Kim 2013b). To summarize, a combination of written accounts and archaeological information demonstrates that as the Red River Delta underwent regime changes, the perceptions and uses of Co Loa shifted in lockstep. In some cases, Sinitic forces chose to divide portions of Bac Bo and of the Co Loa area into separate districts, presumably to weaken the power and ties between local aristocratic elites. It is also possible that portions of Co Loa would have been depopulated in an attempt to prevent the expedient usage of the ready-made fortification system by local populations in potential uprisings. In contrast, when a millennium of nearly continuous Chinese occupation came to an end in Bac Bo, the first independent Vietnamese polity to emerge, under Ngo Quyen, sought to move the seat of power away from the Hanoi area and back to the Co Loa site. After designating himself king in AD 939, Ngo Quyen chose Co Loa as his capital, and he abandoned the capital located at Dai La, the site of what would become Hanoi. Dai La had been established by the Chinese and used as an imperial administrative center (Taylor 1983: 270). The communities of this area thus underwent a significant regime transition, associated with warfare as described in textual sources.

Looking at the *longue durée* of these prehistoric, protohistoric, and historic periods of Vietnamese civilization, the idea of punctuated regime transition becomes all the more plausible. Cycles of political change, characterized by forms of integration, collapse, and fragmentation, are discernible. In essence, the idea of punctuated regime transition is analogous to notions of hegemonic transition in international relations theory (see Goldstein 2005). For the populations living at Co Loa since the Iron Age, the pulses of everyday life may not have changed dramatically very often, even if political cycling was occurring around them. The rhythms of daily life and cultural practices may have been interrupted for a period of time, but it is likely that there was always an expectation that there would be a return to normalcy, to quote President Warren Harding in his evaluation of the post–Great War world. In this sense, societies expect the state to persist in some shape or form, even as regimes may come and go, and that even during periods of conflict and turmoil, stability will probably follow at some point as the next faction takes control and establishes a new hegemonic power. Thus, the "idea"

of the state can remain palatable, perhaps even appealing. This may be the case even if it dominates and perpetuates tremendous social inequality. The reified state becomes an acceptable *status quo* for those on the lower rungs of a social hierarchy.

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Summary: The Cascading Effects of Long- and Short-Range Variables

The archaeological record of Bac Bo is evidence of the development of state-level society in the Bac Bo region, resulting from the complex interactions of both long-range and proximate factors within a wider causal package. Over millennia, these factors fomented increased social differentiation, and in the Iron Age, the variables led to political centralization, culminating with the emergence of permanent, state-level power by the third century BC. On varying time scales and levels of analysis, demographic and environmental conditions worked in conjunction with strategies and decision-making by key agents and groups to effect momentous cultural changes. A combination of ecological conditions, resource concentrations, and geography conferred certain advantages upon some of the region's communities, giving their leaders the means to use various strategies in creating tremendous social change. An interregional interaction network between "peer polities" (Renfrew 1996; Yao 2010) facilitated the movement of people, innovative ideas and technologies, and valuable goods, contributing to growing wealth disparities and power asymmetries, especially in areas with better access. Bronze-working resulted in greater agricultural efficiencies, leading to greater population density and regional competition. These longer-term trends, unfolding over centuries and even millennia, constituted the deeper currents that created conditions favorable for political consolidation of authority. That this actually happened by the third century BC, however, was due to arguably more random sets of outcomes derived from sociopolitical interactions. In the end, I maintain, a combination of power, coercive strategies, and warfare probably functioned as a pivotal, proximate cause for state formation, wherein autonomous communities became subsumed within a larger and permanent political entity.

CHAPTER 11

THE WEIGHT OF THE PAST AND THE PULL OF THE PRESENT

THE STUDY OF THE archaeological past can help enrich our understanding of humanity while also allowing us to reconstruct past lives and histories. An examined past can be particularly important for those living in the present, and the consequences of research can be felt by various constituencies. Archaeological data can thus serve many purposes, becoming appropriated by different people and interpreted in myriad ways for diverse and sometimes conflicting agendas, which may be more or less scientific, depending on each case. For instance, the past can be a font for important material and concepts for assorted identities. The challenges of recognizing "ethnicity" in the prehistoric past aside, many archaeologists have attempted to identify ethnic or cultural groups from material remains, sometimes in larger efforts to detail the origins of a national or ethnic identity (see Hu 2013 for a discussion on *ethnogenesis*). Transformed into emblematic and cultural capital, monuments and artifacts have been pulled into searches for the material correlates of myths, legends, and folk tales. This is evident in many countries today, particularly those that have experienced recent political change related to post-conflict and postcolonial moments of new independence, self-determination, and surges of nationalism. In these places the precolonial and occasionally distant past can be a particularly powerful and alluring source of symbols, narratives, relics, and ideas. Accordingly, the tremendous weight and potential glory of past civilizations can be pulled in by the *gravitas* of present-day politics.

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Politics and Archaeology: Postcolonial National Identity, Self-Determination, and the Politicization of the Ancient Past

The political uses that the archaeological past has been subjected to in East and Southeast Asia are not so different from those witnessed during the development of archaeology in Europe (Glover 2006: 32). Ikawa-Smith (1999: 626) observes that a major goal of archaeology in East Asia is to enhance understanding of a nation's past by increasing its "temporal depth," making construction of national identity "the prime business of archaeology in East Asia" (Ikawa-Smith 1999: 262). This sort of nationalistic endeavor is not limited to Asia, as there are countless examples worldwide demonstrating an intimate relationship between politics and archaeology.

Arnold (2006: 154–155) makes two important observations about the cooptation of the archaeological past for political purposes. First, it involves a complex interaction between power structures and the majority population. It is thus not simply a matter of elites or political leaders manipulating the past to suit their own narrow political agendas, but can involve many constituencies. Second, nationalism in this process cannot be viewed solely as a negative force, but must also be considered for its potentially positive aspects, such as the construction of a positive self-image. Indeed, ethnic identity can play a major part in the formation of enduring political communities (Hu 2013: 374; following Weber 1978), and such formations can be critical, especially in times of newly gained or achieved independence from foreign rule or colonialism. Essentially, then, acts of self-determination can rely heavily on precolonial pasts. For instance, concerning the archaeology of sub-Saharan Africa, Lane (2011) outlines how archaeology in many African nations has transformed over time, from beginnings rooted in a European colonial context to recent, newly independent eras. In the latter periods, there has been steady "indigenization," initially in terms of personnel, but subsequently also in terms of organizational structure and research agendas, and this indigenization has resulted in the production of more nationalistic and/or Afrocentric perspectives (Lane 2011).

Nationalistic thinking is not restricted to newly independent nations, and there are countless examples throughout the world where the ancient remains of the past have been appropriated for modern agendas. In general, as argued by Glover (2006: 17), when

> pre-state polities, whether modern or ancient, have struggled to define geographic and ethnic cultural boundaries and assert national sovereignty from a single political center, appeal is regularly made to a real or imagined past to support the new structure, to give it time-depth, to link it with a heroic past,

and often with an ethnic or linguistic group deemed to be ancestral to the dominant lineage or ethnic group.

As illustration, the appropriation of a Celtic past in parts of Europe has been instrumental in efforts to construct national identities (see Arnold 2006). Looking specifically at the case of Irish cultural patriotism, we can identify how communities sought to demonstrate the existence of a great Irish ("Milesian") civilization of the past, partly in response to British imperialism, despite an absence of archaeological evidence (Arnold 2006: 171–172). Millennia after Roman imperialism and expansion across much of Europe, various countries such as Belgium, France, Germany, and the United Kingdom erected monuments to commemorate Celtic or Germanic tribal leaders who challenged Roman hegemony, and in each of these cases knowledge of these figures is based on sketchy historical and archaeological evidence (Arnold 2006: 171–172). Many of these monumentalized expressions of national identity were produced during the nineteenth century, and according to Arnold (2006: 172), the monuments illustrate a pan-European, nationalist manipulation of the essentialist past, part of an invented tradition based on the expedient interpretation of archaeological and textual sources. Even today, appeals in France to a romanticized, pre-Roman past are implicit in popular cultural representations, such as the comic books, movies, and theme parks dedicated to Asterix, a Gallic warrior who fought the Romans.

