How Chiefs Come to Power

The Political Economy in Prehistory

Timothy Earle

By studying chiefdoms—kin-based societies in which a person's place in a kinship system determines his or her social status and political position—this book addresses several fundamental questions concerning the nature of political power and the evolution of sociopolitical complexity. In a chiefdom, the highest-status male (first son by the first wife) holds both authority and special access to economic, military, and ideological power, and others derive privilege from their positions in the chiefly hierarchy.

A chiefdom is also a regional polity with institutional governance and some social stratification organizing a population of a few thousand to tens of thousands of people. The author argues that the fundamental dynamics of chiefdoms are essentially the same as those of states, and that the origin of states is to be understood in the emergence and development of chiefdoms. The history of chiefdoms documents the evolutionary trajectories that resulted, in some situations, in the institutionalization of broad-scale, politically centralized societies and, in others, in highly fragmented and unstable regions of competitive polities. Understanding the dynamics of chiefly society, the author asserts, offers an essential view into the historical background of the modern world.

Three cases on which the author has conducted extensive field research are used to develop the book's arguments—Denmark during the Neolithic and Early Bronze Ages (2300–1300 B.C.), the high Andes of Peru from the early chiefdoms through the Inka conquest (A.D. 500–1534), and Hawai'i from early in its settlement to its incorporation in the world economy (A.D. 800–1824). Rather than deal with each case separately, the author presents an integrated discussion around the different power sources. After summarizing the cultural history of the three societies over a thousand years, he considers the sources of chiefly power and how these sources were linked together. The ultimate aim of the book is to determine how chiefs came to power and the implications that contrasting paths to power had for the evolutionary trajectories of societies.

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Earle

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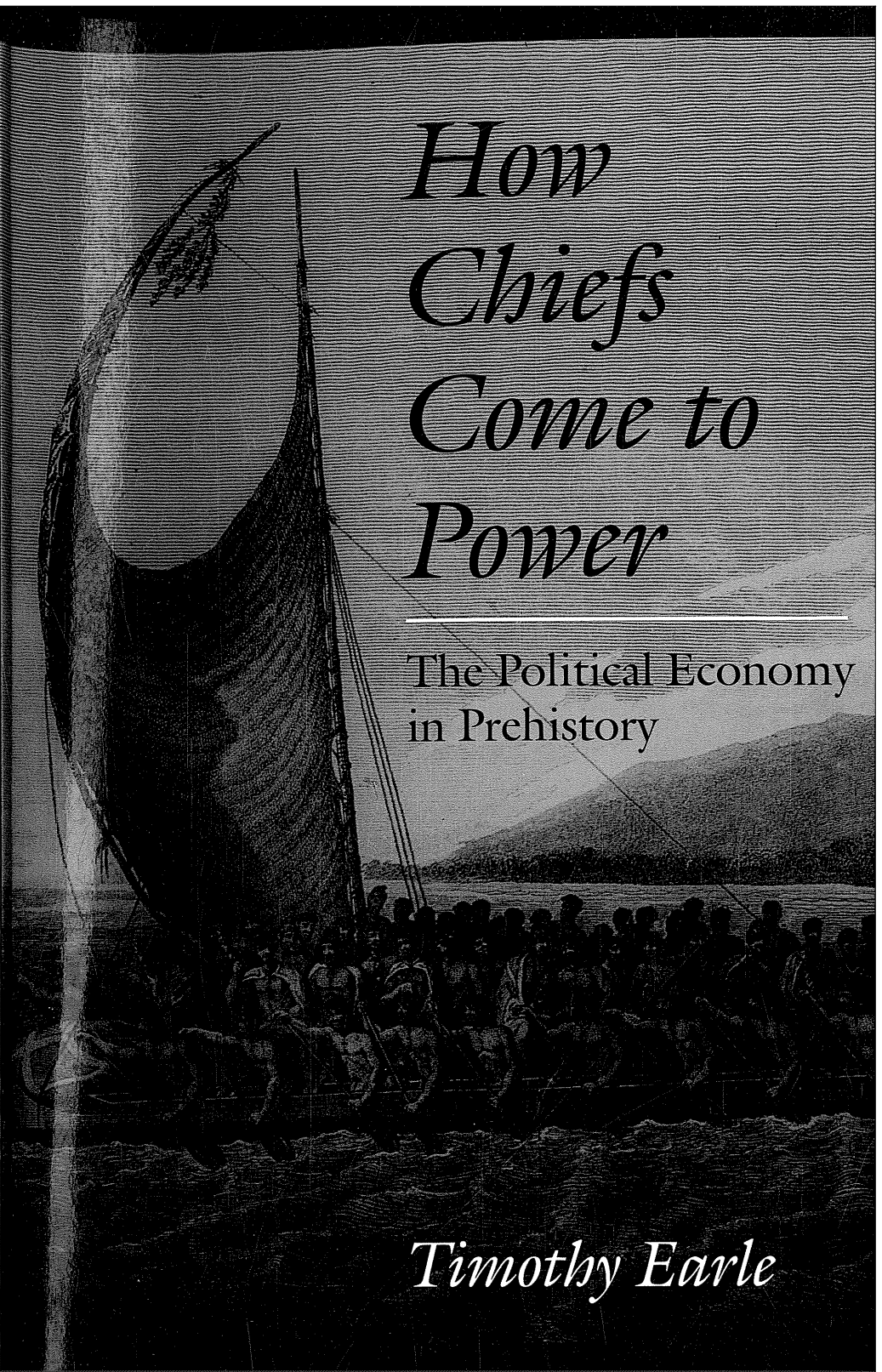

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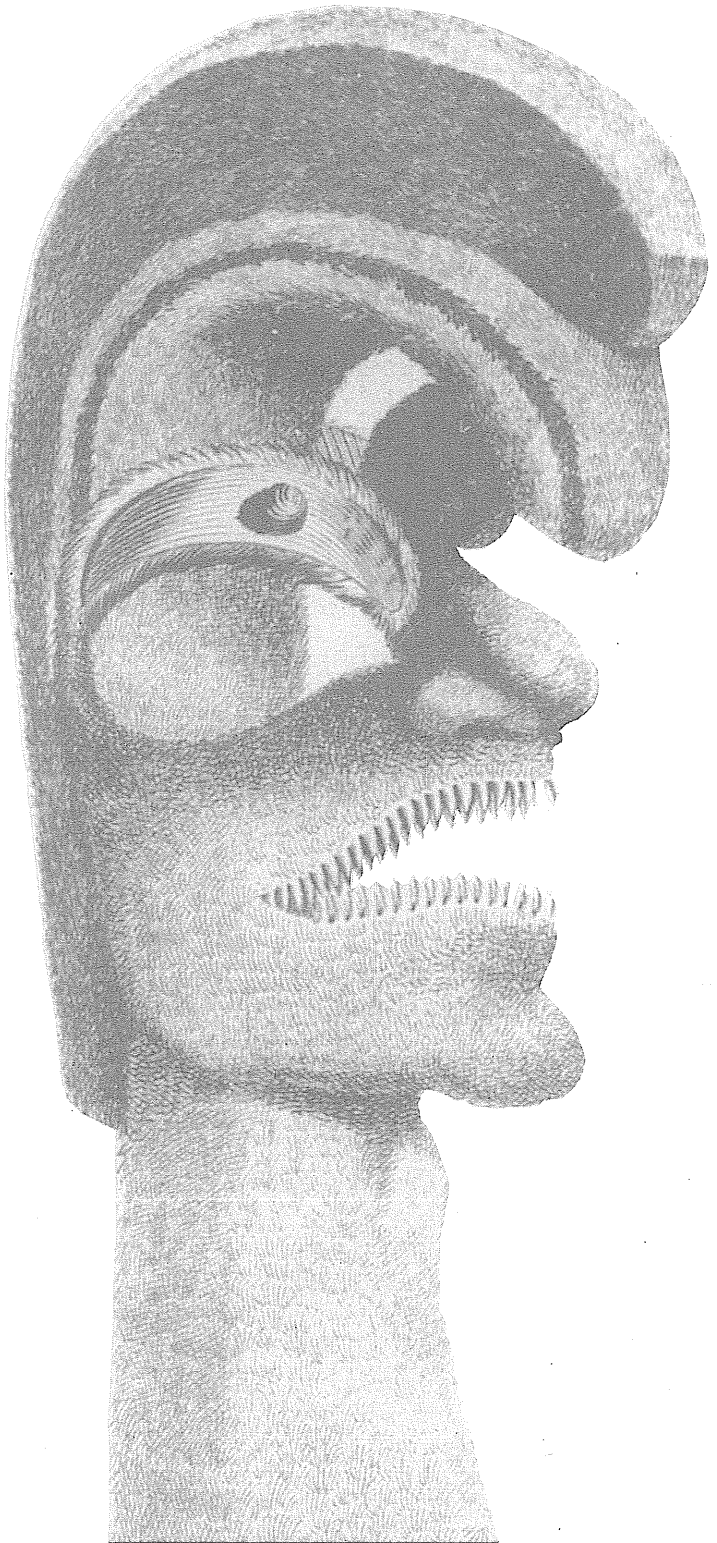

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PREFACE

Writing a book is a product of much labor and thought. At the University of Michigan in the early 1970's, my professors Kent Flannery, Richard Ford, Roy Rappaport, Marshall Sahlins, Eric Wolf, and Henry Wright taught me to understand the complex interactions among ecology, economy, society, and politics. Archaeology graduate students of that time focused on what was to be labeled "social archaeology"—how to describe the organization of prehistoric human groups and how to explain their social evolution. Prime-mover theories of societal adaptation were attacked, as we grappled with the variety, complexity, and specificity of historical sequences from Oaxaca and the Valley of Mexico to Iran, Madagascar, and the Pacific.

My first academic job was as an assistant professor of anthropology at the University of California, Los Angeles, where I stayed for 22 years. I was hired to provide an intellectual bridge between archaeology and sociocultural anthropology. With my training at Michigan, this breadth came to me naturally, but my colleagues and graduate students continued my education. My closest intellectual allies were Allen Johnson and Jim Hill, strong cultural ecologists interested in understanding how humans make a living successfully in diverse environments. Colleagues in social anthropology included the senior academics Hilda Kuper and Sally Falk Moore and the younger scholars Francesca Bray, Nancy Levine, and Anna Simons; each in turn helped me understand how social institutions were established. A new assembly of colleagues at Northwestern University now continues to educate me.

But my real education was not in academe. It was in the fields of archaeology. Here a confusing chaos of human debris documented

histories of people and their societies. Archaeological projects are hard to describe to those who have not been on one. The collaborative enterprise spans a wide range of activities: mundane duties, from providing breakfast to handling automobile breakdowns; data collection, including logistical planning, excavation, and laboratory analysis; and extraordinary intellectual constructions, as ideas are put forward, debated, discarded, and elaborated. Coworkers on an archaeological project develop an intimacy and anticipation that is both rewarding and demanding. These people's lives and goals are shared, and their ideas meld and mix so that individual contributions cease to have meaning. And then we return to our academic worlds and try to sort out what is each of ours, who should publish what, and how the products of our work together can be divided to build our separate careers. I dedicate this book to my colleagues and graduate students on these projects; it is theirs and mine together.

The actual process of writing is long. The effort to think through the complexity of human societies allows the writer to regard complex relationships sequentially, work out ideas, reflect on their merit, and then laboriously tie them together. Special thanks go to Elizabeth Brumfiel, Terence D'Altroy, Elizabeth DeMarrais, Eliza Howe Earle, Christine Hastorf, Antonio Gilman, and Patrick Kirch, who helped me develop the book's arguments. They read (sometimes repeatedly) earlier versions of this manuscript and pointed out inconsistencies, gaps, and errors that I, from the inside, could not see. Perhaps the book is really theirs, but I own the lurking errors.

There must always be the beast, the author. He steals away from the dinner table, rudely shuts out the family, and thinks about style when others need love. My gratitude showers on my family—my wife, Eliza; my daughters, Caroline and Hester; and my AFS (American Field Service) daughter, Ina Iffandhi. They shared in the fieldwork, discussed the results, argued with me about significance, and then stepped back and allowed the selfishness that writing demands.

Finally I thought the manuscript was done, and it was submitted to the watchful eyes of Stanford University Press. There senior editor Muriel Bell and associate editor Ellen F. Smith oversaw its review and production. Lynn Stewart, as copy editor, provided careful reading

and many changes that improved the book greatly. The final forms for many of the illustrations were prepared by Mike Gabriel; the first drafts of these were done by Deborah Erdman.

From many sources, I received financial support for the fieldwork and writing. The draft manuscript was written during the academic year 1994–95 when I was on sabbatical leave from UCLA. The fieldwork was supported by five National Science Foundation grants: the Hawaiian Social Morphology and Economy Project (GS728718X1); the Upper Mantaro Archaeological Research Project (BNS8203723); the Proyecto Arqueológico Calchaquí (BNS8805471); and the Thy Archaeological Project (DBS9207082 and DBS9116921). Support for the fieldwork also came from multiple smaller grants and assistance from the Wenner-Gren Foundation, the Fulbright Commission, the Social Science Research Council, the Bernice P. Bishop Museum, the Museum for Thy and Western Hanherred, the National Forest and Nature Agency of Denmark, the Danish Research Council, UCLA (Academic Senate, ISOP [International Studies and Overseas Programs], Department of Anthropology, Friends of Archaeology, and Archaeology Program), Northwestern University, Columbia University, and the University of Minnesota. I acknowledge their generous and continuing support.

T.E.

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CHAPTER ONE

Introduction: The Nature of Political Power

Elucidating the evolution of human society challenges anthropologists and other social scientists. The history of attempted explanation is long and distinguished, ranging across diverse social, political, and economic theories (see, e.g., Harris 1968). To get a sense of the range of explanations, I recommend reading recent syntheses by Johnson and Earle (1987), Price and Feinman (1995), and Sanderson (1995). Theories have often emphasized the integrated character of human societies (i.e., Flannery 1972; Service 1962; Steward 1955), arguing that leaders emerge to solve problems that allow members of a group to prosper.