In non-European countries, especially in Asia, there is a complicated history of professional archaeology originating in colonial contexts. While early forms of professional and scientific archaeology were introduced by European scholars into many non-European countries under the aegis of colonialism, the practice of examining antiquity has a long history in many countries. In a piece on the impact of colonialism and nationalism in the archaeology of Thailand (formerly Siam), Shoocongdej (2007) relates how this has been the case for many Asian countries. The case of nation-building and identity in Thailand is instructive, with notions of nationalism coming to the fore at different points in recent and modern Thai history (see Winichakul 1994). Although never colonized by European powers, Thailand still felt pressures stemming from European intrusion into Southeast Asia. The creation of national identity and metanarratives of Thai history resulted in part from an emerging Thai nationalism, which in turn was influenced by Western notions of nationalism (Shoocongdej 2007: 393). As such, Thai elites and royalty sought to produce and validate a rich history of its civilization and heritage, and archaeological remains presented an avenue to do so. Appeals were made to the distant kingdom of Sukhothai, for instance, as a way to construct a national Thai lineage and identity, despite the fact that Thai history and cultural heritage were far more complex than this metanarrative would otherwise suggest.

In this way, then, issues of national identity led to a politicization of the past, and it is only in more recent decades that there has been a growing awareness of a far more complex and diverse history of Thailand.

In Japan, the rice-growing, metal-using Yayoi culture is the more easily recognizable precursor to a modern national sense of identity. But, owing to spectacular finds such as the Sannai Maruyama site and some of the oldest pottery in the world, the Japanese have looked to the earlier, hunter-gatherer-fisher communities of the Jomon Culture for the origins of Japanese civilization and notions of "Japaneseness" (Ikawa-Smith 1999: 627). As Ikawa-Smith argues, the cooptation of this part of Japanese prehistory has occurred because of the richness of the Jomon archaeological record. An added bonus, of course, is the general absence of Sinitic intrusion for much of the Jomon period, hence an absence of Sinitic impact on the earliest origins of a Japanese culture.

One of the civilizations most heavily tied to prehistory in Asia is that located on the Korean Peninsula. "Koreans as a unified group of people with a common language, culture, and past is an unshakable tenet of archaeological interpretation throughout the peninsula" (Nelson 2006b: 42). Not surprisingly, the connection between the ancient past and modern politics has been and continues to be very strong in Korea, especially given the history of the peninsula in a geopolitical context characterized as "political football" by Nelson (2006b: 38). Archaeological research in the peninsula was initially tied to Japanese annexation (see Nelson 2006b), and before this, Korean history was entirely contained within the tradition of Chinese historiography (Glover 2006: 21). The middle of the twentieth century saw Korea's liberation from the Empire of Japan and the subsequent division and conflict between North and South, and within these momentous events, a growing emphasis was placed on the origins of Korean civilization. Anti-Japanese sentiments and antagonistic relations between Korean regimes north and south would come to have significant impact on metanarratives about Korean ethnogenesis (Glover 2006: 21). To illustrate, North Korean researchers announced in the early 1990s that the tomb and remains for Tan'gun, the mythical founder of the first Korean state and ancestor of the Korean people, had been found at Pyongyang. Moreover, the bone fragments were purportedly dated to 5001 BP, thus coinciding almost exactly with the legendary age of Tan'gun. Also revealing is the reported location of the tomb. One wonders, of course, if the alleged (and dubious) discovery of the mythical tomb at Pyongyang serves a political function, providing ideological weight to the legitimacy of the North Korean totalitarian regime as the representative nation of all Korean people.

Across the Demilitarized Zone (DMZ), ancient history is just as significant in South Korea, where important centers of cultural heritage include places also associated with sites of myths and legends, and where the government has invested

heavily in both preservation efforts and transportation infrastructures related to tourist industries (Pai 1999: 625). Pak (1999: 613) argues that archaeological and historical studies have been affected, not only by scholarly concerns, but also by contemporary political and social circumstances. This is evidenced by the studies of Puyo and Koguryo societies, considered ancestral to Korean civilization, since these societies are today located in northeast China. "Factors such as national pride and sovereignty, political ideology and the social and cultural environments of China and both Koreas have greatly influenced scholarly interpretation as well as public images of these societies" (Pak 1999: 613–614).

Appropriation of the past can also be used as a political instrument and figure prominently in disputes between nations over territory and sovereignty. The ongoing territorial disputes over the South China Sea (referred to as "the East Sea" in Vietnam), for instance, have seen various parties' attempting to use a combination of historical text and archaeological materials as evidence of ancient occupation and sovereignty. Also sitting astride politics, archaeology, and territorial dispute is the situation of Preah Vihear, recently inscribed as a UNESCO World Heritage Site for Cambodia. The borders of the great majority of nation-states in Southeast Asia were created as a result of competing spheres of influence of the European and American colonial powers in the nineteenth century (Glover 2006: 24). Within a legacy of border issues, the site of Preah Vihear has become part of a larger set of ownership and geographic disputes along the borders of Cambodia and Thailand (see Baird 2010 for a larger discussion of irredentism in mainland Southeast Asia).

Pertaining to the subject Angkorian civilization, the appeals to the Khmer Empire by various twentieth-century, post-French regimes of Cambodia amply illustrate the importance of the past for modern claims of political legitimacy (see Chandler 2000: 223). Of particular interest is a consideration of the changing patterns of violence within a political landscape of cultural heritage. Research on Angkorian civilization allows a glimpse into how political turmoil can lead, not only to patterns of political violence, but also to transformations of violence as related to cultural heritage and tourism (see Winter 2007). Given Cambodia's need to restore its social and physical infrastructures after decades of violent conflict, and with tourism to Angkor increasing by staggering amounts in recent years, Angkor, Cambodia's only UNESCO World Heritage Site, has become an intense focal point of discordant agendas (Winter 2007). Embedded within the Angkor case is a poignant mix of global, regional, and local contexts of post-conflict reconstruction, nationalism, and archaeological research.

In reviewing the aforementioned cases, a distinct connection is visible between the symbolic capital of the ancient past and the myriad social and political needs of the present, whether for newly independent countries or others. From

its inception as a professional and scientific discipline in much of Asia, modern archaeology has periodically been drawn into political arenas of contesting agendas. In many cases, the practices and goals of archaeology have seemingly evolved in tandem with shifting changing political objectives and nationalistic trends and attitudes.

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The History of Archaeological Research in Vietnam

With an extensive history of complex colonial interactions with numerous Sinitic regimes, followed by colonial encounters with the French throughout the nineteenth and twentieth centuries, it is little wonder that concerns over nationalism and postcolonial identity would come to have such a powerful grasp on the production of metanarratives about the Vietnamese cultural past. As noted by Tai, "Each struggle to create a new future through revolution, war, and counterrevolution has been accompanied by attempts to redefine historical meaning and, in the process, to remake the past" (Tai 2001a: 3). Tai also argues (2001b: 227) that the "creation of a common past is a means for defining what and who belong, and what and who deserve to be consigned to oblivion." In that sense, just as it is in countless other countries, the production of narratives about the Vietnamese past is connected to national identity and politics.

Scholarly pursuits and historical reconstructions throughout the twentieth century, not surprisingly, would make simultaneous use of extant textual sources and tangible material remains. As such, history and archaeology have long been an important concern for many constituencies in Vietnamese civilization, from scholars to local community members to political leaders. Today, a millennium after the close of Chinese domination periods, and now two millennia after the Dongson Culture period, the Dongson drum continues to be celebrated by many in Vietnam as a potent symbol of the origins of a Vietnamese civilization (see Figure 6.4). Prehistory in contemporary Vietnam is thus powerfully present, and imagery depicted on the tympani and mantles of the bronze drums are ubiquitous, adorning posters, postcards, advertisements, book covers, and many other everyday items (Cherry 2009: 84–85).

Though the Vietnamese have long appreciated their history and deep civilizational roots, the professional pursuit of archaeology began during the French colonial period. From these beginnings, archaeological research would undergo various phases, periodically interrupted by war. Tong (2007) roughly divides the history of Vietnamese archaeology into a period before and after 1945. The earlier phase saw an official commencement with the establishment of the Mission Archeologique d'Indochine in 1898 by the French, which would become the Ecole

Francaise d'Extreme-Orient (EFEO). Many of these French scholars approached Indochina through pre-existing knowledge of Indian and Chinese civilizations, and, unsurprisingly, devoted most of their attention to the monuments of "advanced" civilizations, such as that of the Cham (second to fifteenth centuries AD) (Glover 2006: 25). Excavations unearthing the renowned Dongson bronze drums began in the northern province of Thanh Hoa during the French period in the 1920s. When the Dong Son site was first investigated, its inhabitants were assumed by European scholars to be intrusive, too culturally advanced for native Southeast Asian peoples (Glover 2006: 26).

The year 1945 saw the August Revolution and the launch of a new phase for archaeology when Ho Chi Minh established the Hoc vien Dong Phuong (School of East Asian Studies), responsible for the conservation of national relics (Tong 2007: 8). This phase experienced interruption during war, and within it much work was separated between North and South Vietnam. Following independence from France, archaeological research, particularly in the north, sought to identify a more local and indigenous record of cultural development. The profession underwent transformation and was molded during the wars of liberation and unification within the framework of Russian Marxist-Leninist philosophy, put to the service of nationalism, and students sent for training in communist China, Russia, and Eastern Europe (Glover 2006: 26). From that point on, the picture being increasingly produced from a combination of historical and archaeological scholarship depicted flourishing indigenous societies of the Metal Age in the Red River Delta, with the Dongson Culture inheriting lifeways from previous cultures in Bac Bo. After reunification of North and South Vietnam in the 1970s, Vietnamese archaeology sought to clarify cultural sequences throughout the entire country, from Paleolithic times through the historical era.

Throughout this history of Vietnamese archaeological research, there have been two important and sometimes parallel efforts and respective missions. The first pertains to reconstruction of a long sequence of human occupation and cultural change within the geographic regions of what is today Vietnam. The second mission by its nature has had greater implications for modern political concerns, and involves research that can substantiate or disprove semi-historical and legendary accounts (Cherry 2009). For this second mission, research programs have focused on finding correlations between historical events and material remains, on topics of Vietnamese ethnogenesis, and so forth. Archaeology thus secured a role in the rebuilding of national identity, and research in the 1950s and 1960s sought to identify the ancestral cultures of the Lac Viet peoples in the plains of the Red River Valley (Glover 2006: 26). As argued by Glover (2006: 26), the past is a moral force in Vietnam, unequalled anywhere in the world except perhaps in Korea, and in

the process of reasserting a national Vietnamese identity, archaeology has played an important part.

Quite significantly, a benefit of this nationalistic focus has been the tremendous amount of national attention to and investment in archaeological research, which over decades has resulted in the formation of a rather sizeable database of material evidence. Ho Chi Minh took an active interest in prehistoric archaeology, often visiting excavations during wartime, and he appointed Pham Huy Tong to be director of the newly created national Institute of Archaeology (part of the Vietnamese Academy of Social Sciences) in 1968 (Glover 2006: 26). Throughout the 1970s and beyond, a subject of high research priority was the period of Hung Kings and its conclusion, which purportedly occurred at the hands of An Duong Vuong and the Au Lac Kingdom. The 1970s saw close cooperation between archaeologists, historians, geologists, linguists, folklorists, and other researchers, all responding to calls by the Institute's first director, Pham Huy Tong (Tong 2007: 8) (e.g., Nguyen 1969; Pham 1969; Tran and Do 1970).

From the late 1980s and after the commencement of the open policy of *doi moi* ("reconstruction"), collaborations in Vietnam between Vietnamese archaeologists and their foreign counterparts began and increased (see Glover 1999: 598). Today, researchers from many countries are collaborating with Vietnamese archaeologists on excavations throughout the country, working on diverse chronological periods and research topics. To be sure, archaeology is very much a social-scientific endeavor in Vietnam. The methods of fieldwork and interpretation are scientifically rigorous and sound. This being said, like in many countries throughout the world, the findings from archaeological work can serve as a source of information and content for variegated consumers and audiences. The national interest in archaeological research displayed by political figures like Ho Chi Minh has continued to the present day, as evinced by visits to recent excavations at Co Loa by political figures such as former president Tran Duc Luong. In sum, throughout much of Vietnamese history, there has been an important connection between research on Vietnam's antiquity and what the deeper past means for notions of Vietnamese identity, civilization, and nationhood.

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Implications of the Co Loa Investigations: The Intersection of Legend, History, Archaeology, and Cultural Heritage

Given the deep interest of the Vietnamese in history and prehistory, what impact do the recent findings from Co Loa have for Vietnamese society, notions of identity, and preservation of cultural heritage? "Descriptions of the earliest stages of Vietnamese official history start with myths and legends, with more entries of

historical facts as the ages descend, as in the case of old historical writings of many other nations" (Yamamoto 1970: 70). In fascinating ways, the archaeological enterprise in Vietnam is similar to its counterparts in other Asian countries, as I have indicated earlier. What I find particularly interesting, though, are the commonalities between archaeological pursuits in Vietnam and China. Despite not suffering from a significant history of being colonized by foreign powers, archaeology in China has undergone similar trends involving collisions between the worlds of archaeology, legend, and history. As summarized by Liu (2009: 218), archaeological investigations of the prehistoric period have been significantly influenced by legendary accounts in ancient texts, an approach resulting from a strong historiographical tradition (von Falkenhausen 1993) coupled with a research tendency toward the reconstruction of national history (Liu and Xu 2007). Moreover, Liu observes that theoretical orientations employed in Chinese archaeology during the second half of the twentieth century were defined primarily by classical evolutionary models derived from Morgan (1877), Childe (1950a), and others, which regard social change as unilineal. It is this complex of native and imported intellectual influences that has helped shape the research questions and interpretations relating to the trajectories of early Sinitic civilization (Liu 2009: 218).

Throughout the past millennium, many Vietnamese scholars have sought to demonstrate that the deep history of Sinitic civilization does not dwarf a rich cultural history of Viet civilization. According to Kelley (2012), this was a major motivation for historical compilation efforts seen during the medieval period. Thus began a deep and entangling arrangement between legend, history, and cultural heritage. By the twentieth century, ongoing encounters with intrusive, foreign powers (including both the French and the Chinese) resulted in renewed intellectual interest in the past, with archaeological research joining forces with modern historiographic efforts. Many of the studies performed after independence from the French attempted to clarify the underpinnings of civilization, and most sought to establish connections with the societies associated with the rich material culture of the Dongson phase.

It must be acknowledged, though, that while a premium was placed on non- or pre-Chinese portions of cultural history in Bac Bo, there has been, and remains, a fair amount of internal debate as to the accuracy of metanarratives concerning the earliest signs of civilization in the Red River Delta, particularly when it comes to stories and events shrouded in legendary and mystical qualities. Despite the search for ethnic, linguistic, and social continuities between the Dongson era and the post-Sinitic medieval era, Glover (2006) avers that scholarship in Vietnam has not been overburdened by an overly politicized framework. "Scholarly debate and inquiry, however, seem not to be stifled by this political framework and I have regularly been heartened to find that Vietnamese archaeologists disagree with

each other just as much as we do in the West" (Glover 2006: 27). I can also attest to this, having had many intellectual exchanges with researchers across Vietnam about the varied implications of the archaeological data recovered from Co Loa.