A reconsideration of social process, however, has focused on human agency. Brumfiel (1992, 1994) draws attention to the diverse interests and motivations of humans and the existence of many segments of society, reflecting gender, age, faction, ethnicity, and class. Complex societies are not so much hierarchical as they are "heterarchical" (Ehrenreich, Crumley, and Levy 1995), meaning simply that segments have separate internal hierarchies that deflect overall social centrality. New thinking emphasizes how problematic is the institutionalization of human society. Models focus on the anarchistic dynamics of human life, but we know that complex human societies have arisen with strong institutions. How can this happen? In ad-

dressing this question, I focus on how leaders come to hold power and how that power is institutionalized.

Following a political logic, I believe that the personal benefits of leadership are sufficient to explain the quest for prestige and dominance. Not all individuals may want to dominate, but individuals who wish prominence exist within all human populations. Why? Many would trace the quest for power to its biological roots in reproductive success. Their arguments are simple and compelling, but well beyond the scope of this book. Following Leach (1954), I simply assume that some individuals within all societies seek political advantage. This assumption is admittedly problematic. We must be careful to acknowledge the anthropologist's credo that cultures differ fundamentally and must be understood on their own terms. But within the diversity of human existence common themes and processes of social life certainly exist. Here I hope to delimit one such arena of common action—the institutionalization of political domination and resistance to it.

Although a political motivation to dominate may be widespread, the individual leader's quest for dominance varies dramatically from one society to another. In some cultures, values discourage political striving and serve as strong cultural (ideological) tools opposing the politically motivated person. And in most cultures, the struggle for power is complicated and multidimensional. It involves competition among different emergent leaders, and it involves resistance (restrictions) to that leadership.

The point is *not* that leaders will emerge in all social contexts. Individuals who desire prominence are often unsuccessful for a plethora of reasons, not the least of which are cultural. I will not attempt to resolve questions of motivational theory—why people do what they do; such a goal seems remote to my archaeologist's viewpoint. Rather, I concentrate on organizational theories in an attempt to understand how the regional organizations of chiefdoms are created and dominated by an emergent elite (cf. Mann 1986: 7).

From this point, my investigation is simplified: *What allows aspiring leaders to be successful in one situation but fail utterly in another?* This book attempts to answer this straightforward question, which, as I hope to show, offers an elementary view of the political process and its place in the evolution of human society.

Some Definitions

Before outlining the dynamics of the political process, several closely intersecting concepts need to be defined and briefly discussed.

Authority is the right and responsibility to lead; such leadership is sanctioned by a group to recognize capabilities or social position. According to Weber, authority is a sociological concept whereby obedience to commands does not require physical coercion. People follow a leader willingly because it is the right thing to do, and leaders are often thought to sustain the smooth operation of a society. In a stateless society, authority is characteristically based on social statuses that mark rights and responsibilities in specific arenas of action—ritual, social, military, and the like (e.g., Mair 1977). It is "natural" for some individuals to act as leaders, because they hold social positions by genealogical determination or demonstrated ability. Emphasis has shifted in recent literature to concerns with indeterminacies. Although a genealogical structure might specify that a person would be appropriate as a group's leader, social realities are worked out in a complicated political process (Moore 1978). Authority then becomes a source of power, contested like all others, that derives from traditional values and institutional structure. I view authority as part of ideology.

Power is measured by the mastery that a leader exercises over others (Mann 1986: 6). Unlike authority, power has at least an implied threat behind it; compliance by common people is unwilling. Considerations of power are extensive in the social sciences (see Adams 1966; Barnes 1988; Bloch 1989; Foucault 1970, 1980; Giddens 1979; Lenski 1966; Mann 1986). As I see it, social power is not a resource; it is an unequal relationship among people (Giddens 1979: 91). Unequal relationships are organized through various media to create power networks. Mann, for example, characterizes societies as "constituted of multiple overlapping and intersecting sociospatial net-

works of power" (1986: 1). Theoreticians have enumerated different sources of power, including social organization, economy, military might, ideology, and information (Friedman and Rowlands 1977; Mann 1986; Earle 1987, 1994a; Haas, Pozorski, and Pozorski 1987). These are the media from which power is constituted. The significant sources of power vary from one society to the next, but multiple sources exist in all societies. The political process involves an interplay between these different sources, and, as I will argue, the specific historical circumstances structuring access to these sources determine the long-term success or failure of attempts to centralize and institutionalize political hierarchies.

Control is the ability to restrain access to the resources that are the media from which power can be fashioned. These media have fundamental properties that make them more or less easy to manipulate. Ultimately the networks of power within a society are useful both to compel compliance and to resist compliance to a central authority. As an example, military might, in the form of the warrior and his sword, exerts strong coercive force. But can that power itself be controlled, restricted by a few for their exclusive use? To the degree that it cannot, it is also a force of dissolution and anarchy. To understand how the sources of power can be used to fashion institutions of governance, it is essential to know how access to the media through which power is instituted can be restricted. The ultimate nature and effectiveness of power within a society derive from the ease with which the multiple sources of power can be monopolized.

Sources of Power

Of primary concern to emerging chiefs seeking to control social power is the nature of the power sources that are available. Whether chiefly power derives from social relationships, the economy, military might, or ideology determines in large measure the scope and stability of a chief's political position.

Social relationships are one potential source of power. Humans are social animals, building and breaking relationships through their constant personal dealings. We can imagine that daily interactions between people have certain roots in our biological heritage; bonds of nurturing, cooperation, and domination are constantly established and contested between couples, parents and children, and siblings. In the everyday intimacies of family life are relations of power, and these relationships are maintained and extended through time to fashion larger units of clan and lineage (Malinowski 1944; Johnson and Earle 1987). Political arenas are built in which kin relationships, transformed by cultural rules and values, are central props.

In traditional societies, since one's position in a social hierarchy determines in large measure one's authority, striving for social position is critical to the political process. Cultural relationships of kinship determine rights and obligations that represent power over people, and political individuals manipulate these relationships (by strategic marriages, adoptions, godfathering, and the like) to centralize and extend power. For example, among the Trobriand Islanders, a husband receives an *urigubu* payment of yams from his brother-in-law (Malinowski 1922). On the surface this would appear to be a simple case of reciprocal exchange as men give to their sisters' husbands and receive from their wives' brothers. However, by securing multiple wives, chiefs manipulate the exchanges to amass stockpiles of yams. Malinowski (1935) describes one powerful chief with 80 wives.

Chiefdoms are normally characterized as kin-based societies, meaning that a person's place in a kinship system determines his or her social status and political position. The textbook case is eastern Polynesia (Sahlins 1958). An individual's rank is measured by the genealogical distance from a senior line of descent (first son to first son to first son). This ranking (from high to low status) determines sanctity and rights to political office. The highest-status male (first son by the first wife) should succeed his father to the office of paramount. In this position, he holds both authority and special access to economic, military, and ideological power. Others, of lesser rank, derive privilege from their positions in the chiefly hierarchy. In Hawai'i, genealogical specialists were attached to the paramount, and an individual seeking political office would come to the genealogists, recite his kin line, and have determined his suitability to receive an office such as *ali'i 'ai*

ahupua'a, "chief who eats from the community." In another example, Friedman and Rowlands (1977) describe how chiefs in a stateless society (the tribal organization of prehistoric Europe) built their prestige by controlling the kinship system through acquiring women in marriage. A local chief rose to a position of political authority by manipulating the flow of prestige goods, feasts, and marriages. The system of kinship with its political relationships and related rights to labor and personal support was thus seen as the fundamental basis of chiefly power strategies.

But kinship itself is a weak source of power. By definition, each person is the center of a kindred network, and each can attempt to build his or her relationships by extending claims of kinship. Kinship is thus critical in less hierarchical societies partly because it offers a strategy available to all by which to ask for aid; it is a great equalizer. Chiefs are seen as the providers of assistance, morally obligated to help out those in need (Sahlins 1972). If we were looking at the origins of chiefdoms, we might focus on how kinship is manipulated by all to negotiate from emergent leaders a moral right to the necessities of life. I do not stress kinship as a major medium for social power, although it is part of a society's tradition of appropriate relationships and the medium through which all, including chiefs, seek support.

Part of the changing ideology that accompanies social stratification involves the rupture of kinship between ruler and followers. Ultimately the equalizing bonds of kinship are subjugated to other, more controllable sources of power. The existing social system locates people in positions of differential advantage. But how are those systems created, perpetuated, and maintained? Kinship can be conceived as part of the ruling ideology; individuals will strive to manipulate it to reap political advantage. We must understand how inequality, evident as inheritance of position and property, is institutionalized, and this leads us to a consideration of the three primary sources of power—economic, military, and ideological.

Economic power derives from being able to buy compliance. It is based on the simple principle of material rewards and deprivations. The human organizations of production and exchange determine access to resources and goods that are both needed and desired for subsistence and social life. Private property is basic to Marxist theory of capitalist social formations. Under capitalism, common people cannot produce goods effectively because they lack the appropriate technology; they must work for the owners of capital technology, who then derive a profit at the same time that workers toil for a subsistence wage. The Marxist solution was revolutionary—to break the economic power of a few by wrenching ownership from the capitalists and having the state hold it centrally for the benefit of the workers.

In chiefdoms, control over production and exchange of subsistence and wealth creates the basis for political power. In Hawai'i, community chiefs allocated to commoners their subsistence plots in the chief's irrigated farmlands in return for corvée work on chiefly lands and special projects. By owning the irrigation systems, and thus controlling access to the preferred means of subsistence, chiefs directed a commoner's labor. Where you lived was determined by whose land manager "put you to work." In contrast, in Bronze Age Denmark and elsewhere in northern Europe, control over the specialist manufacture and the distribution of prestige goods underwrote the emergence of regional elites (Friedman and Rowlands 1977).

Economic power is based on the ability to restrict access to key productive resources or consumptive goods. Control over subsistence resources and technology is a simple, yet effective, source of power. Control over exchange permits the extension of economic control over broader regions, but exchange networks are inherently decentralized, and thus a reliance on exchange as a medium for social power is just as likely to undercut central control as to support it. The real significance of economic power may be that the material flows through the political economy can be channeled by chiefs to nurture and sustain the alternative power sources. At the same time, economic power depends on those other sources of power—military might to defend resources and ideology to institute rights of unequal access.

Military might derives from coercing compliance. Without the institutionalization of social hierarchies, strong leaders are bullies, forc-

ing compliance by threat and intimidation. Elementary might is right. A key part of the political process is to be able to assert coercive power. In the Andean case, leaders were successful warriors (*cinchekona*, sing. *cinche*) known for personal qualities as feared fighters, ready to kill and die. Backing up the chief were his warriors, individuals bound by kinship and loyalty to the chief and willing to assert his will. Gilman (1981) sees political leaders as local thugs, creating protection schemes of extortion. Political ascendancy is based on coercive advantage, gained by having special fighting skills, training, and weaponry (Goody 1971; McNeill 1982).

Following on the nineteenth-century work of Spencer, Carneiro (1970, 1977, 1981) has argued for the significance of warfare in the creation and extension of political systems. For him, no one would willingly submit to the authority of another; physical struggle underlies leadership, and complex political systems are fashioned through conquest. Chiefdoms are characterized by endemic warfare, and the rise to power is always implicitly military at its roots (Carneiro 1981). The paramount chiefs of Hawai'i rarely died in bed; they were killed in battles of rebellion and conquest or were assassinated by their close affiliates.

Military might is in fact a highly problematic source of social power. Warriors are an instrument of fear by which an emerging chief asserts political domination over a region. But at the same moment the chief must fear those warriors, whose power and rage can turn on him. Rebellion, betrayal, and intrigue fill the Icelandic sagas, the narratives of the Hawaiian ruling lineages, and the accounts of Andean lords. While leaders depend on their warriors to extend political power, they must always be on the lookout for treachery. Ultimately warrior might is a destabilizing and divisive power in institutions of leadership; it is only effective as long as it can be reigned in and directed strategically.

Ideology derives from routines of compliance. It establishes an authority structure and institutionalizes practices of rule. Ideologies present the code of social order—how social and political organizations are structured; why specific rights and obligations exist. Ideologies are part cultures; they are associated with specific social segments that can be thought of as having somewhat distinct patterns of belief, behavior, ritual, and material culture. To the degree that an ideology, the cultural perspective of a ruling segment, can be imposed as the set of ordering principles for the broader society, it facilitates and legitimizes domination. In highland Peru, chiefs were represented as fierce warriors on whose shoulders rested the defense of the community against aggression. The community's survival was thought to depend on its warriors. The Hawaiian high chiefs were gods, distinguished by their brilliantly colored feather cloaks, the very clothes of the gods. When the paramount chief of Hawai'i proceeded around the island to collect annual payments in the Makahiki ceremony, he was the god Lono, responsible for all fertility of the lands and people.

Structural Marxists see a complicated causality between material conditions, social structure, and ideology. Thus a traditional society may use kinship and kingship as ideologies to guarantee social reproduction (Friedman and Rowlands 1977; Godelier 1977; McGuire 1992; Meillassoux 1981). A ruling ideology may assert a "natural" order to the universe such that specific social, political, and ritual actions are needed to retain the proper operation of the world. Leaders must be followed; followers need to be led. That is part of a cosmic order taken into the social fabric of daily life through myths, legends, and ceremonies. Ideology serves as the constitution for institutions.

Information is a basis of power (Barnes 1988). Ultimately followers always have the "power" to resist, but leaders manipulate information to make it appear that the ruling elite have both the right and the might to hold onto authority. A commonly identified characteristic of leadership is the ability to speak; Big Men or Big Women are great speakers, constantly convincing their followers of the advantages and necessity of conforming and following. Chiefs or their representatives speak out to convince, instruct, and thank followers. Communication can further be extended and emphasized through ceremonial events asserting leadership rights and the construction of monuments that inform the society of a leader's abilities to coordinate

social labor. To the degree that a social order becomes established, people need little ongoing persuasion to ensure their cooperation.