The prominent Vietnamese historian Tran Quoc Vuong (1986: 272) acknowledged in the 1980s that by the time the third period of Chinese domination ended in the tenth century, the Dai Viet was already very different from its pre-Sinitic ancestral roots, though not Sinitic either. He thus recognizes the existence of a "cultural dualism," a dilemma between a surviving and newly independent Vietnamese national identity and a legacy of Sinitic cultural influence. Over successive centuries, this dualism would endure, as a long and complex history between Sinitic and Viet civilizations would continue to unfold to the present day. Throughout the medieval period, there were certainly ample opportunities for Vietnamese court chroniclers to produce histories of Vietnam that distinguished Vietnam from China. Indeed, given the complex history of recent tensions between the two nations, research in the twentieth century has also been marked by nationalistic tendencies. Besides the aforementioned disputes over the Spratly Islands, one could point also to the ongoing debates about the origins of the renowned bronze drums (see Han 2004).

Given this complex set of political and intellectual circumstances, the Iron Age period is a crucial era for research, and sitting in a sea of scholarly, and sometimes nationalistic, debate is the site of Co Loa. For many scholars both within and without Vietnam, how do the new data from Co Loa influence their perceptions? As I described in an earlier chapter, decades ago, O'Harrow (1979: 140) astutely pointed out a need for greater collaboration between philologists and archaeologists, declaring they ignored "each other at their peril." In that same publication, O'Harrow (1979: 149) drew attention to the lack of reliable chronology for the Co Loa city. With more conclusive evidence now available placing the genesis of the city and its associated polity at somewhere near 300 BC, there is little doubt that many will see a clear connection to the accounts concerning An Duong Vuong and the Au Lac Kingdom, which purportedly came to power circa 258 BC. Does this new material evidence thus breathe new life into the folk tales and historiographical reconstructions of a legendary civilization? Perhaps—but only to bring these debates sharply into focus once again.

As archaeology has been increasingly brought into the debates about the ancient past, fieldwork during the mid–twentieth century had begun to provide material evidence that some viewed as substantiation for the folk traditions of the earliest Vietnamese polities. However, as offered by Ungar (1986: 184), these archaeological discoveries still left unsolved mysteries and unanswered questions. Even today, with the new information available about the Co Loa phenomenon, we are still unable to directly address the historiographical issues and debates that

have puzzled generations of scholars and researchers. I would hesitate to identify a clear connection between the Co Loa Polity and the Au Lac Kingdom, somewhat analogously to how some would hesitate to link the legendary Xia Dynasty of China with the archaeologically studied Erlitou Culture (see Liu and Chen 2006). In my opinion, the most we can conclude with certainty from Co Loa's archaeological evidence is that a complex polity (i.e., the Co Loa Polity), one on the order of an ancient state, was present and responsible for founding the city as its capital at approximately 300 BC, if not earlier. Beyond that, we would be speculating about potential links to ethnicities and to the polities and figures mentioned in various chronicles.

Nevertheless, there are tantalizing archaeological clues that do allow us to contemplate possible links to certain written traditions. There is the intriguing Chinese coin dated to 200 BC, found in the Co Loa I drum at Co Loa, along with inscriptions written in Chinese on the drum (Calo 2009: 59). One might speculate that perhaps these material clues provide possible support for the existence of the Nanyue (Nan Yueh) or Nam Viet Kingdom at Co Loa in the early second century BC, as described in textual accounts where Zhao Tuo (also known as Chao T'o, or as Trieu Da in Vietnam) was able to defeat An Duong Vuong and the Au Lac Kingdom and take the king's magic crossbow (see Taylor 1983: 23–27). In various literary narratives, the transferral of political power was symbolized by the transfer of ownership of the crossbow (see Taylor 1983: Appendix F). If the semi-historical accounts regarding Zhao Tuo's activities in Bac Bo are at all substantiated, then, of course, the chain of logic would see some validation for the accounts of Zhao Tuo overthrowing An Duong Vuong, thereby lending support also to the existence of the Au Lac Kingdom. As it stands, these two circumstantial clues aside, we do not have enough specific, contextual evidence to comment conclusively on the matter of the Au Lac and An Duong Vuong. To be sure, there is strong archaeological support for the Nanyue polity and associated political events, such as the evidence from its palace in downtown Guangzhou showing signs of burning, which corroborates historical accounts of the city's burning (Brindley 2010: 31). However, the archaeology is less clear about a chronicled Nanyue (Nam Viet) presence at Co Loa. If the authenticity of such textual accounts could be strengthened in the future, or if artifacts are uncovered with specific inscriptional reference to the historical or legendary polities, then, of course, the links would become less tentative. It is for these reasons that I would acknowledge, at present, the existence of a Co Loa Polity, while reserving conclusions about any historically mentioned societies. Future research may demonstrate that the former might actually be related to one or more of the latter.

Ungar (1986) provides a comprehensive overview of the changing political contexts within which the various chronicles, ranging from AD 1272 to 1479, were

compiled and produced. "The images of political authority that filtered with increasing clarity into compilations of folk tales and official histories illustrate the growing perception of the ancient past in terms of dynastic authority" (1986: 184). As such, it is possible that various folktales and legendary accounts were combined with details from extant historical volumes to produce metanarratives, which in turn were shaped to fit the changing political views of the distant past and its connection to the medieval present. For Kelley (2012), the writers of these compilations were themselves part of a Sinicized elite living in Vietnam after the third Chinese period of domination. Phan (2010: 23), in fact, presents linguistic arguments that challenge the notion of a multi-millennial "Vietnamese" identity. Phan's arguments "strongly imply that a recognizable culture for the Vietnamese, like their language, formed during the first few centuries of independent kingship, rather than in a vague and distant, pre-Chinese era" (Phan 2010: 23). Faced with these data, it would appear that a clear and continuous cultural connection between historic Vietnam and prehistoric Vietnam is tenuous at best, perhaps as firm as a perceived cultural connection as that linking historic Belgium and France with pre-Roman or prehistoric Gaul. As observed above, this interpretation was not foreign to Vietnamese scholars such as Tran Quoc Vuong (1986) decades ago, when he discussed the notion of cultural dualism.

Despite these misgivings over the validity of some or all of the Vietnamese chronicles, the growing material record of Bac Bo clearly attests to the existence of a Red River civilization. The ancient settlement of Co Loa, now confidently shown to be extant well before the Han period, serves as a powerful material representation of the existence of that civilization. Given the evidence of numerous communities and inhabitants thriving in this area, it is logical to assume that much of the populace and their cultural practices and systems did not simply disappear after Sinitic arrival. Throughout global prehistory, countless polities have experienced declines and forms of collapse, with associated settlements seemingly abandoned as a result of foreign conquest, environmental calamity, internal unrest, or some other reason. But the archaeological record for many of these cases shows that the people do not necessarily disappear—they cope, adjust, and persist. For Bac Bo, a combination of archaeological and textual evidence suggests the continuation of local lifeways, albeit with an infusion of Han cultural elements. Ultimately, it appears that what O'Harrow (1979) refers to as the "proto-Vietnamese" civilization underwent significant changes throughout the first millennium before the chronicles were produced, as reflected by an emerging Han-Viet elite class and their remains, such as the brick tombs found in Bac Bo (see Tong 2004: 203; see also Figure 11.1). Fieldwork conducted by Olov Janse in the 1930s (see Janse 1947, 1958) shows the impact of Han expansion on the local cultural practices of Bac Bo communities, as reflected by Chinese style artifacts in Dongson Culture graves

FIGURE 11.1.
Photograph of a Han Brick Tomb Found in the Bac Ninh Province of Northern Vietnam. Courtesy of Trinh Hoang Hiep.

and the use of brock tombs. What eventually emerged in the second millennium was a relatively hybridized civilization incorporating both ancestral forms of local practices, as well as exotic forms absorbed into the local. But these circumstances do not obviate clues from the material record showing the prior existence of the Dongson Culture and the Co Loa Polity, foundational pieces to a larger proto-Vietnamese civilization.

Kelley (2012: 122) acknowledges that the bronze drums and other artifacts unearthed in the past century demonstrate the likelihood of polities existing in the Delta during the first millennium BC. "However, there is no evidence to suggest that medieval Vietnamese scholars knew of the bronze drums or the people who had used them" (Kelley 2012: 122). I am not certain if this assessment is entirely accurate, as there are indications from textual sources that both the Vietnamese and the Chinese of the first millennium AD were aware of the bronze drums and of their symbolic weight. As mentioned in Chapter 7, the drums were recognized as a symbol of indigenous authority and power even by the Han, and there is archaeological evidence of a Han practice involving the collection, cutting, and burying of these materials, potentially to trade them elsewhere. This is seen in, for

example, at the Lao Cai site by the Red River near the modern Sino-Vietnamese border (Calo 2009: 88). In consonance with the material evidence, according to a Sinitic text, the *Hou Han Shu*, General Ma Yuan confiscated and destroyed the bronze drums during the first century AD (Holmgren 1980: 16–17). Clearly, Ma Yuan and local inhabitants of the Red River Delta understood the significance of the various relics and of the act of their destruction. Does the confiscation of drums signify that all pre-Han forms of indigenous culture were effectively eradicated? This seems infeasible, especially given the size of the local native population. Indeed, elements of the pre-Han, indigenous civilization appear to resurface during the Chinese domination periods and almost immediately thereafter, or are at least recognized and seized as opportunities to invoke an important past.

Co Loa was purportedly used by Vietnamese political figures of the Early Ly Dynasty during the late sixth and early seventh centuries AD (Nguyen and Vu 2007: 208–212; Taylor 1983: 161). At the end of the Chinese domination periods, Co Loa became the capital of the newly established Ngo Dynasty. After repelling Chinese forces at the mouth of the Bach Dang River, Ngo Quyen proclaimed sovereignty and independence for the Vietnamese population in AD 939. Tellingly, he chose Co Loa as his capital (Taylor 1983: 270; Wheatley 1983: 93). That the various artifacts and sites of the prehistoric period continued to be revered and imbued with symbolic power suggests that the echoes of a prehistoric past survived in forms of cultural practice, beliefs, stories, and traditions, despite the centuries of Sinitic presence.

At the end of the Sinitic domination periods, Co Loa symbolized a pre-Sinitic past, and its commemorative value was an important criterion for its selection as a seat of power by Ngo Quyen (see Kim 2013b). "A Vietnamese king ruling from Co-loa evoked cultural memories embedded in myths and legends passed down from generation to generation" (Taylor 1983: 270). Thus, the locale was probably viewed as what Hill and Wileman (2002: 14) refer to as "sacred or ancestral space," at least partially accounting for its selection as a capital site. Ngo Quyen and his administrators may have viewed themselves as descendants of those living in the area from many generations prior. The use of Co Loa by Ngo Quyen suggests an attempt to establish and legitimize his authority based on a strategy of political regeneration (Kim 2013b). In conjunction, Co Loa's militarized landscape, its commemorative value, and any potentially extant folk traditions, would have operated as a "blueprint" (after Bronson 2006: 140) or template for its rallying effects and to support political regeneration. In providing physical defense and political legitimacy, the built landscape of Co Loa would have also offered Ngo Quyen access to what Stark (2006c: 162) refers to as "material and ideological resources."

This perspective of Co Loa, its surrounding landscape, and of various pre-Han artifacts appears to have persisted. "As early as the eleventh century, the newly

independent Ly Dynasty encouraged the collection of antiquities such as ancient bronze drums to help legitimize the new state by establishing links with the pre-Han past" (Glover 1999: 594). This further implies not only an awareness of the pre-Han past, but an active effort to perpetuate the knowledge of this past. Thus, it would appear that the various artifacts of the Dongson and Co Loa eras continued to hold special power and meaning for centuries and even millennia, albeit in evolving forms and contexts. This notion is further supported by late medieval amplification phases for the ramparts, as seen in recent excavations indicating refurbishment during the Le, Tay Son, or Nguyen dynasties. In all, it is quite telling that after more than 2,000 years, the walls of Co Loa continue to serve not only military functions, but important political, ideological, and ritual ones as well.

Prospects for the Future: Cultural Heritage

When contemplating negotiations and conflict over the "production" and "consumption" of the past, one key area to include is "heritage tourism," which involves the promotion of historic sites and localities because of their historic and commemorative value (see Baram 2011). The modern-day country of Vietnam is by no means culturally homogeneous, as it is home to dozens of ethnic identities and communities (see Luong 2006: 375–376), making the Red River Delta simply one geographic locus among many localities of cultural heritage in Vietnam. That being said, the Delta, its prehistoric record, and the site of Co Loa all hold a special place within the country's various cultural heritages. The ongoing archaeological investigations of Co Loa, therefore, can have enormous ramifications for national notions of identity and the safeguarding of the site as a cultural property. As offered by Ikawa-Smith (1999: 627), the advantage of archaeology in national-identity reconstruction is that it involves actual sites and tangible relics, thus making preservation and management of cultural properties of paramount importance.

In the Red River Delta area, the two most prominent archaeological sites of national significance are Co Loa and the Thang Long (or Hanoi) Citadel. These two cultural properties are managed by the Thang Long–Hanoi Heritage Conservation Center ("Conservation Center"), established by the People's Committee of Hanoi. The Central Sector of the Thang Long Imperial Citadel was inscribed as a UNESCO World Heritage Site in 2010, and as of this writing, the Conservation Center is attempting to obtain the same status for Co Loa.

It is still too early to say how ongoing efforts for heritage preservation and management will affect the site and local communities. Much will surely change in the coming years. For the time being, though, we might reflect on the recent

experiences of other sites in Southeast Asia. Recent decades of archaeological fieldwork and conservation efforts have had significant impacts on local tourist economies in areas with important archaeological sites, such as Bagan in Myanmar (see Hudson 2008) and Angkor in Cambodia (see Fletcher et al. 2007). The lessons gleaned from each of those instructive cases would suggest that the relationships and agendas of diverse stakeholders are quite complex, and competing interests need to be carefully negotiated to ensure optimal and balanced results for the cultural property's heritage managers, local residents and community members, and researchers. This applies to numerous efforts and concerns, from preservation and reconstruction of architectural remains, to development of tourism infrastructures, to present-day growth and development of local towns or cities.

As seen in the Greater Angkor case, the present-day archaeological enterprise has had, and continues to have, an impact on cultural heritage, conservation, urban planning, and tourism. Fletcher and colleagues (2007) provide a comprehensive overview of the challenges faced by developing countries over issues of heritage management, essentially in the form of conflicting demands of preservation, economic development, and social equity. They note that successful management of these demands necessitates monitoring the dynamic interaction between cultural heritage, natural environment, and contemporary society. "Living with heritage" thus means close collaboration between research, management, and governance at the local, national, and international scales (Fletcher et al. 2007).

What does the Angkor case suggest about the future for Co Loa and the local communities within the Dong Anh District of Hanoi? Certainly, Co Loa and Greater Angkor represent two very distinct cases. But perhaps some of the present-day trends seen at Siem Reap can be helpful for decision-makers to anticipate analogous issues in the coming years. Over recent decades in Vietnam, greater emphasis has been placed on cultural preservation and heritage for the promotion of tourism. Within the 1990s alone, there was a 16-fold increase in international tourist arrivals in Vietnam, indicating the enormous potential for a tourist industry associated with cultural heritage, with visits to sites (both modern and ancient), monuments, and museums (Glover 1999: 599). As of the late 1990s, international visitors, numbering 1.8 million in 1996, were drawn to Vietnam almost exclusively for non-archaeological attractions. With recent archaeological excavations at notable sites such as Thang Long, there is an increasing awareness outside of Vietnam of much of its constructed heritage. Today, Vietnam has seven properties inscribed as World Heritage sites (some very recently), consisting of two natural heritage and five cultural heritage sites (Kim and Trinh 2012). Between 1995 and 2005, the number of tourist visits to Vietnam and its World Heritage sites increased from 1,351,000 to 2,972,000, at an annual rate of 9.2 percent (Di Giovine 2009: 4). The Institute of Archaeology runs projects throughout the country,

ranging from the Paleolithic to protohistoric and historic eras. Given the volume of archaeological fieldwork, the pace of research, and the number of sites within the country, Vietnam's list of World Heritage properties is likely to grow in the coming years. Although the infrastructures are still being developed and refined for visiting many of these cultural sites, it is clear that the authorities have made the preservation and promotion of Vietnam's cultural heritage a priority.