Like kinship and military might, ideology by itself is a weak source of power. Each individual can believe and promulgate whatever he or she sees as fitting and suitable. A culture is inherently fragmented and fractured, representing the many voices that characterize differences of age, sex, occupation, locality, class, and individuality (Keesing 1985). If we think of culture as norms and values held in people's heads, it is difficult to understand how culture generally (or ideologies more narrowly) could be broadly shared or used as an effective source of power. Each human, sculpted by personal experiences and interests, has an individualized reality concerning what ought to be. To mold beliefs and guide social action, ideologies must be manifested in a material form that can be manipulated centrally and experienced in common by a targeted group. It is this materialization that embeds ideology in the economic process of production and gives it a central role in the competition for political power.

Control of Power Networks

Political power must be inherently problematic, as it is contingent on multiple factors that can be used against central authority as well as being used by it. Is the evolution of complex, centrally organized societies a myth? Are attempts to lead, to solidify and hand down power, doomed to fail? From a long-term perspective, although political centrality rises and falls, there has been a sustained evolution of political systems in terms of the scale of population integrated with a single polity. In fact, the number of independent polities in the world has declined dramatically over human history as world population has increased (Fig. 1.1; Carneiro 1977). At the beginning of the Neolithic, the size of the largest political group was probably in the hundreds, and we can estimate that more than 100,000 such polities existed; now the largest polity contains more than a billion people, and the United Nations has only about 160 sovereign states.

Within the social arena, networks of power overlap and intersect

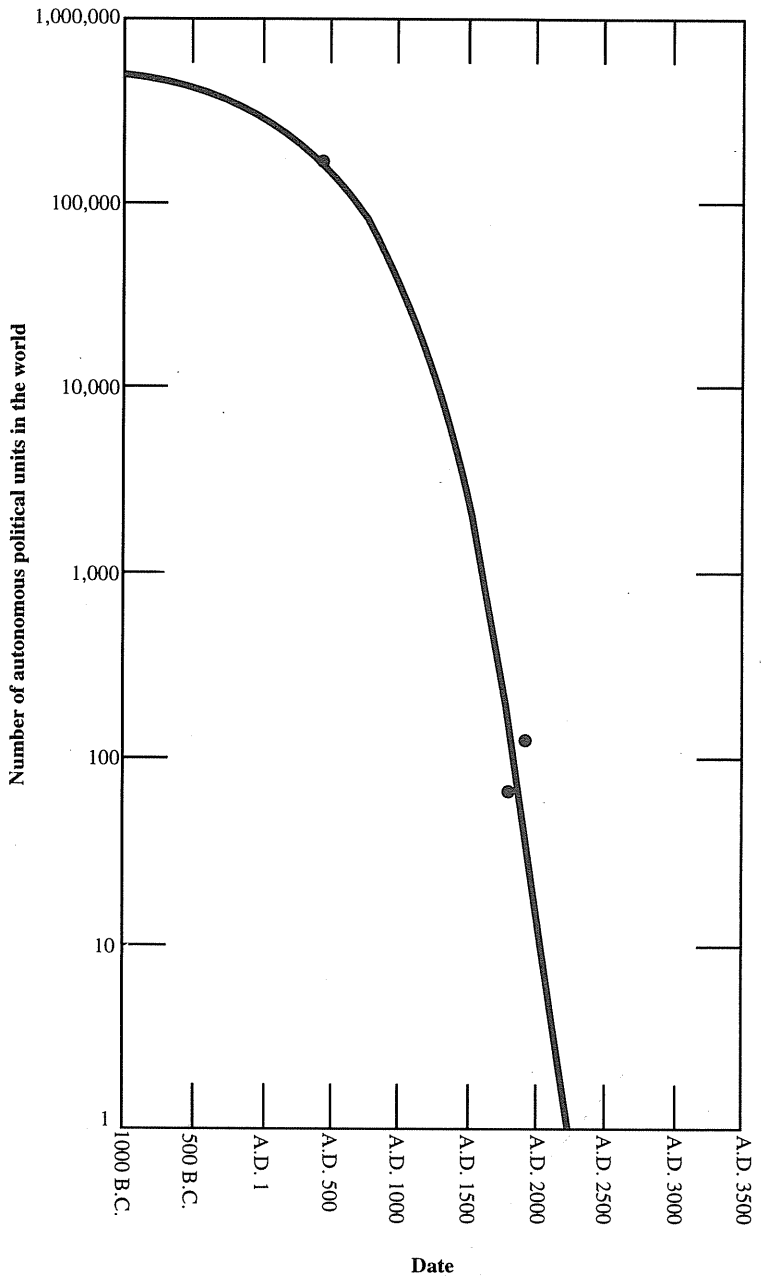

Figure 1.1. Decreasing number of independent world polities (Carneiro 1977).

(Mann 1986). In their quest for ascendancy, or simple survival within a combative political world, aspiring leaders and groups must fashion power from whatever media are at hand. In the competition for position, leaders may be divided institutionally with contrasting power sources and without a central hierarchical structure (Crumley 1987). In many instances, increasingly unstable political schemes can result from the institutionalization of separate bases of power that only intersect in limited ways. The evolution of centralized political institutions may be more the exception than the rule for the trajectories of social change. Mann (1986) sees the evolution of strong states in the Middle East, for example, as an unusual (if not unique) result of social processes built on economic power inherent in irrigation technology that bound a desert population to its leaders. Control over the sources of political power is basic to the stable institutionalization and extension of leadership within societies, and this control may be shown to rest ultimately in the material process of an emerging political economy that finances the development of all sources of power and thus acts to rein them in centrally.

Is it possible to speak of the primacy of one source of power over another? No source can stand alone as the medium out of which political institutions are fashioned, and each can be of first importance in specific situations. Popes have crowned and destroyed monarchs, and vice versa; the word and the sword can both be mighty, as can economic sway.

But the sources of power are not of equal weight in the establishment of a stable and centralized political institution. Although all sources will likely be manipulated in the quest for authority, primacy rests in material process. The physical essence of the economy makes it the ideal medium from which to fashion social institutions of large size and temporal continuity. Production and exchange are inherently organizational in their nature; they bind people together in an organic and decisive way. Material things used to satisfy, symbolize, and terrorize take on the force of social relations, but have a permanence and extension that the relationships themselves lack. The flow of cultural things binds the media of coercion and belief to the organized relations of the economy. Control over the economy

thus stabilizes and restricts long-term access to the other media of power.

The political success of individual leaders in creating, extending, and perpetuating political institutions has been based on limiting access to the sources of power by competing individuals and social groups. Although the potential sources of power have proliferated with increased complexity, the scale of political institutions has increased through an ability to link together the different sources of power and to control them directly and indirectly through control over the political economy. An evident conclusion is that the different sources of power are fundamentally intertwined and interdependent, and that they grow from a material base.

The material process allows the different sources of power to be grounded in the economy; control over resources and technology can be extended to control human activities generally and human labor more specifically. Thus, although there are many routes to social complexity and many blind alleys, the creation of politically expansive and centralized institutions requires that the available sources of power be rooted in economic control. There is no necessity or inevitability of political centralization; as we shall see, Hawaiian chiefs governed strongly centralized institutions, while Peruvian Wanka chiefdoms remained fragmented.

This book adopts a multilinear evolutionary approach (Steward 1955; Johnson and Earle 1987). The multilinear aspect of this approach recognizes the different routes to complexity. Divergent sources of power exist according to specific historical conditions, and these sources can be put together in infinitely variable ways. The nature of the power sources and the ways in which they are structured then affect the long-term social dynamics of an individual polity. By evolutionary I mean that the approach focuses on the dynamics of expansion and collapse of institutionalized polities. I do not imply that social evolution is desirable or inevitable (moving inexorably toward some teleological goal). Rather, there are forces of change that determine (through selection, if you will) the character of political systems. Why is one system "successful" in terms of its ability to expand and continue, while another fails? I argue that the deter-

mining factor is the chief's ability to control and extend access to the sources of power.

Studying Chiefdoms

A chiefdom is a regional polity with institutional governance and some social stratification organizing a population of a few thousand to tens of thousands of people (Carneiro 1981; Earle 1987). Chiefdoms are intermediate-level polities, bridging the evolutionary gap between small, village-based polities and large, bureaucratic states (Johnson and Earle 1987). Although chiefdoms are highly variable, characteristically the organization at this scale requires political hierarchy or an overlapping series of hierarchies for coordination and decision making (Johnson 1982); the advantages gained by a few within such a hierarchy result in a measure of social stratification (Sahlins 1958). Archaeologists use the presence and distribution of monumental constructions and prestige goods to document the evolution of chiefly societies (Creamer and Haas 1985; Earle 1987; Peebles and Kus 1977; Renfrew 1973, 1974).

Chiefdoms are inherently emergent political institutions, and so they provide critical cases by which to understand how leadership was developed and expanded. Chiefs are leaders who hold offices, and an outsider can meaningfully say, "Take me to your leader." These offices are characteristically highly generalized, such that a chief can lead in affairs of politics, religions, and economics, but frequently individuals exist who have different power bases that are not consolidated in a single office. To understand chiefdoms should thus provide a key to the subsequent development of complexity correlated with the rise of state societies.

It is my contention (Earle 1978) that the fundamental dynamics of chiefdoms are essentially the same as those of states, and that the origin of states is to be understood in the emergence and development of chiefdoms. The history of chiefdoms documents the evolutionary trajectories that in some situations resulted in the institutionalization of broad-scale, politically centralized societies and in

others resulted in highly fragmented and unstable regions of competitive polities. Understanding the dynamics of chiefly societies that encouraged centralization, expansion, and fragmentation offers a view into the historical background of the modern world.

Three cases are used to develop the arguments in this book—Denmark during the Neolithic and Early Bronze Ages (2300–1300 B.C.), Hawai'i from early in its settlement to its incorporation in the world economy (A.D. 800–1824), and the high Andes of Peru from the early Huacrapukio chiefdoms through Inka imperial conquest (A.D. 500–1534). I have been lucky enough to have conducted extensive field research on each case. These societies were chiefdoms, polities organized in the thousands, or at most tens of thousands, with emergent political leaders and some measure of stratification. The goal is to investigate roughly one thousand years of the prehistory from each case in order to evaluate the long-term evolutionary dynamics of chiefdoms.

These cases illustrate chiefdoms with different bases for social power. In fact, the purpose of the analysis is to investigate these contrasts in terms of how chiefs come to and exercise power. Why are different routes to power followed? How do the media of power and their control affect the long-term trajectories of political institutional development? As I have already suggested, the specific economic conditions of the regions greatly affect the available options. Chiefs use what they can to gain and retain power over subjects and followers. But there are always unforeseen consequences of their actions. How emergent chiefs attempt to control power affects the dynamics of the political system. Choice among power networks is opportunistic, but the sources of power vary in the stability that they give to a political institution and in the potential spatial extent of the polity that they can support. The assumption of this study is that fundamental economic and historical differences between the cases help us understand the difference in the power strategies and political outcomes.

Rather than deal with each case separately, I present and integrate discussion around the different power sources, their relationships, and system dynamics. After summarizing the individual cases and

their culture histories over a thousand years, I consider the sources of power accessed by chiefs and how these sources were linked together. The ultimate goal is to determine how chiefs came to power and the implications that these contrasting power bases had for the evolutionary trajectories of the societies.

CHAPTER TWO

The Long-Term Developments of Three Chiefdoms: Denmark, Hawai'i, and the Andes

The long-term dynamics of chiefdoms can be observed archaeologically and historically on the major continents and oceanic islands throughout the world (Earle 1987). To study the evolutionary processes of these intermediate-level societies (neither egalitarian tribes nor bureaucratic states), I have chosen to investigate three separate regions—Thy, Denmark (2300–1300 B.C.); Kaua'i, Hawai'i (A.D. 800–1824); and the Mantaro Valley, Peru (A.D. 500–1534). On the surface, the chiefdoms of these regions have little in common. They were located on widely separated continents and isolated islands; they existed at different times; their people had unrelated cultural histories for tens of thousands of years; no migrations or contacts joined them; their environments were absolutely different.

In short, the cases chosen for investigation are *independent*. The similarities observed are not the result of common histories or similar environmental adaptations. The simplest explanations, deriving from such histories or adaptations, are patently wrong here. Rather, common political processes in chiefly societies can be observed, and the distinctive nature of their evolutionary trajectory examined.

The background sketches for the Danish, Hawaiian, and Andean cases follow the same format to make it possible to compare the evidence. The cases are first described in space, time, and natural environment. The available archaeological and historical evidence is

summarized to document interrelated patterns of human settlement, subsistence intensification, technological change, and environmental transformation. These long-term changes in the environment and human population were the stage upon which the development and cycling of chiefdoms were played out.

Thy, Denmark (2300–1300 B.C.)

Denmark is a northern European country, located above 55° north latitude. Its territory contains Jutland, a peninsula extending north from Germany; the large islands of Zealand, Fünen, and Lolland; and many small islands. The country is almost surrounded by water—to the west is the North Sea, and to the east, the Baltic. Denmark has always been marginal to the agricultural heartland of central Europe and the civilized world rimming the Mediterranean Sea. With successful fishing communities, its Mesolithic people were late (about 3500 B.C.) to adopt agriculture. But from another perspective, Denmark was a mercantile and political center of a northern European world that included broader Scandinavia, the Baltic states, the Low Countries, and the British Isles. In early medieval times, urban centers sprang up, and Viking traders, raiders, colonizers, and conquerors sailed out from Denmark to faraway Newfoundland and Byzantium.