With all of these current and impending changes, there will be enormous consequences and impact for the Co Loa cultural property and its local communities. I suspect economic and urban development in the area will continue, and that tourism will certainly increase in the coming years. The designation of Angkor as a World Heritage Site coincided with the formation of two protected zones. The establishment of protected areas seems to be an important strategy, as long as it is balanced with the needs of the local communities and residents. Indeed, in 2012, the Vietnamese Ministry of Construction submitted a proposed plan to the prime minister for Co Loa preservation, restoration, and development. Within the plan, the site would be developed into a cultural-ecological park and a national historical relic site, with new zoning rules focused on tourism development. Fletcher and colleagues (2007) acknowledge for the Angkor case that cross-disciplinary expertise, dialogue, and collaboration will be essential to ensure successful safeguarding of variable interests and of cultural heritage. As put by Baram (2011: 128), when considering heritage tourism, there are "many vehicles that portray and employ the material past, multiple ideological aspects to recognize in examining the role of archaeology in contemporary society, and financial concerns and many different interests involved." Due to a diversity of stakeholders and relevant parties, the agendas and priorities related to cultural preservation for posterity, future research, local development, and tourism could be quite complex. Consequently, the larger enterprise of cultural heritage management at Co Loa needs to involve dialogue and cooperation among as many stakeholders and experts as possible.

CHAPTER 12

A PREHISTORIC CIVILIZATION FOUND

AS MENTIONED AT THE outset in Chapter 1, this book is concerned with the emergence of an ancient state in the Red River Delta in what today is the modern nation-state of Vietnam. Evidence from the historical, ethnohistorical, and archaeological records depicts a long-term trend wherein Iron Age polities exercised significant and increasing degrees of political, economic, and perhaps ideological control over a large population, culminating with the coalescence of a highly complex polity centered at Co Loa. The scale of resource and labor requirements for various activities, especially those related to monumental architecture, indicates enduring and centralized political control. In evaluating all of the available evidence, I submit that a state-level society existed in the Delta during a period of approximately 300–100 BC, a society responsible for the founding of the Co Loa settlement and construction of its monumental system of ramparts, canals, moats, and associated architectural features. The capital site has yielded evidence of decidedly differentiated access to high-status and elite goods, resources, and architectural elements; namely, buildings with Co Loa roof tiles. Though we currently lack specific information about the internal architectural plans and urban, residential layout, we do have material support for specialized and probably monopolized forms of production for these goods, along with agricultural and military implements. This society made tremendous modifications to the local landscape around the settlement, on a scale previously unseen in the region. The terrain alterations resulted in infrastructures related to the harnessing of water to feed a substantial population, with parallel functions of riverine transportation that would have been essential for both military and commercial purposes. The Co Loa Polity thus exhibited a capacity to defend its physical domain and diverse interests, and I suspect future fieldwork will furnish further corroboration for the interpretation of its status as an ancient state.

Gathered over decades of fieldwork at Co Loa and in the Bac Bo region, the data presented in this volume collectively satisfy much of the traditional criteria for archaic state societies, constituting strong evidence for the presence and persistence of a politically consolidated authority. This perception of Co Loa allows us to further explore and test related hypotheses, injecting the Co Loa phenomenon into ongoing and productive theoretical discussions about archaic variations of sociopolitical complexity and cities, and why they occurred under different historical circumstances through time.

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Emergent Red River Civilization Reconsidered

According to Yoffee (2005: 17), civilizations comprise "the larger social order and set of shared values in which states are culturally embedded." Over the last century, researchers have contemplated and researched the Dongson Culture (see Solheim 1989), with many scholars in Vietnam seeing the existence of a Dongson or Red River civilization (see Bayard 1980; Nguyen 1980; Pham 1996 and 2004). With the evidence at hand today, I would propose we consider the Dongson civilization again, recognizing the manner in which the Co Loa Polity, along with its authority and influence, appears to have been superimposed upon surrounding communities extant during the Dongson era.

The research reviewed in preceding chapters makes it clear that a mix of long-range and proximate variables contributed over time to a growth in the region's complexity. On a macro-scale of time, the area's environmental setting undoubtedly played an important role, providing a host of resources to support cultural change. The area was agriculturally fertile, and it is likely that marine life from the river systems and the coast also contributed to changing lifeways. The presence of metal ore resources, combined with the nature of the area's terrain and geographic location, also promoted a growing social differentiation, which was related to economic status and preferential, restricted access to certain resources, trade routes, and goods. Due to Co Loa's location along a cultural and civilizational "boundary" between the Sinitic world and peer societies to the south and west, we cannot discount the impact of outside influences. The Delta did not sit in a cultural vacuum. Stemming from developments in the late Neolithic, a process marked by mutual cultural influence planted the seeds for growing social disparities. Long-term interregional interaction, a process of reciprocal complexity, and various leadership strategies to accumulate wealth and prestige and to legitimize political authority all contributed to the inception and development of perceptible social ranking throughout the first millennium BC. The "peer polity" type of interaction with neighboring societies, especially to the north, almost certainly

had an impact on Bac Bo cultural change during the Early and Middle Dongson Periods (c. 600–300 BC).

Technological innovations related to the development of a sophisticated metalworking industry in Bac Bo surely played a role in growing asymmetries of wealth and ranking, especially during the mid–first millennium BC, leading to three concomitant consequences. First, agricultural innovations and intensification through the use of ox-drawn metal plowshares supported considerable population growth, also affording significant specialization in the division of labor. Agricultural production, associated with metal plow agriculture, water control, and multiple rice cropping, probably accelerated demographic changes and population concentration. Second, metalworking fostered the production and circulation of highly prized, politically potent symbols in the form of prestige goods, giving certain communities and leaders new means and agent strategies to augment various bases of economic, political, and ideological power. Metal implements allowed for greater efficiencies in landscape modification, deforestation, construction, and resource acquisition. Many of the bronzes being circulated throughout the region, and even beyond it, were likely to have functioned in contexts of what some would describe as an "emergent high culture" (Parkinson and Galaty 2009: 17). Third, these factors combined with the uses of metals in weapons production to promote increasing competition and outbreaks of organized violence.

The Co Loa Polity is an example of a secondary-state formation (see Higham 2002: 231, for an argument about other Southeast Asian states), and in addition to the factors laid out above, its florescence was also influenced by state development in China, along with the political turmoil and conflict of China's Warring States period. There are several possible consequences for this propinquity during this crucial period. First, warfare in neighboring areas, such as the Central Plain, may have had what LeBlanc (2006) refers to as a domino or spillover effect, contributing to complexity throughout neighboring regions. One potential reason for this is that autonomous villages might have been at a disadvantage in a "landscape" of emerging chiefdoms or other consolidated polities—as such they were soon either conquered or banded together with other such villages to form their own larger political unit (Carneiro, personal communication, 2009). Arguably, this effect was felt more directly in areas of the Lingnan and Fujian, and indirectly in areas of Yunnan and Bac Bo. Second, endemic warfare in Warring States China could have also catalyzed "push factors" and the migration of people into neighboring areas. It is possible that such a scenario was playing out in the Red River Valley, wherein the leaders of Dongson Culture communities were keeping a watchful eye both on developments to the north as well as on local, intraregional rivals. Third, the movement of peoples could have involved the transfer of state-level warfare tactics and weaponry design. According to Underhill (2006: 259), the Warring States period witnessed both the

proliferation of large defensive works along state boundaries as well as great innovations in weaponry using iron, with tactics ranging from fighting on boats to siegecraft. During the Iron Age, it is quite possible that the nature of competition and conflict in Bac Bo may have been transformed dramatically as well.