The region chosen for my investigation is Thy, located on the extreme northwest of Jutland (Fig. 2.1). Thy is a small region, about 2,100 square kilometers. It is flat and narrow, bordered on the west by the North Sea and on the east by the Limfjord. The landscape is gently rolling (maximum elevation 74 meters) and includes small streams, lakes, and bogs. The underlying geologic layers contain chalk, but the terrain is mostly late Pleistocene moraine soils, typically fertile clay with flints and glacial erratics. To the west, ocean surf and strong onshore winds erode the land and blow sands inland. Postglacial uplifts have exposed the former seafloor that now connects Thy, formerly a separate island, with Vendsyssel to the north. The soils of the moraines and seafloor are farmed for grain crops, pigs, and

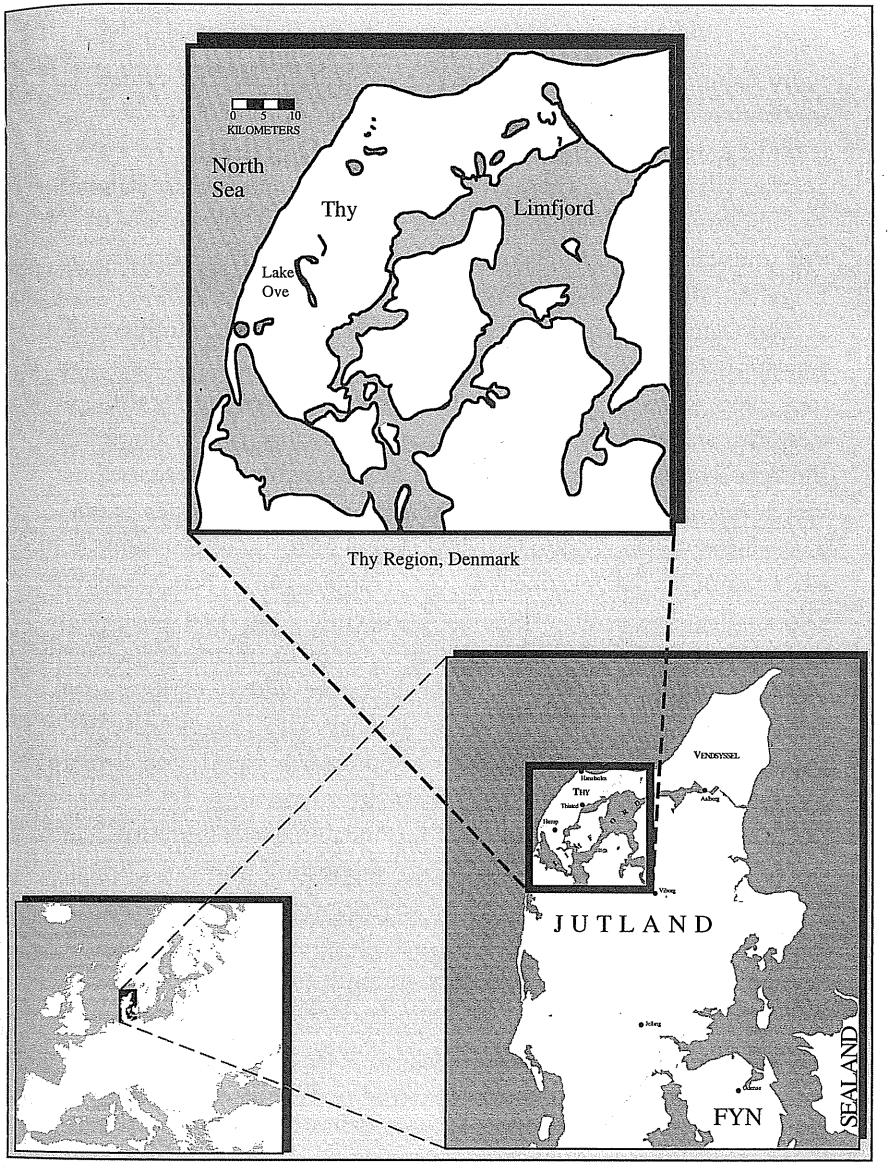

Figure 2.1. The Thy region, Denmark (John Steinberg).

dairy; along the coast, fishing still prospers. Small areas of heath, once more common, have been preserved as open lands. The climate is moderately cold, with temperature extremes modified by the surrounding water (average temperature −0.3° C [31° F] in February, 16.2° C [61° F] in July); overall rainfall is also fairly steady (annual precipitation 750 millimeters), highest in the fall. Light snowfall is not unusual in winter, and because there are no large streams or irrigation, summer drought can severely diminish harvest.

The Danish case here concentrates on the Neolithic–Bronze Age transition (2300–1300 B.C.). The thousand years of this sequence took place prior to any historical documents describing Danish society. But we may capture some sense of the society from analogies to the later Iron Age, when the invaders of the north were described by literate societies from Britain to the Arab world (Hedeager 1994). Their life was also vividly described in oral histories of Scandinavia. Most famous is the epic poem *Beowulf* (Huppé 1987), benchmark of Old English literature, which was apparently composed about the eighth century A.D., recounting a story set in Denmark during the sixth century. Subsequent Icelandic literature adds greatly to our sense of late Scandinavian society (e.g., Njal's saga [Magnusson and Pálsson 1960], Egil's saga [Pálsson and Edwards 1976], and Snorri Sturluson's [1966] description of the poetic myths).

The world of this early literature was inhabited by a fiercely proud people with regional "kings" and their supporting warriors. Gilman (1995) describes how Germanic society allowed only small-scale inequalities within a strong ethos of chieftain equality. Order was problematic and contingent on military strength that itself was continually contested. The story of Beowulf describes three generations of Danish overlords down to Hrothgar. Successful in foreign raids, Hrothgar had attracted many supporters and built the great meadhall Heorot. Here he feasted and gave out riches to his allies and supporters, and here his warrior chieftains slept ready to defend their overlord.

A troop of nobles
held watch in the hall as had been their wont.

They cleared the benches; bolsters and bedding
were spread around . . .
besides their heads they set their shining
wooden battle shields, and upon the bench
above each lord his lofty helmet,
his coat of mail and mighty spear
were in clear sight. Their custom was
to be alert and battle ready
in defending their homes (Huppé 1987: 67–68)

Because of attacks by the "valorous demon" Grendel, Beowulf came to the hall of Hrothgar to aid the besieged king and received golden gifts in compensation. His valorous death in battle brought honor to his name that lived on in Europe's literary history.

Denmark was then organized as competing chiefdoms. The "kings" were weak, and their power and authority were based on fearless exploits and great wealth seized from the fallen Roman empire. Hedeager (1994) captures the essential "gift" economy of the early Viking period; chieftains set out on yearly "spring and autumn tours" to pillage the south for plunder with which to gain personal prestige through gift exchange and display. Recent books about medieval Iceland describe vividly how Viking chieftains settled the bleak north Atlantic, built a stratified society, and resisted attempts by Norwegian kings to extend political power over them (Byock 1988; Durrenberger 1992; Miller 1990). The Scandinavian chieftains were an unruly horde. Local chieftains might swear loyalty to a "king," only to turn on him as political opportunities changed.

The historic accounts are only a dramatization, representing an analogous political situation of the Bronze Age of Denmark. For an understanding of the changing political dynamics of Thy between 2300 and 1300 B.C., we must rely on archaeology. The archaeology of Denmark has one of the longest research traditions in Europe, and Thy specifically has a richly documented archaeological record. Prehistoric settlements have been recorded systematically since the end of the nineteenth century, with monument surveys conducted by the Danish government (Ebbesen 1985). Especially impressive in Thy are thousands of Neolithic and Bronze Age barrows that are among

the best preserved in all Denmark. Metal finds are legally the property of the Danish Crown, and over a hundred swords and other bronze and golden objects from Thy are held in the National Museum in Copenhagen. Archaeologists from the National Museum have also conducted important excavations in Thy of well-preserved Iron Age tells (Hatt 1935; Kjær 1928; Vebæk 1971) and of sites being destroyed by the eroding sea (Liversage and Singh 1985; Liversage 1987). The local Thisted Museum has an excellent program of archaeological work that includes the maintenance of regional site files, excavation reports, and artifact collections. Under the direction of Jens-Henrik Bech, the museum has developed a comprehensive program of rescue excavations of unscheduled barrows and settlement sites being destroyed by plowing, road building, a new gas pipeline, and other construction (Bech 1985, 1991, 1993; Bech and Haack Olsen 1985). ("Scheduled" monuments are those listed by the Danish government for permanent preservation, precluding most excavations.)

With this extensive archaeological base, the Thy Archaeological Project (TAP) was established in 1990. The project is an interdisciplinary, long-term investigation of landscape change and social evolution from the Neolithic to medieval periods. Kristian Kristiansen, then head of the division of the Danish Ministry of the Environment responsible for archaeological site preservation, recruited an international archaeological team that included Jens-Henrik Bech (Thisted Museum), Mike Rowlands (University College, London), Nick Thorpe (University of Winchester), and me (UCLA, Northwestern University). Svend Th. Andersen (1993, 1995) of the Division of Geobotany of the Danish Geological Survey conducted a collaborative paleo-pollen study to reconstruct long-term environmental change in Thy. From the Hassing Huse Mose bog, he collected a deep core and established a regional pollen diagram, and TAP then concentrated archaeological investigations in the catchment region around the bog (ten kilometers in diameter; 314 square kilometers). Over the past three years, the Danish, British, and American teams have conducted systematic field-walking surveys for settlements in two parishes (Sønderhå and Heltborg) and have excavated five Late Neolithic and four Early Bronze Age settlements and seven Neolithic and

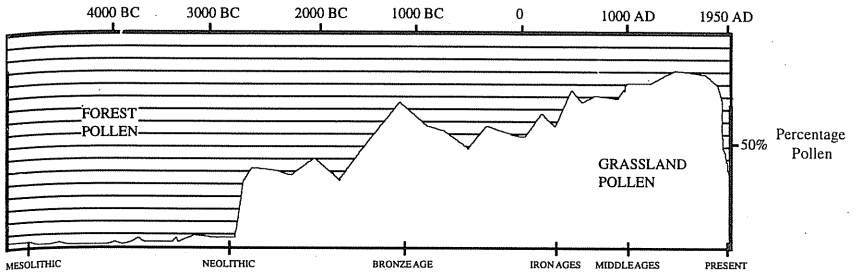

Figure 2.2. Pollen diagram, Thy, Denmark (Andersen 1995).

Bronze Age burial mounds. The goal has been to extend the existing archaeological knowledge by obtaining a systematic record of settlement distribution and household activities across the landscape of Thy.

To place the period of this study in its broader context, let us first look at the previous time, when agricultural settlements were established. Early in the Neolithic, Thy became populated by a farming society characteristic of the *Funnel Beaker Culture* (3500–2600 B.C.). During this period, the pollen record (Fig. 2.2) documents a continuation of the forest. The species in the forest-pollen spectrum changed, suggesting secondary growth following clearance, and traces of cereal pollen are recognized. Some locales were apparently cleared, while others remained forested. Andersen suggests that the subsistence economy was based on extensive "shifting coppice agriculture, in which secondary coppice woodland [indicated by increases in hazel, bracken, and mugwort] was used for short-term cereal cultivation and subsequently for [animal] grazing" (1993: 91).

By the end of the Funnel Beaker period, the agricultural economy of Denmark supported a modest population of farmers. The primary technological changes were connected to the new agricultural base, including the presence of domesticated animals and cereals, polished stone axes used for forest clearance, simple plows (ards), and elaborate ceramic containers. Throughout Denmark, evidence of plowing survives under burial mounds (Kristiansen 1990). The distribution of Funnel Beaker populations is dramatically shown by the megalithic monuments, causewayed enclosures, and long barrows. Settlement

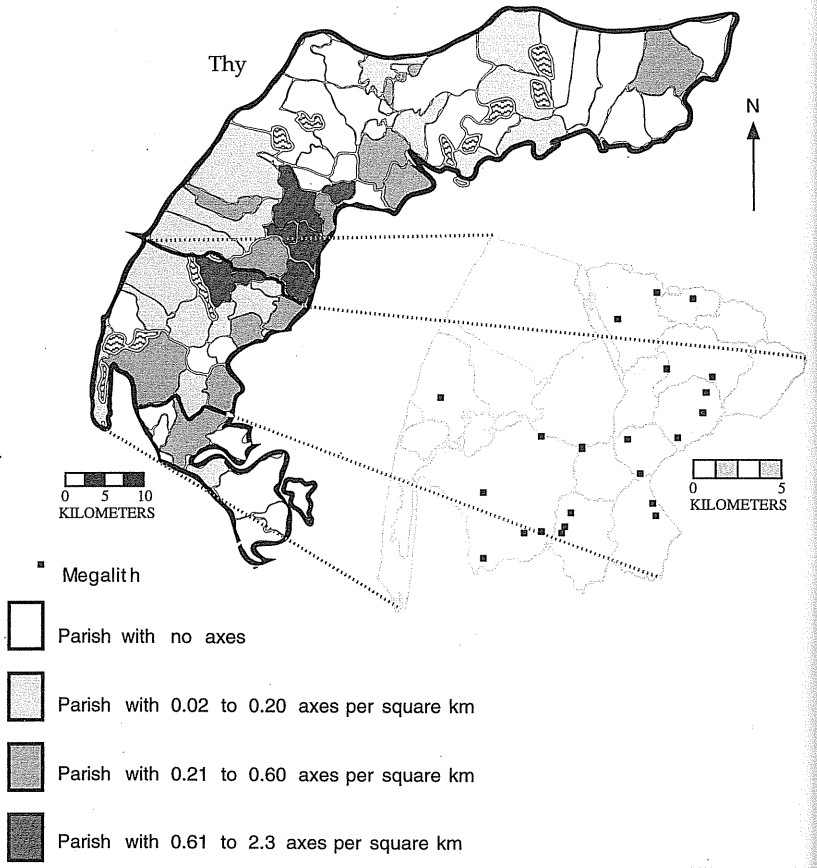

Figure 2.3. Parishes of Thy. Shown are the densities of polished Neolithic axes and the locations of megalithic monuments (both from the Funnel Beaker Culture) (John Steinberg).

evidence is actually minimal; a few large long houses have been described elsewhere in Denmark, but most areas are without evidence of residences. In Thy, with the exception of one small settlement with two possible houses, no settlements have been securely identified. Scattered pits have been recorded by earlier rescue operations, and one causewayed enclosure has extensive flint waste indicative of settlement. Figure 2.3 compares the distributions of Funnel Beaker Culture thin-butted axes and the contemporaneous burial monuments. A local population existed especially along the eastern shores of Thy, but small residential size and light construction make settlements difficult to identify. By 2700 B.C. relatively low-density, generalized farming communities had apparently begun to domesticate Thy's wild landscape and expand their populations, but the density of burial monuments is lower than is typical in other regions of Denmark, such as eastern Jutland.

Most researchers envision the Funnel Beaker society as based on simple ranking with emergent leadership typical of a Big-Man society (Jensen 1982; Kristiansen 1984). The best evidence for ranking is the monuments—both megalithic burials and causewayed enclosures (see Chapter 5). The labor involved in passage graves, for example, was considerable, and the guiding hand of leaders in their construction seems likely. Symbolically, burial practice involved the mixing of bones from multiple interments within a central burial chamber, constructed of large glacial boulders, that could be repeatedly opened. Apparently, however, only a fraction of the local population was buried here (Kristiansen 1984). This practice may have portrayed a group (as opposed to individualized) identity connecting some ancestors with continuing community; access to the monuments suggests some degree of exclusiveness (see Hodder 1990).

About 2600 B.C., during the Middle Neolithic, an apparently rapid and profound economic and political change took place. The *Single Grave Culture* settled southwestern Jutland, where Funnel Beaker populations had been almost absent (Glob 1944; Kristiansen 1989). Following at least some time of coexistence, perhaps based on separate adaptations and even symbiosis, the new herders began to move into other areas of Denmark where Funnel Beaker settlements existed. In Thy, the Single Grave population rapidly cleared the landscape (Fig. 2.2). The speed of the forest clearing and lack of evidence of increasing population suggest that the land was cleared to create pasturage for animal herding. Despite intensive field walking in areas with Single Grave burial monuments, no settlements have been identified, and only one small house has been found along the eroding coast (Liversage 1987). Of course, settlements must have existed, but

their small size and perhaps short-term occupation make them archaeologically difficult to recognize. A new emphasis on herding may actually have lowered regional population. Elsewhere in Denmark, on the islands and in eastern Jutland, forests were not rapidly cleared, and the earlier farming life of the Funnel Beaker Culture apparently continued (Davidsen 1978).

The cultural change represented by these early herders was dramatic. Unlike the Funnel Beaker Culture, whose burial practice emphasized the community, the Single Grave Culture marked individuals. The low barrows characteristically contained the burial of a single male with his battle-ax and beaker or, less commonly, a woman with her long amber necklaces and beaker (Kristiansen 1984). Males were distinguished by their warrior status, females by personal decoration. Although the contents of individual barrows differ, the uniform barrow sizes and the fairly standard set of accompanying goods suggest that distinctions in rank were subtle. Kristiansen (1984) interprets this culture as a segmentary society, like the pastoralist Nuer, and he believes that their economies would have been linked through a prestige-goods exchange system in which wealth was exchanged broadly in an interconnected cultural complex of status rivalry (see Chapter 5).

Subsequently (2300–1700 B.C.), the Late Neolithic *Dagger Period* continued many features of the Single Grave Culture while introducing new Bell Beaker cultural items, including distinctive ceramics and weapon kits (arrow forms, wrist guards, and flint daggers). Northern Jutland was a cultural "core." Its wealth was based on the manufacture of local flint daggers and their export to northern Europe; amber was exported even more broadly. Copper axes were imported from Britain and Ireland (Vandkilde 1991). Denmark appears to have become incorporated within a prestige-goods economy that extended from Britain to the Baltic and down into central Europe (Shennan 1986). Pollen evidence suggests little change in the landscape, which appears to have remained largely open (Andersen 1995). It may be that cereal farming became increasingly important, however. Most flotation samples from this period contain cereal grains (Bech et al. n.d.), and all later Bronze Age barrows excavated by TAP show a sequence

of previous habitation and cultivation in the layer upon which the mounds are raised.

The widespread farming may have been associated with population growth. As represented in the Sønderhå parish collections, the distribution of Late Neolithic daggers and associated pressure-flaked flints through Thy is much broader and denser than that of the diagnostic artifacts of earlier periods. Especially in Sønderhå parish, TAP field walkers encountered many concentrations of pressure-flaked lithics that date from the Late Neolithic and Early Bronze Ages. A simple count of the sites dated to this period shows a peak in numbers; in the eight square kilometers of field survey, 23 definite or probable Dagger Period settlements were located (Bech et al. n.d.). Remember that no settlements were identified for the earlier Single Grave Culture.

Field-walking surveys in the Sønderhå uplands, for example, revealed three close-lying Late Neolithic settlements (Thy 2756, 2757, 2758). Thy 2758 was investigated most fully. It is located on the hill of Bjergene in the rolling moraine upland landscape of eastern Sønderhå parish. The hill, which rises to 56 meters above the surrounding terrain, is the highest point in the parish. The settlement, identified by fairly dense flint-flaking debris, extended along a ridge covering approximately 3.5 hectares. The highest density of flint and ceramic finds proved to correspond well with the localities of scattered pithouses positioned along the ridge.

Three houses were excavated on Thy 2758. As illustrated by House 1 (Fig. 2.4; N45), houses were quite small, perhaps 13 meters long and 3.8 meters wide, with rounded ends and an overall roofed area of perhaps 40 square meters. The most distinctive characteristics of the Thy houses are their semisubterranean construction, lack of central support posts, and small wall posts indicating a low wall. The roof probably came to the ground at the back and ends of the house. These features were reasonable adjustments to the Thy environment at the end of the Neolithic—a lack of good-quality wood for building material and the ever-present winds blowing across the open landscape. The narrow pithouses would have hugged the ground, minimizing resistance to the winds and the need for large support beams.

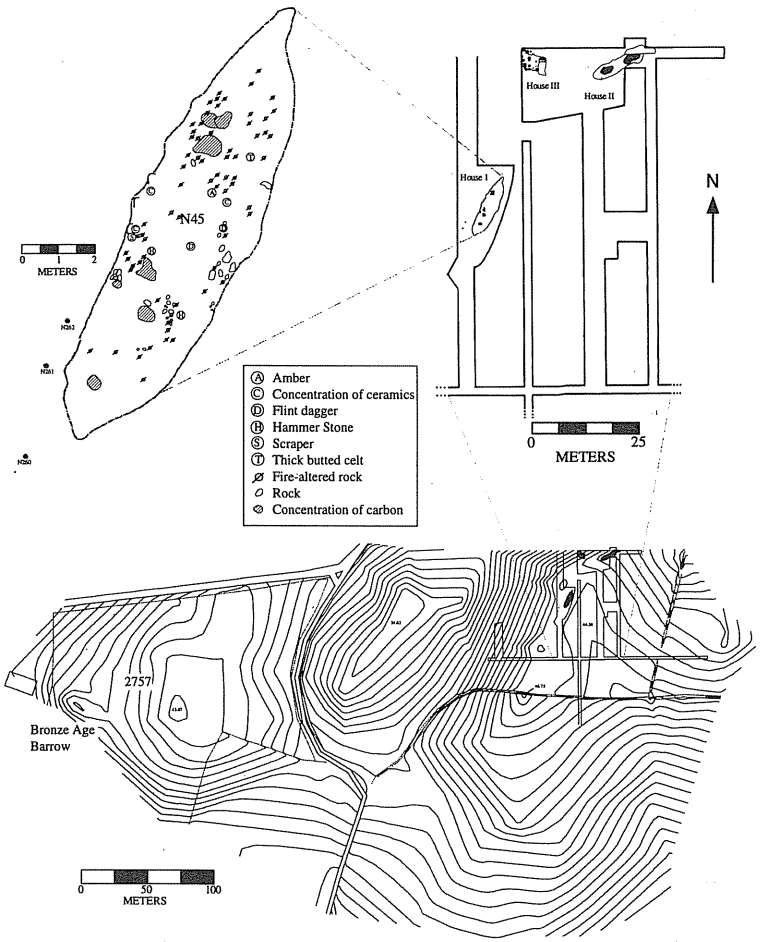

Figure 2.4. House 1 at Thy 2758. This semisubterranean Late Neolithic pithouse is characteristic of Thy (Michael Gabriel).

Similar houses have been described elsewhere in Denmark where wood was scarce (Jensen 1973); small houses without sunken floors are described in other regions, perhaps where forests provided more wood for support posts.

The social organization of the Thy Dagger Period continued a pattern of status rivalry without political hierarchy (see Chapter 5).

The settlement evidence suggests no significant size hierarchy, and apparently few barrows were built. In Bell Beaker societies generally, competition for status positions is indicated by the continuous distribution of grave goods in cemeteries (Shennan 1986). The primary evidence of status rivalry in Thy is the ubiquity of flint daggers that copy metal daggers of central Europe and special Bell Beaker ceramics, apparent symbols of status. Although these prestige goods were recovered from household floor and trash deposits in all houses, the greatest number and highest quality of daggers and dagger-form strike-a-lights were concentrated in one house, perhaps of a distinguished family—House 1 of Thy 2758. Although some differentiation was marked by the flint daggers, status was evidently not highly structured or centralized. In Denmark more broadly, the society appears to have remained relatively simple through the end of the Neolithic. Society was evidently not then organized hierarchically as chiefdoms.

During the *Early Bronze Age* (1700–1300 B.C.), the landscape of Thy and elsewhere in Denmark was increasingly cleared, as grasses dominated the pollen spectrum. As in the Single Grave Culture, continued clearance and the creation of extensive grasslands was apparently related to an increase in herding. The pollen diagram from under Bronze Age barrows of Thy demonstrates that areas previously farmed became pastures. Population appears to have been stable or perhaps even to have declined.

Extensive rescue archaeology has begun to uncover Early Bronze Age houses, but their occurrence, like that of Dagger Period houses, is quite localized. Throughout Denmark, the standard Early Bronze Age house consisted of a long, wide building with the roof supported by pairs of large posts. In Thy the best evidence of such houses has been described at Bjerre, a prehistoric Bronze Age settlement located on an uplifted seafloor south of the Hanstholm chalk headland (Bech 1993). The site is located on low, flat terrain that was farmed during the Bronze Age; small clusters of post-frame constructions were built on somewhat higher "islands" in the flat. Most archaeological work at Bjerre was conducted in 1990 by the Thisted Museum as part of a rescue operation, and Early Bronze Age residential areas were identified.

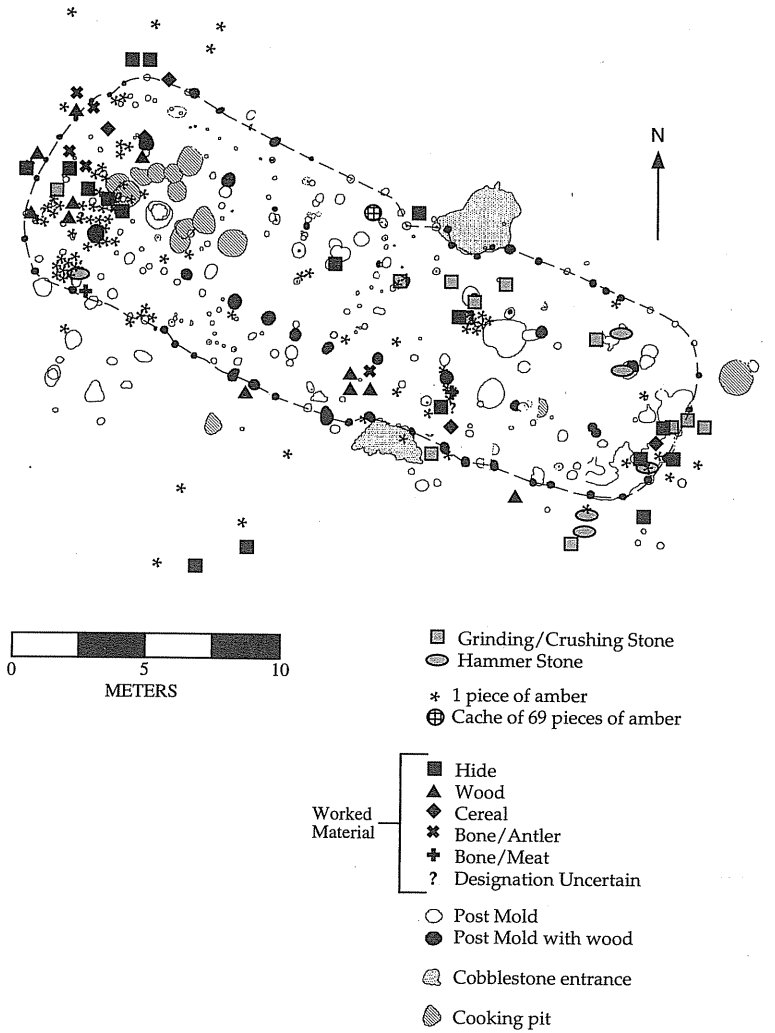

Figure 2.5. The chiefly House 1 (Thy 2999) at the Early Bronze Age settlement of Bjerre (Peter Aperlo).

One Early Bronze Age house (Thy 2999), identified by exploratory machine scrapes of that year, was excavated by TAP in 1993. This house proved to be well preserved, having an intact cultural layer with house floor and external work spaces, many internal pits, and substantial roof-supporting posts and wall posts, often with preserved wood below the water table. The house (Fig. 2.5) was 21 meters long, with a total roofed area of about 165 square meters. This is the largest Early Bronze Age house excavated in northwest Jutland, and the ample interior space was five times that of cramped Late Neolithic pithouses. This increased space was made possible by the large interior posts, which supported tie beams that spanned the house and allowed for a much broader structure.

Other nearby house locations suggest that following one or two episodes of rebuilding, houses were moved to a new spot. Probably only a few families ever lived at Bjerre at any one time. This small settlement was apparently associated with lowland farming and may well have been the winter residence in a seasonal cycle.

At higher elevations, where most barrows were built, evidence for house construction was more ephemeral, representing, I think, impermanent constructions in summer pastures (Earle 1994b). The primary evidence for settlement has been the distribution of barrows that concentrate on the lighter soils of western Jutland and Thy (Kristiansen 1984). The concentration of 250 barrows in Sønderhå parish, most of which date to the Early Bronze Age, led us to expect many settlements. We were disappointed; no Early Bronze Age settlements were found on survey except in five locations identified from the asymmetrical sickle finds in private collections (Bech et al. n.d.). We expected to find Bronze Age settlements immediately associated with major barrow groups such as those at Bjergene, but excavations there revealed only Dagger Period settlements. Within Sønderhå, we have identified no standard post-constructed Early Bronze Age houses, and it may be that the few settlements that we have found were only summer residences. Although existing evidence does not support a population increase in Thy, the density of Bronze Age monuments is remarkable, creating an apparent anomaly that must be explained.