On a micro-scale of time, it is within this sociopolitical milieu that enterprising and ambitious leaders in Bac Bo would have had new options to enact strategies aimed at augmenting and entrenching positions of political status and forms of governance. Here, strategies related to competition and coercive influence functioned in a pivotal and proximate fashion to help bring about the formation of a state-level society. By the last few centuries BC, certain segments of the Red River Valley's population possessed the means and opportunities to enact strategies related to coercion to further entrench their authority and reinforce social cleavages. In a sense, then, coercive actions served as what Lewis (1981) describes as an "effective activity" for the production of leadership in the formation of a state. In this sociopolitical milieu, these types of strategies enabled groups and leaders to consolidate, legitimize, and institutionalize tremendous political authority, the resulting and enduring physical manifestations of which are still clearly visible today in the ramparts and material record of Co Loa. Accordingly, conflict and coercion effectively served as short-range variables, operating as catalytic and necessary conditions for the formation of a permanent, state-level political structure that I call the Co Loa Polity. The possession of physical and ideological power can be considered an important feature of this complex polity, wherein coercion and compulsion are part of a rulership's internal and external strategies to forge and maintain legitimized authority and to keep a balance of power tipped in its favor. In Bac Bo, I suspect coercive instruments must have played a pivotal role insofar as autonomous individuals, factions, villages, or other social units simply would not have willingly surrendered their sovereignty on a permanent basis—they must have been somehow compelled to do so.

In the end, though this indigenous polity was relatively short-lived due to Sinitic intrusion, the Co Loa episode and the wider Dongson civilization combined to make an indelible impression in both tangible and intangible ways. If we are to identify the earliest ancient state of Vietnam's core geographic area, that being the Red River Delta, then we must speak of the Co Loa phenomenon.

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"And Miles to Go Before I Sleep"

The poetic words of Robert Frost illustrate how I view the work still to be done at Co Loa. Much archaeological work still remains to be done for the site, and there are several potential areas for future research. Our understanding of Co

Loa and its surrounding area is still very much in its infancy. Knowledge about ancient lifeways is still somewhat limited, in part due to issues of sampling and archaeological preservation and visibility. Certain material indicators are more readily accessible, such as monumental architecture and products of specialized craftwork, and tend to provide information about some of the wealthier segments of society with differential access to organized labor and resources. However, our knowledge about how much of the population may have lived in terms of their everyday life and cultural practice is less complete, as the material record is sparser. In addition, there is a large gap in the archaeological database for settlement and residential patterns, and the lifeways for many people are therefore comparatively unknown. Unfortunately, this is an issue not just for the Red River Delta, but for much of mainland Southeast Asia as well. It is hoped that future work will begin to focus on the more granular aspects of daily life, thus complementing our knowledge of larger-scale sociopolitical change.

Settlement Data for Bac Bo

Kowalewski (2008: 236–237) notes that important advances in ancient-state research have been made using regional methods, though more has been done for certain world areas (e.g., Mesoamerica, Peru, and Mesopotamia) than others, such as East and Southeast Asia. In this spirit, regional surveys and investigations aimed at compiling settlement data for Co Loa and the wider Bac Bo area are needed. This would include information about settlement sizes, types, and spatial distributions throughout the region, along with distance and spatial relationships with the Co Loa center. Settlement data are needed for areas inside the city, just outside of it, and in the wider hinterland, especially with contemporaneous Dongson settlements. Investigations of land-use strategies can be beneficial in identifying incipient urbanism (see Kealhofer and Grave 2008), and a regional settlement-size hierarchy could help us further test the idea of Co Loa as a superordinate site. With an area of approximately 600 hectares, Co Loa's extent is some 200 times that of the Late Neolithic Phung Nguyen site (Higham 2002: 172). How would a settlement-size hierarchy look when we consider the numerous surrounding Dongson sites? Such settlement information could also help us refine the baseline population estimates provided in this volume, especially if combined with archaeobotanical analyses that can shed light on intensification of agricultural practices. Moreover, future studies could attempt to garner more internal information for Co Loa's enclosed areas. Greater understanding of the neighborhoods and precincts of the city is required. How were the city's spaces utilized? Was Co Loa more of a ritual center or a "garden city" (Rice 2006: 267), with expanses

earmarked for agricultural fields? Were there marketplaces, barracks, graves, or temples, as intimated by various traditions and folklore?

Political Economies of Bac Bo

Understanding the Co Loa Polity's regional economy requires evaluation of the center's relationship with its outlying communities. Rural hinterlands may represent alternative sociopolitical, economic, and ideological power bases that can affect urban populations (Small 2006: 328). Thus, such outlying sites ought to be examined for trends and activities that may be either competitive or complementary to those of the Co Loa Polity. If such settlements can be studied, comparisons of material records can indicate changing patterns of lifeways. These kinds of studies can reveal the nature of the relationships between hinterland sites. For the cities of the Indus Valley civilization, for example, Kenoyer (1998: 50) points out that each was surrounded by vast agricultural lands, rivers, and forests that were inhabited by scattered communities of farmers, fishermen, and bands of hunter-gatherers. Kenoyer (2008: 207) calls for more research to be performed on the smaller settlements in the hinterlands of the major cities and in distant resource areas to fully understand "the complexity and fluctuations in economic and political organization." A similar kind of evaluation, one incorporating Co Loa's surrounding communities, would be essential for greater understanding of sociopolitical development and culture change in the Red River Valley. Were there additional specialist workshops located in surrounding settlements? What was the nature of intra- and interregional exchange within the Red River area and beyond? Where are crucial resources located, such as ore mining centers and regional processing facilities?

Future investigations could also explore how power was centralized, negotiated, and contested throughout the entire region, noticing differences from one village or household to another. How communities interacted with political leaders at Co Loa is also important to know, especially in regard to shifting relationships and patterns of compliance and resistance. Blanton and Fargher (2008) present empirical support for ideas related to collective action theory as applied to the development of premodern states. In their model, they stress an important variable and its effects on state policies. Specifically, Blanton and Fargher (2008: 875) consider how degrees of dependence on internal sources of revenue can influence the development of policies that provide limits on the agency of rules, commoner voice, and the dissemination of public goods. Predicted in their model, and supported by empirical data, is the scenario in which a state that is heavily reliant on external revenues will not seek to encourage channels of voice,

compliance in tax collection, or the dissemination of public goods. "Instead, the ruler was able to establish a highly exclusionary political system. This system was dominated by patron–client relationships, prestige-goods, and conspicuous consumption" (Blanton and Fargher 2008: 875). Although field research at Co Loa and its environs has yet to reach this level of granularity, ongoing investigations could keep this line of inquiry in mind as new data are collected. To what extent are we able to identify the presence and nature of tax or tribute collection, especially in looking at interactions between the political center of Co Loa with outlying villages and communities throughout the Red River Delta hinterland and the wider region of Bac Bo?

Researchers are using increasingly novel ways to operationalize the collection of data germane to these types of research questions (see Blanton and Fargher 2009: 138). These sorts of approaches can illuminate forms and degrees of coercion, compliance, cooperation, and resistance. What was the balance of political power like, and how did it change over time? To be sure, we cannot assume that the elites of a political center are omnipotent, especially given the number of people and communities within Bac Bo during the Iron Age. There surely would have been pockets of differential influence, authority, and resistance.