The social organization of the Early Bronze Age apparently con-

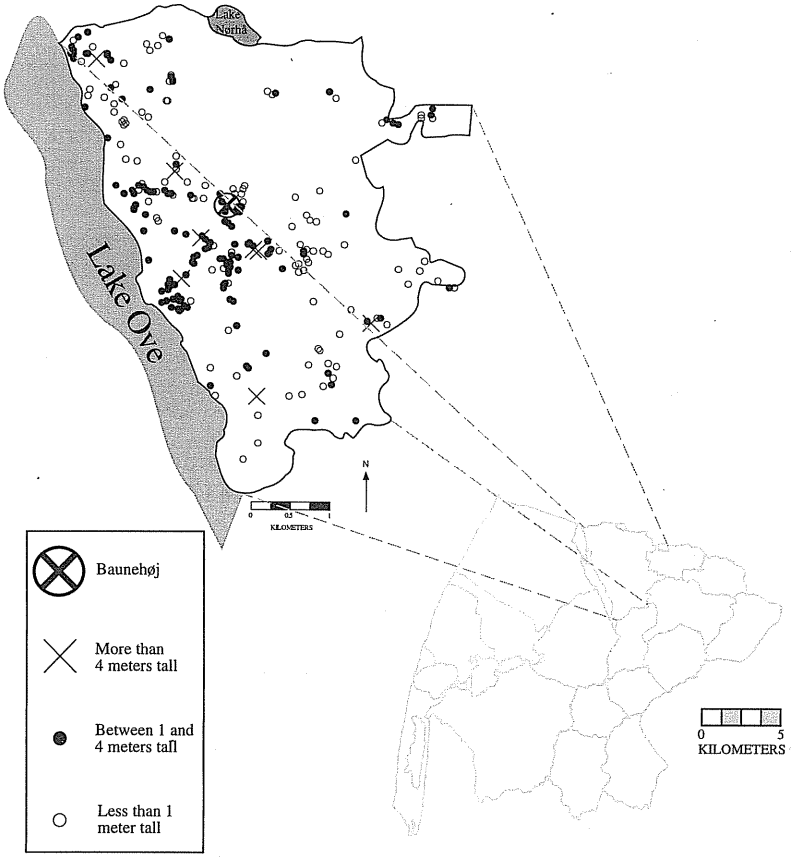

Figure 2.6. Distribution of barrows (mainly Early Bronze Age) in Sønderhå parish, Thy (John Steinberg).

sisted of ranked chiefdoms in which a few individuals controlled the most and best status objects. The landscape was crowded with turf-built barrows, which occur at densities among the highest anywhere in Europe. The barrows are clustered on the highest and most visible locations of Thy, especially near to Lake Ove in the parish of Sønderhå (Fig. 2.6). Within such a parish, the number and size of barrows in the different locations suggest a hierarchical pattern. Visible from the rest of the parish, the ten-meter-high barrow of Bavnehøy stands p'rominently on a knoll in Sønderhå (see Chapter 5). Within one kilometer

of the central barrow are clustered 117 lower mounds (37.6 barrows per square kilometer). No other locale in Sønderhå had such a prominent barrow or such a concentration of other barrows. Within the parish, an average square kilometer has 11.4 barrows.

Rich Early Bronze Age burials have been excavated from the barrows of Thy (see, e.g., Haack Olsen 1990). Male burials frequently included beautifully crafted, chiefly swords or simpler ones used for fighting; status was marked by these weapons and symbols of destruction (cf. Kristiansen 1982). During the Montelius II Period (1500–1300 B.C.) throughout Denmark, wealth in the male burials was most clearly marked by the quality of swords and other metal objects. Until later in the Bronze Age, female graves included fewer metal items, such as bronze fibulae for securing clothing (Levy 1982); status was not highly differentiated. The Early Bronze Age society of Thy contained a structured ranking of elites.

To summarize, human activities in Thy caused fundamental long-term transformations to the vegetation and subsistence resource of the region. Forests were cut down and replaced, first by farmed openings and eventually by extensive grasslands. The pattern of settlement shows swings of increasing population during the agricultural expansions, followed by stability or decline, as seen especially in Early Bronze Age. The patterns of population and subsistence, although related, do not follow a simple sigmoidal increase and stabilization. Rather, the long-term cycling in population appears to reflect the shifting dynamics of the political economy (see Chapter 3). Interestingly, the marked increase in political complexity during the Early Bronze Age in particular occurred at a time of population stability or decline. The evolution of ranking, at this time at least, was evidently a political process not resulting directly from changing adaptation to environmental conditions or from population increase.

Kaua'i, Hawai'i (A.D. 800–1824)

Seven major islands make up the Hawaiian chain, which is located in the north-central Pacific Ocean, just within the tropics, spanning 19°

to 22° north latitude. The Hawaiian Islands are a string of volcanic peaks that erupted as the earth's crust moved westward across a hot spot. The chain of peaks is more than 5,000 kilometers from any other major island or land mass.

Each island has a central peak that slopes sharply to the sea. The environment is a tropical paradise with warm weather, heavy rainfall, and dramatic scenery. Hillsides bear lush vegetation and tracery waterfalls. Factoring out effects of the island land masses, expected annual rainfall is 1,500–2,000 millimeters, with rain falling through the year but concentrated in the winter months (Thomas 1965: 34). Vegetation patterns show marked contrasts between the wetter windward sides of islands and the leeward dry sides. Temperatures are remarkably constant throughout the year at sea level, averaging 23–27° C (74–80° F) with little diurnal variation.

The island chosen for my primary study was Kaua'i, the most westerly and oldest of the main Hawaiian group (Fig. 2.7). It is only 40 kilometers across, about 1,400 square kilometers in land area. The single central mountain cone rises to 1,548 meters. Known as the "Garden Island," Kaua'i has heavily eroded, volcanic slopes; streams radiate from the central mountain, cutting deep valleys to the coast. Soils are volcanic, with rich alluvial deposits along the valley floors and at the mouths of the streams. The steep topography determines a wet-dry contrast in rainfall. As the trade winds hit the northeastern side of Kaua'i, air is forced upward and cools, producing rain. On the windward side, annual precipitation at the coast is about 1,300 millimeters, increasing to 10,000 millimeters at the mountain crest; to leeward, rainfall decreases to below 500 millimeters annually. Following these sharp gradients, vegetation varies from dense tropical rain forests to virtual deserts. Within a compact area, soil, water, and vegetation vary dramatically, and this variation strongly affects agricultural productivity across the island.

At contact the social organization of the Hawaiian Islands was the most complex of any Polynesian chiefdoms and probably of any chiefdoms known elsewhere in the world. A strong separation existed between the chiefs and their followers. The chiefs were organized into

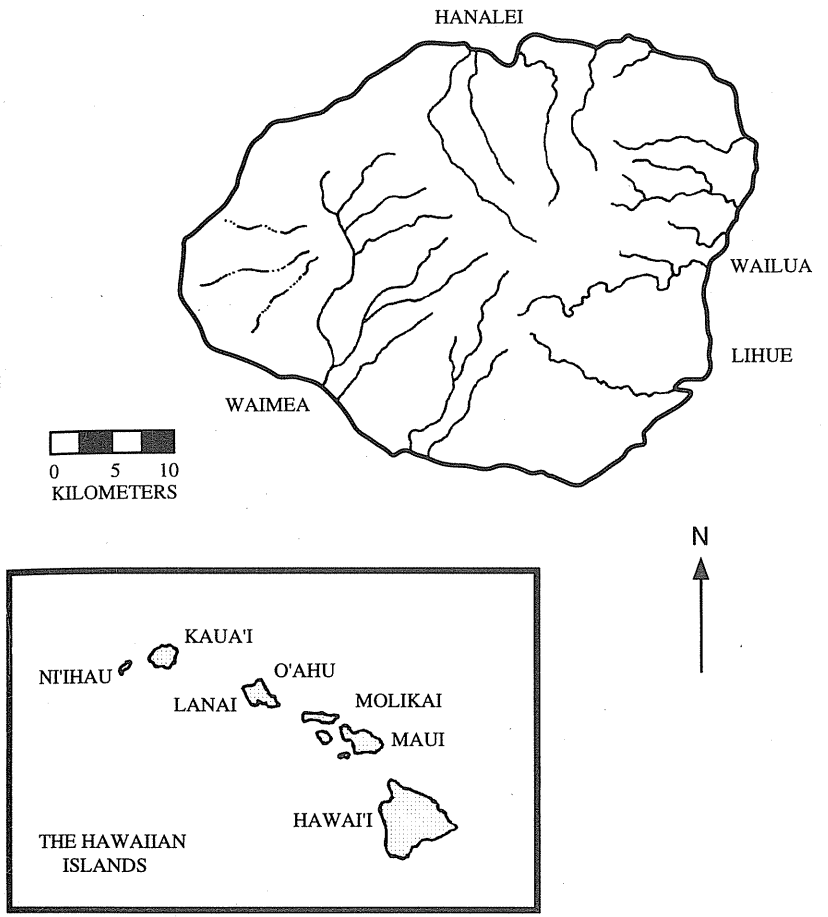

Figure 2.7. The island of Kaua'i (Earle 1978).

the ruling lineages of the different major islands—Kaua'i, O'ahu, Maui, and Hawai'i. Stretching back for twenty generations and more, genealogies were remembered by specialists attached to the paramounts. The paramount chief, supposedly the highest-ranked personage of the ruling lineage, was the sovereign; in theory, a chief's genealogical distance from the paramount determined rights to an office such as chief of a local valley community. In reality the competition

for such positions was intense and highly personal; most chiefs not only were very closely related to the paramount (within a first-cousin relationship) but had also frequently fought by his side in wars of succession and conquest.

The community chief was the ali'i 'ai ahupua'a, the chief who ate from a community. A lower-ranked chief could be a member of the paramount's retinue, as his warrior or one of the many attendants who assisted him and carried his symbols of office, such as his *kahili* (flyswatter) and spittoon. Lower-ranked chiefs also served as managers (*konohiki*) of a chief's *ahupua'a* (community), putting commoners to work on the chief's lands and on other special projects. The konohiki acted as the local chief, organizing the economic activities of the community. If an irrigation system needed repair, the konohiki, as representative of the overlord, organized the work project and the feast to follow. The konohiki also mobilized labor to obtain the goods given annually to the paramount when, representing the god Lono, he arrived at the community's shrine.

Commoners made up most of the Hawaiian population. They lived in their communities, where they subsisted on the agricultural plots received from their chiefs; on fish from the sea, streams, and the chiefs' ponds; and on wild foods gathered along the coast and from inland forests. Deprived of access to the chiefs' memory specialists, commoners could not keep genealogies; in fact, it was prohibited (*tabu*) to keep a genealogy that might demonstrate a commoner's distinction (Kamakau 1961: 242; Malo 1951: 60; Sahlins 1971). This contrast in kinship knowledge emphasized the sharp division between the chiefs and their commoners. The identity and organization of the commoners derived from the community where they resided and from the chiefs to whom they owed work.

Primary historical sources richly document Hawaiian chiefly society during the periods just prior to, during, and following Western expansion into the north Pacific. In 1778, the British explorer and navigator Captain James Cook anchored off Waimea Bay on the south coast of Kaua'i. He was greeted with the extreme respect due a high chief or god: "The very instant I leaped ashore, they [the islanders] all

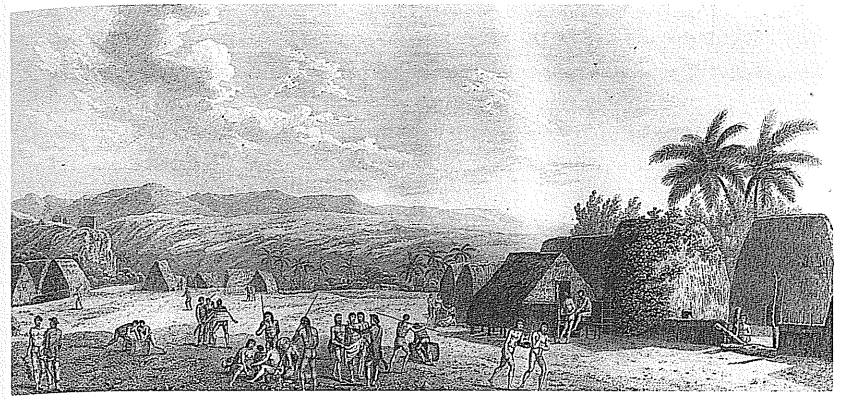

Figure 2.8. Waimea, Kaua'i, at time of first contact (Cook 1784).

fell flat on their faces, and remained in that humble posture till I made signs to them to rise. They then brought a great many small pigs and gave us without regarding whether they got any thing in return" (Cook 1967: 269).

The dispersed settlement at Waimea presented to Cook a dramatic view of Hawaiian life within an indigenous complex chiefdom (Fig. 2.8). Small walled house lots were scattered across the valley floor, and upvalley a major irrigation complex had been constructed for taro cultivation. Women pounded the tapa cloth, and men worked in the fields. The Hawaiians eagerly traded food, feathers, and sexual service for novel European goods, especially iron. Explorer, trader, and missionary followed, and they recorded details of the political and daily life of the turbulent Hawaiian society as it was incorporated into Western history and the world economy (see Broughton 1804; Campbell 1967 [1822]; Dixon 1789; Ellis 1963 [1827]; Portlock 1789; Turnbull 1813; Vancouver 1798; Whitman 1813–15). But our vision is not one-sided. Hawaiian chiefs, taught to read and write in their native Hawaiian, recorded oral histories of the island polities, their personal remembrances and analyses, and marvelously detailed ethno-ethnographies (Beckwith 1932; I'i 1959; Kamakau 1961, 1964, 1976; Malo 1951 [1898]). Kamakau described that fateful moment on Kaua'i:

The valley of Waimea rang with the shouts of the excited people as they saw the boat with its masts and its sails shaped like a gigantic sting ray. One asked another, "What are those branching things?" and the other answered, "They are trees moving about on the sea." Still another thought, "A double canoe of the hairless one of Mana!" A certain kahuna named Ku-'ohu declared, "That can be nothing else than the heiau of Lono, the tower of Ke-o-lewa, and the place of sacrifice at the altar." (1961: 92)

Captain Cook may have been thought a human manifestation of the god Lono, returning to Waimea, a location important in his narrative (Sahlins 1985; Valeri 1985), but the military uses of the European ships and their iron were the magic that the Hawaiians soon sought for their own political aims.

The subsequent Hawaiian monarchy, crafted through conquest with the aid of Europeans and their military technology, was structured on a European model and began elaborate legal record keeping that not only documented the rapid social and economic transformation, but also detailed aspects of traditional Hawaiian society as precedents for legal actions.

The archaeological record that documents the development of Hawaiian society is as yet not as bountiful. Initial work inventoried archaeological sites, many of which were known through historical documentation. Wendell Bennett, later to gain fame as a South American archaeologist, began his professional career with a doctoral dissertation documenting the sites of Kaua'i (Bennett 1931). Many of these were religious shrines (*heiau*) for which he developed the first site typology. During the 1950's, especially with the work of Emory, Hawaiian archaeologists established chronologies with many small-scale excavations, including work on the Napali coast of Kaua'i. Systematic work on the settlement patterns and economy began in the 1960's with extensive valley surveys on O'ahu, Molokai, and Hawai'i (Green 1969, 1980; Kirch and Kelly 1975; Rosendahl 1972).

Following on this new direction in economic and social archaeology, my doctoral dissertation analyzed the subsistence and political economy of the north coast of Kaua'i at the time of European contact (Earle 1973). I participated in an ethnohistorical project organized by Marshall Sahlins (1971, 1992; Linnekin 1987) to analyze the Great

Mahele, the creation of fee-simple (private property) land ownership throughout the islands; valleys (former ahupua'a) were deeded to the chiefs and small subsistence plots to the commoners. From the beginning Sahlins (1971, 1992; Kirch 1992) sought to unite documentary and archaeological research. I was responsible for reviewing the historical records for the Halelea district on the north coast of Kaua'i and then for conducting an extensive mapping project to document the extent and technological character of its historic irrigation systems (Earle 1978).

During the 1970's and 1980's, research was augmented by large-scale cultural resource management projects to inventory archaeological sites and to excavate those threatened by development. CRM work combined the earlier perspective on settlement, economy, and social organization with extensive attempts to date sites and describe the long-term evolutionary trajectory of society (Cordy 1981; Hommon 1986; Kirch 1984, 1985a; Dye and Komori 1992). We can now sketch the long-term history of the islands' settlement and development of the complex society seen at first western contact.

The Hawaiian Islands were first settled in the centuries after Christ, perhaps around A.D. 400. The island environment, as it existed at first colonization, was much different from what Cook saw 1,400 years later. Originally the islands were forested; stands of ohia and koa stretched down to the coast. The species diversity in these forests was, however, fairly impoverished (Kirch 1982a). Since the species that colonize an island are limited to those that can reach it, distance from continental land masses effectively limits colonization. Moving out eastward into the deep Pacific, the numbers of plant and animal species decline. Because the Hawaiian Islands, and other Polynesian islands in the central and eastern Pacific, were among the most isolated land masses in the world, the variety of endemic species that were useful to humans was small. Except for the bat, no land mammals reached the islands; among birds, several species of duck, geese, ibis, and rail that were endemic to the islands were hunted for food. Pelagic and inshore fishes and sea mammals were, however, the most abundant wild food resources.

With both intended and unintended consequences, the colonizing

Polynesians transformed the original island environments. The Polynesian colonists must have understood the relatively impoverished nature of the environment that they settled, and so they traveled with the plants and animals needed to establish an economically viable resource base. One can imagine the crowded seagoing canoes loaded with immigrants; their pigs, dogs, and chickens; cuttings and tubers of domesticates such as taro, sweet potato, sugarcane, and bananas; and a full assortment of seeds, nuts, and cuttings for coconut, candlenut, medical plants, and fiber plants that would be encouraged to go feral in the newly colonized islands. Initially the settlers of Polynesian islands depended heavily on marine resources (Kirch 1984); in Halawa, Molokai, an initial protein dependence on fish in the diet gave way to domesticated pig and dog (Kirch and Kelly 1975: 68–69). As in the Galapagos Islands, larger endemic birds, such as the geese, rail, and ibis, were easy game; evolved without the threat of large predators, they were often flightless and probably did not fear human hunters, who soon killed them off. Other species were driven to extinction through environmental change (Olson and James 1984). Many of the Polynesian islands thus came to have a "transported environment," with many economic species introduced by Polynesians to replace a fragile and limited natural resource base (Kirch 1982a).

Cutting the forests for farming transformed the environment irreparably, exacerbating deforestation and soil erosion. The land-snail sequence shows a loss of forests and savanna coupled to burning, presumably for agricultural fields (Kirch 1982b; Christensen and Kirch 1986). On the small island of Kaho'olawe, after A.D. 1400, a movement of settlement inland must have been based on forest cutting for shifting cultivation; the subsequent retreat of settlement to the coast was then apparently caused by local exhaustion of fragile soils and erosion (Hommon 1986; cf. Spriggs 1991). But the erosion of the upland, formerly forest, soils would have correspondingly increased sedimentation on the valley floors and created new farming opportunities (Spriggs 1986).

These new alluvial soils on the valley floors and river mouths were transformed into irrigated taro fields (Allen 1991). What had been created was a totally artificial and highly productive environment that

contained artificial pond fields for taro, fed by irrigation canals; embankments between the fields, planted with coconuts, bananas, and sugarcane; and larger ponds, used to raise fish (see Chapter 3). The intensely farmed valleys and grass-covered hills observed by Cook above Waimea were, like most of the island landscape, a cultural artifact.

The changing island environment corresponded to a long-term increase in people and a sizable final population. I imagine an original small founding population, perhaps no more than a few hundred, increasing with further immigration and growth to several thousand by A.D. 800. Initially settling on the most productive lands, people would have occupied all good lands first, spreading to the drier leeward shores and interiors somewhat later (Cordy 1974). An increasing dependence on agriculture supported the spread of population through the islands, and, after A.D. 1200, rapidly expanding populations required sustained agricultural intensification. But what level did the population of the Hawaiian Islands reach, and when did it reach that level?

Certainly the peak population for the Hawaiian Islands was the highest for any archipelago in Polynesia, but the final figure is hotly disputed (Stannard 1989; Nordyke 1989). The first rough estimations by Captain James Cook and his crew members range from 240,000 to 400,000 for all the islands. A careful and long-accepted evaluation of the historical evidence by Schmitt (1971) came to a lower estimated range of 200,000 to 250,000, which Nordyke (1989: table 1) increases somewhat to 310,000. Stannard (1989) tops all modern estimates with 800,000, assuming potential growth rates and agricultural resources for the islands. Obviously the question of numbers is unresolved, and it probably cannot be resolved with further analyses of the historical records and demographic projections. What is needed is systematic evaluation of the archaeological record.

The dating of settlements and individual houses can start to resolve questions of population size. One way to quantify population growth is to evaluate the relative frequency of radiocarbon dates for an archaeological sequence, assuming of course that archaeological work has not been unduly directed toward the sites of particular time

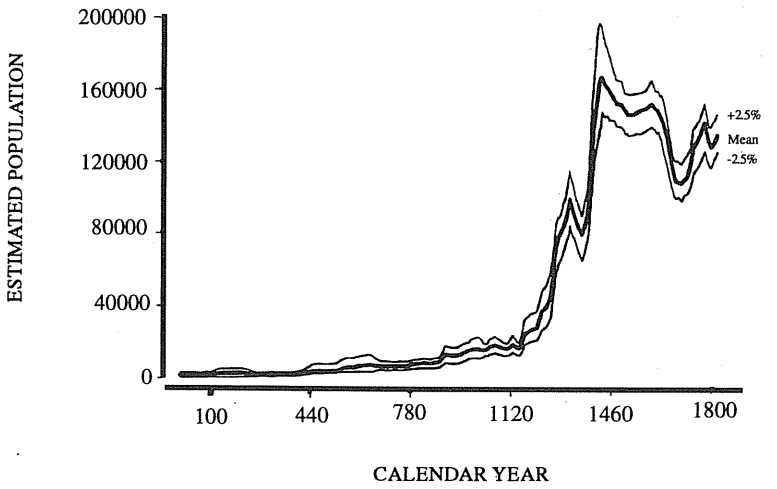

Figure 2.9. Estimated population growth curve for the Hawaiian Islands (Dye and Komori 1992).

periods or localities (Rick 1987). Using this technique to analyze 495 age determinations from the Hawaiian Islands (18 of them from Kaua'i), Dye and Komori (1992) established a population growth curve (Fig. 2.9). Following a long period of gradual buildup (A.D. 400–1200), the population of the islands grew rapidly, peaking at perhaps 160,000 around A.D. 1500. Then, until Western incorporation at the end of the eighteenth century, population may have stabilized or declined. These estimations, especially the stall in growth, are not broadly accepted because of potential problems in the representativeness of the radiocarbon samples (Kirch 1995, personal communication). The dated samples may underrepresent late growth in prime areas, because the archaeology that recovered these samples was concentrated in marginal locations; the locales where large numbers of Hawaiians lived have been destroyed by modern building. Understanding variable growth and decline across the islands is the challenge for future archaeologists (Kirch 1990).

The general growth in population prior to A.D. 1500 can be accepted, and it links to the environmental transformation as the original forests were cleared for agricultural fields. But the major reconstruction of the environment, involving the construction of the artificial agricultural environments discussed in Chapter 3, peaked around A.D. 1500 and continued afterward, when population growth appears to have slowed substantially (cf. Kirch 1990). Although it is possible that the decline proposed by Dye and Komori was more of a concentration of population, continued growth is conjectural. We can conclude that the initial expanding population caused an intensification of agriculture, but that the post-1500 technological transformation (with the rapid expansion of irrigation) was not driven by population growth. Rather, the population concentration in regions with intensive irrigation draws attention to quite different dynamics of the political economy (see Chapter 3).

During initial colonization, the settlers would have carried with them early archaic, or Proto-Polynesian, principles of rank and leadership. Although the operational strength of these principles would have been a weak source of power alone, they would have provided important legitimation for authority constructed subsequently from the other sources of power. Polynesian social structure is often described as a conical clan—a nonexogamous, ambilateral, and ranked sociopolitical organization. Ranking is based on the measured distance from a senior line, whereby the highest-ranked individual is the eldest son in the direct line of eldest sons. Theoretically each individual has a unique rank "precisely in proportion to his distance from the senior line of descent" (Sahlins 1958: 141). Common throughout Polynesian languages is the term for chief (**arike*, Proto-Polynesian; *ali'i*, Hawaiian). The chiefs probably maintained their distinction as leaders in different ways, but minimally as owners and organizers of the seagoing, colonizing canoes.

During the thousand-year sequence considered here, the complexity of Hawaiian political organization increased dramatically. The oral histories tell of an expansion of political power and subsequent political integration. Through conquest and intermarriage, successful paramounts extended the scale of the chiefly polities. Relying on oral histories for the island of Maui, Kolb (1994) describes the progressive fashioning of more inclusive chiefdoms. By A.D. 800, settlement had

spread across much of Maui. As reconstructed for Proto-Polynesian culture (Kirch and Green 1987: 431), early Hawaiian populations were probably organized at this time by principles of simple chiefdoms, in which chiefs led local landholding descent groups. During the Formative Period (A.D. 1200–1400), chiefdoms expanded in scale, and during the Consolidation Period (A.D. 1400–1500), two regional chiefdoms formed on the eastern and western ends of Maui. Each attempted to expand territory against the other. Similar competing existed on the western coast of Hawai'i, where Cordy (1981: 180–81) describes archaeologically that a buffer zone without settlement formed during this phase. Eventually, during the Unification Period (A.D. 1500–1650), the islandwide Maui chiefdom was fashioned through successful conquest. At the same time, 'Umi conquered the whole of Hawai'i. The long-term trend of expansion through conquest continued during the Annexation Period (A.D. 1650–1820) as the island chiefdoms of Maui and Hawai'i fought with each other attempting to fashion interisland polities. With western ships, guns, and special personnel, the young paramount of Hawai'i, Kamehameha, conquered Maui in 1790 in his first successful campaign to fashion the Hawaiian state.

The emergence of stratification has been documented archaeologically by a growing differentiation in the amount of labor invested in burial monuments (Tainter 1973) and in elite house platforms (Cordy 1981). Prior to A.D. 1400, house platforms were not distinctive, but, following this time, a few households were constructed with elaborate terraces and enclosing walls. These striking houses demonstrate an emergent chiefly segment that used group labor to set itself apart. During the Consolidation Period on Maui, the construction of religious monuments (heiau) increased dramatically (Kolb 1994). The increased control over labor evidenced by the scale of the monuments reflects the institutionalization and strengthening of leadership as the chiefdoms of eastern and western Maui formed. The pattern documented in both the archaeological and historical records is a long and dramatic trend toward increasing scale and institutional structure for the chiefdoms of the Hawaiian Islands.

By the time of contact, Hawaiian society was rigidly divided into

classes. The commoners were the rural farmers, fishermen, and craft producers. They lived in ahupua'a that extended from the mountains to the sea, often incorporating a river valley. Men toiled in the irrigated or dryland taro fields or netted fish on the inner shore; women collected a wide range of wild foods and prepared the tapa cloth. Commoner genealogies were short, reaching back only to the grandparents' generation. The basic social unit appears to have been the household, but several households could join together to form a cooperative company along an irrigation system (Earle 1978: 153). Adoption linked families across generations and within communities. Certain individuals were "big men," and other commoners clustered their households near to the big men's houses (Sahlins 1992: 208), but ranking was informal. The Hawaiian chiefs were, in contrast, a people apart. The chiefs held *mana*, power that flowed through the individuals and demonstrated their feared divine essence. Commoners would prostrate themselves or jump overboard to keep below their chiefly gods, as was done for Cook when he first set foot on Kaua'i.