Future research could also scrutinize forms of control and resistance as reflected in economic production at different scales, from village to village, and from household to household. To what extent did households and communities adopt or adhere to state-sponsored rituals or ideological tenets? Is this reflected by trade patterns? In other archaeological cases, research on the expression of identities and ideologies in urban centers examines differences between urban compounds and hinterland settlements, offering insights into class distinctions and demographics (see, for instance, Clayton 2011). Similar investigations could provide crucial details regarding spatial or urban zones within Co Loa, in line with what Michael Smith (2010: 138) refers to as the archaeological study of neighborhoods, sectors, and zones. The recovery of thousands of roof tiles at Co Loa bespeaks the presence of significant architecture of a kind absent elsewhere in Bac Bo, and more information is required to explain the nature of these buildings.

Interactions Within a Pan-Regional Purview

In discussing early states, Liu (2009: 228) argues that we need to study, not only how these early states operated in urban centers, rural hinterlands, and peripheral areas, but also how states interacted with each other. I would agree, recognizing the importance of understanding interactions between Co Loa's rulers and leaders of neighboring complex societies. We have already seen

how networks of peer polity interactions fostered the growth of complexity in several areas along the Red River and beyond. Additional research exploring the relationships between leaders in Bac Bo with their counterparts outside of the local region would be illuminating. For instance, future studies could examine in greater depth the nature of interactions between political leaders. This would include, of course, many of the societies in Lingnan and Yunnan. How did they solidify ties? What role did bronzes play? How did communities on the frontiers, located in the interstitial areas between states and empires, capitalize on their locations, perhaps shifting allegiance back and forth, depending on the times and changing social circumstances? In these ways, interesting questions about changing patterns of resistance and the strategies aimed at optimizing socioeconomic benefits in hinterland and frontier areas can be explored.

Archaeologies of Coercion, Competition, and Warfare

While there is sufficient evidence to suggest the importance of coercion and warfare for political change during the first millennium BC in the Bac Bo region, future research should keep an eye towards identifying more direct evidence for patterns of conflict in other sites of the region besides Co Loa. Aside from the regional center, the archaeology of warfare for Bac Bo is virtually nonexistent besides the presence of weapons and iconographic depictions. On that note, the archaeology of warfare for the prehistory of mainland Southeast Asia in general is underdeveloped. Future fieldwork may uncover fortification features elsewhere and in different temporal contexts as well. As suggested in Chapter 6, it is possible that communities located at points of strategic access along the Red River, from the Yunnan headwaters to the coast, would have capitalized on their locations, and future studies may furnish pertinent settlement-related indicators. There are some indications to this effect already, such as the potentially defensive characteristics of the Lang Vac settlement and the earliest phases of defensive features uncovered at Co Loa.

To the north, warfare during the mid–first millennium BC in parts of the emergent Chinese civilization would have had ripple effects in adjacent regions, such as Yunnan, Lingnan, and Bac Bo. However, the nature of specific tactics and strategies would have been distinct along local cultural and geographic parameters. The absence of cavalry in Bac Bo and the importance of riverine routes, for instance, would have meant a different form and scale of warfare and threat. Hence, any potential defensive features in Bac Bo may be markedly different from those seen in Warring States China. The exception in terms of scale, of course, would be Co Loa and its massive fortifications. Even then, though, the

complex system of moats and ramparts would suggest that potential warfare would have occurred in different contexts, thus taking forms that contrast with that in the Central Plain.

Additionally, much more work related to Co Loa's fortification system is needed. The chronology of the entire Co Loa site can and should be bolstered, most notably with the recovery of chronological and construction data for the innermost rampart circuit. Due to the differences in shape between the Inner Wall, which is rectangular, and the two outer rampart circuits, which are irregular, researchers have speculated that the former may have been constructed later by Chinese forces (see Larew 2003: 17; Nguyen and Vu 2007: 175). Only careful investigation of the Inner Wall itself will resolve these unanswered questions. As of this writing, fieldwork has just been completed for the Inner Wall, and interpretations of the new data should expand our knowledge. Also needed is fieldwork to determine if other architectural features of the fortification system can be identified, such as fortified gates, bases of watchtowers, guardhouses, and barracks. Moreover, due to the likelihood that the system of moats could have been used to facilitate rapid military transport and deployment, the Dam Ca reservoir area, along with access points where both commercial and naval vessels could have entered and exited the city, need to be examined. In particular, the eastern area of the city, where the outer moat enters the settlement, requires investigation. In sum, archaeological studies of warfare and fortifications in Bac Bo and outside areas would be of considerable value in the future in considering the nature of prehistoric Southeast Asian warfare, especially in Iron Age contexts.

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A Firmament of Cultural Power

Having discussed all the work that remains to be completed, I now move back to the implications of the knowledge we do possess today. What seems clear from all of the currently available evidence, from a plethora of disciplinary approaches, interpretations, and sources, is the presence of complex society centered at Co Loa by the third century BC. Indeed, there are productive linguistic studies elucidating the possible ethnolinguistic origins of early Vietnamese civilization (see, for instance, Alves 2007). However, questions about ethnicity and historical identity persist, and we may never be able to completely reveal connections between the material record and ethnic identities. Nevertheless, one of the more interesting and consequential sets of questions for me concerns what Co Loa has meant, and continues to mean, for past and present people. Accordingly, I would like to offer a final remark on the Red River Delta and the Co Loa phenomenon, a commentary

nested within a diachronic perspective, at least from a starting point of the late prehistoric period onward. This reflection is thus not confined to a specific historical era, but involves a more textured perspective that considers what Robb and Pauketat (2013: 28) refer to as the relational histories and ontology of peoples over time. This sort of viewpoint involves seeing history as process and not pattern. As put by Robb and Pauketat (2013: 28), this vantage point offers a way to appreciate how "material action brings together physical elements, embodied skills, forms of remembrance, and channeled social traditions into a moment of meaningful experience."

Embedded within the very idea of Co Loa are its relics, ancient ruins, myths, and attendant ceremonies of remembrance and commemoration. Some of these qualities are tangible, while others are abstract or ephemeral. Some were produced and enacted during the Iron Age, others centuries and even millennia later. Co Loa's built spaces and engineered landscapes still stand today as testaments and reminders of past civilizations. Even after the end of the Co Loa Polity period, the cultural potency of the phenomenon grew, with new voices and practices injected into the views and perceptions about Co Loa. The original settlement and remnant material culture have been overlaid by other materials, actions, and symbols through subsequent centuries of continued use of the land by diverse peoples, inscribed into the culturally constructed environment by the varied activities performed within it. The landscape has become a stage upon which disparate but related and intertwining cultural practices have been enacted over time. In total, all of these contrasting elements from several sociocultural epochs have coalesced into a symbolic foundation. They essentially undergird a robust sense of traditions and civilizations that are interwoven into a modern fabric of identity, with threads of historical continuity connecting the distant past with later communities.

For those who would inhabit or come into contact with Co Loa in subsequent generations, echoes of the past in the form of materials and stories would continue to reverberate, arguably through to the present day. It is this foundation that I would propose to call a "firmament of cultural power," a constellation consisting of not only the material record, but also the extant chronicles describing the Iron Age, the historical constructions and ensuing reconstitutions of such narratives, and the changing and ongoing patterns of cultural practice. Whether the Co Loa Polity can be conclusively linked with any legendary or semi-historical kingdom may thus be beside the point. What matters is that the initial civilization associated with Co Loa did exist, established long before any foreign dominion over this area. This is of consequence for the continued social scientific study of the region as well as for larger theoretical questions of ancient civilizations. But beyond that, what has mattered throughout Vietnamese history, and for many Vietnamese

today, is that the site has continued to serve as a center of political power, national identity, and cultural imagination and heritage, as a potential crucible for what the Vietnamese consider, in the words of Ian Glover (2006: 26), the "first flowering of native Vietnamese genius." It is within this firmament that we have found, and will undoubtedly continue to find, material remnants of a once mighty and indigenous civilization.

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