To summarize, the sequence for the Hawaiian Islands documents a long-term trend during which the environment was transformed into a cultured world owned by a class of ruling chiefs. This sequence is perhaps exactly what a cultural ecologist might expect: increased population density resulted in agricultural intensification, environmental degradation, and increasing chiefly management of the economy. This scenario, however, misses the subtleties of the evolutionary sequence. Yes, population did increase, and the extension of slash-and-burn practices did alter the environment significantly, but the intensive irrigation technology and the stratified chiefdoms appear to have developed quite rapidly, rather than growing slowly to meet expanding needs for subsistence. And after the rapid construction of the irrigation complexes, when productive capacity was greatly expanded, population may not have continued to grow.

Chapter 3 argues that the late intensification of the subsistence economy was tied not to population growth but to intensification of the political economy. The dynamics of that economy, involving the calculated manipulation of competing chiefly factions, must be un-

derstood to describe why the chiefdoms of Hawai'i developed their irrigation-based economy and expanded their polities to incorporate whole islands.

The Upper Mantaro Valley, Peru (A.D. 500–1534)

The high Peruvian Andes, home to many chiefdoms and wellspring of the Inka empire, are jagged mountains edging the Pacific Ocean between 5° and 16° south latitude. The collision between the Pacific and South American plates forced up one of the most imposing mountain ranges of the world. From west to east, over an air distance of less than 250 kilometers, the peaks rise steeply above the ocean beaches to towering heights of more than 4,500 meters and then fall precipitously to the flat expanses of the forested Amazon (Fig. 2.10). Three large environmental zones characterize the Andes—coastal desert (*chala*), sierra (*yunga*, *quechua*, *suna*, puna, and *janca*), and tropical forest lowlands (upper and lower *selva*). Along the Pacific coast, rain rarely falls on the barren desert. Green valleys cut through the desert, channeling water from the high mountains to the sea; with many irrigation canals, these valleys have become oases for human agriculture and settlement.

Above the coastal desert is the central sierran zone. As elevation increases, rainfall increases and temperatures decline; snowfall is normal in winter above 4,000 meters. The intermontane valleys and surrounding slopes, 3,000–3,800 meters in elevation, provide rich lands for both rainfall and some irrigated farming. Above are expansive puna grasslands used for pasture. Standing above these rolling lands are the glacier-capped peaks of the Andes. Past the mountains, the vegetation rapidly changes again from alpine to tropical, as the elevation drops into the forests of the Amazon basin. In only a few hours' drive, modern travelers strip from down parkas to T-shirts in the warm, humid, tropical air of the basin.

The regional focus of my research has been the upper Mantaro Valley, located in the sierran zone (Fig. 2.11). The actual research area is about 1,000 square kilometers, originally surveyed by Jeffrey Parsons

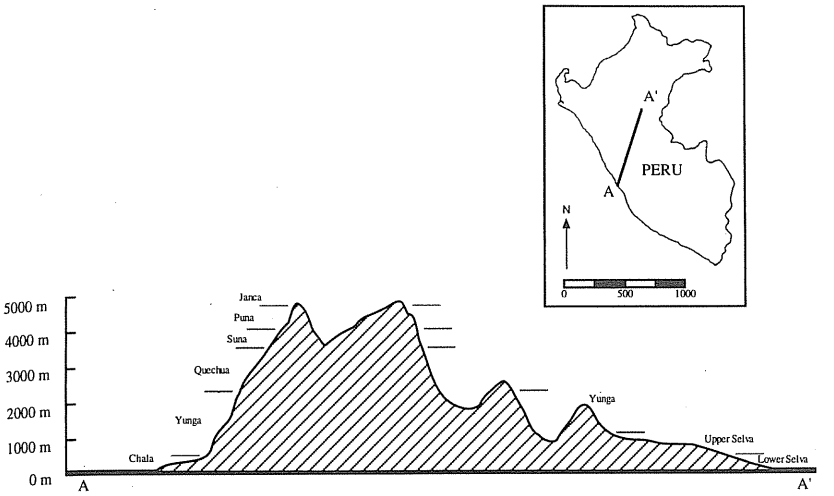

Figure 2.10. Cross-section of the Andes, showing the vegetation zones and elevations (D'Altroy 1992).

(Matos and Parsons 1979). The Mantaro region typifies the environment of the high Peruvian Andes. The valley at Jauja is 3,400 meters above sea level. Jauja itself is a small city of about 30,000; since colonial times, it has been a political and market center for the northern half of the valley. Smaller towns and villages are scattered through the region, close to their agricultural fields. Annual precipitation is approximately 600 millimeters at Jauja, falling mainly in the summer (November to March). Droughts are a periodic problem. With irrigation, the local people grow cereal grains, maize, and potatoes, for which the region is famous. It is chilly here, with a mean temperature of approximately 12° C (54° F). Although diurnal mean temperature changes little through the year, the range is greater in the dry winter (17° C) than in the wetter summer (13° C) (Hastorf 1993: 105). Frost limits the growing season to the summer and can destroy the crops at any time.

The surrounding rolling hills (3,400–3,800 meters) are bare of trees. Small streams and springs provide irrigation water, but most lands are watered by spring rains. Farmers anxiously await these rains

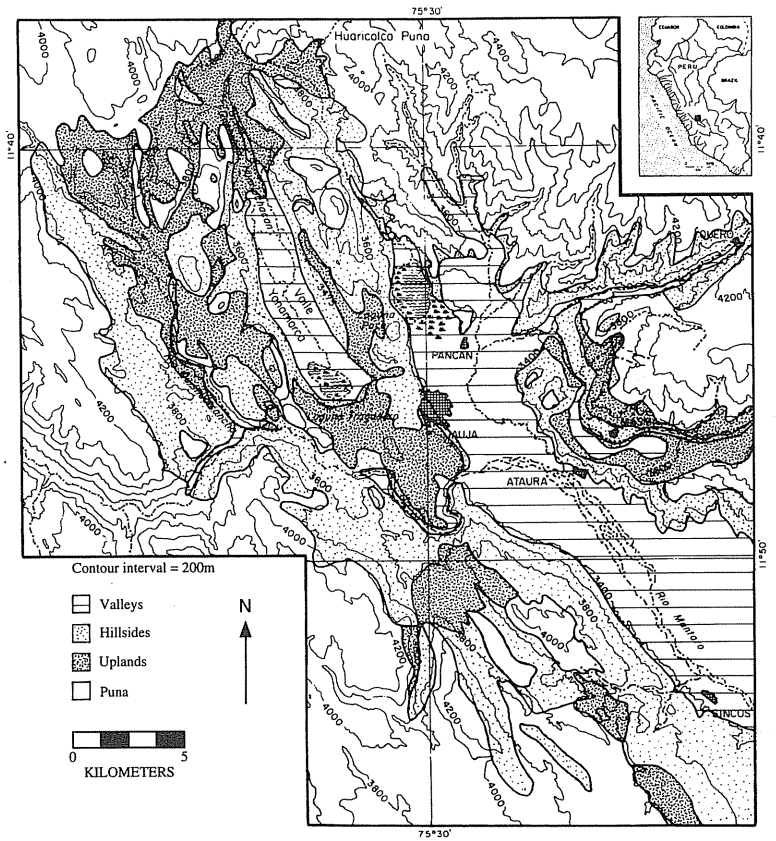

Figure 2.11. The upper Mantaro Valley, Peru (Michael Gabriel).

and plant quickly so as to avoid losses inflicted by fall frost and hail. The main crops are cereals and potatoes. The small villages, scattered through the uplands, farm the land cooperatively. As elevation increases, temperatures decrease, the growing season shortens, and agricultural fields give way to pasture. The native grasslands cover the rolling valleys and hills between 3,800 and 4,300 meters, and small flocks of European sheep and New World camelids (llamas and alpacas) graze here. The sheep and alpacas produce wool, and llamas in caravans still transport potatoes and other produce to remote valleys.

Temperature drops below freezing each night, and a cold drizzle is frequent in the summer. Snow can blanket the upper elevations, and permanent glaciers cover the highest mountains.

The Wanka chiefdoms in the Mantaro Valley (A.D. 800–1534), like others in the Andean highlands, were often quite large, but not strongly institutionalized. An individual chiefdom might have 10,000 or more people, organized by their leader, the cinche. "Before the Inkas there was no lord in this land [the Mantaro] other than that each town and the natives of it were lords of what they had and of their lands" (Toledo 1940 [1570]: 22). "Since there were wars among the natives and towns, when there was a valiant man from among them called cinchecona meaning 'now here is this valiant man,' those who could not [defend themselves] took shelter with him . . . and thus they obeyed him and had no other form of government" (ibid.: 18). Although the office of cinche was inherited, the holding of the office was justified by warrior prowess. Each community fought with its neighbors over land, herds, and women. Stratification was little elaborated.

Around A.D. 1460, an Inka army invaded the Mantaro Valley (D'Altroy 1992: 79–81). The chiefly organization of the Wanka continued, but the valley became a province of the expanding Inka empire.

The upper Mantaro Valley has a rich record of historical accounts and archaeological research. The primary historical documents available include journals of the early conquistadors, chronicle accounts by both Spaniards and Inka lords, formal administrative reports, and court cases. The conquistadors' journals, letters, and remembrances provide firsthand views through European eyes. The earliest documents of Xauxa include letters from Hernando Pizarro, who marched through Jauja during his conquest of the Inka empire: "The plaza is large and one-quarter league long . . . it is true that there were over one hundred thousand souls [in the plaza]. . . . This town of Xauxa is very fine and beautiful" (quoted in D'Altroy 1992: 103). Other accounts include the vivid descriptions by Cieza de León (1984 [1551]), who as a young soldier in the Spanish army traveled the former Inka roads, and chronicles written by government and church

officials (e.g., Cobo 1956 [1653]) and by Inka descendants (e.g., Guaman Poma 1980 [1614]). Such accounts describe the Inka imperial system but make only passing reference to the local people.

More specific and detailed, but necessarily less comprehensive and integrated, are the administrative documents prepared by officials of the Spanish colonial government. Among the earliest are two *visitas* available for the upper Mantaro Valley (Toledo 1940 [1570]; Vega 1965 [1582]). Officials asked direct questions of local leaders about conditions prior to and under Inka domination; in answer the leaders described the Wanka chiefdoms and their incorporation into the Inka empire. Several early legal cases also exist, in which Wanka lords sought to establish claims to land and special privilege (Espinoza 1971 [1558–61]).

The upper Mantaro Valley is archaeologically the most fully documented region in the Peruvian highlands. Studies began with work on the ceramic chronology and regional culture history (Flores 1959; Lumbreras 1957, 1959; Matos 1959, 1966, 1972). In the 1960's, as part of a new interest in settlement patterns, David Browman (1970) conducted an extensive reconnaissance survey and prepared a useful synthesis of the valley's prehistory. In 1975 and 1976, Jeffrey Parsons and Ramiro Matos (Matos and Parsons 1979; Parsons and Hastings 1988; Parsons and Matos 1978) directed a comprehensive site survey of the valley.

In 1977, with the support of Parsons and Matos, Cathy Scott, Terry D'Altroy, Chris Hastorf, and I initiated the Upper Mantaro Archaeological Research Project (UMARP). Until 1988, when the project was abandoned because of intense insurgency actions by the Sendero Luminoso and Túpac Amaru, we conducted eight excavation seasons (Earle et al. 1980, 1987; Hastorf et al. 1989). The sites chosen for study concentrated on the two hundred years prior to Spanish conquest (A.D. 1300–1534) and, to a more limited extent, on the previous eight hundred years (A.D. 500–1300). Sites excavated ranged from the large, late centers to small hamlets with only a few contemporaneous households. The bulk of this research is available in a series of Ph.D. dissertations, M.A. theses, and subsequent publications: Borges (1988), Costin (1986), D'Altroy (1981, 1992), DeMarrais (1989), Hagstrum (1989), Hastorf (1983, 1993), LeBlanc (1981), LeCount (1987), Lennstrom (1991), Leonard (1984), LeVine (1979, 1985, 1993), Russell (1988), Sandefur (1988), and Sikkink (1988). A wide range of archaeological evidence is now available on environmental change, population, subsistence, craft technology, social and political organization, and culture.

Prior to extensive human occupation and alterations to the environment (after A.D. 200), the upper Mantaro Valley was apparently forested. The vegetation zone was part of the extensive dry lower-montane savanna forest that covered much of the midelevations in the central Andes (Tosi 1960: 11). It was an open, mixed forest with deer and other game. At higher elevations, on the hills above the valley, the forest would have given way to open grassland puna, grazing lands for wild camelids, ancestral to the llama and alpacas.

Human settlement dramatically transformed the Mantaro Valley. Now nearly treeless, the open landscape is intensively cultivated, with broad fields in the valleys and on the rolling uplands, and smaller terraced fields on the slopes and ridges. Except for farmyards and villages, almost every square meter of land below 3,600 meters is cultivated. At higher elevations, fields are fallowed, and weed-grass vegetation intersperses among the crops. Above 3,800 meters the land is primarily "natural" grassland, although human impact is evident from the close cropping by sheep and from evidence of prehistoric ridged farming (Matos 1975).

The climate change in prehistory had potentially profound impacts on the human economy. Herbert Wright and Geoffrey Seltzer (Seltzer and Hastorf 1990) conducted a study of long-term environmental change by mapping and dating the terminal moraines of the Nevada Huaytapallana ice pack. Following a glacial advance that peaked around A.D. 250 (uncalibrated), the glacier again retreated during a warming trend. Modern temperatures were reached by roughly A.D. 600, the period when our main sequence begins. Then, roughly A.D. 1200 to 1500, during Wanka II and III, a glacier advance signaled a decline in regional temperature of about 0.6° C. Such a cooling would have depressed vegetation communities by approximately 70 meters in elevation. The valley was already marginal for agriculture;

TABLE 2.1
Archaeological Sequence for the Mantaro Valley

Chronology	Period	Phase	Diagnostic types
A.D. 1534	Late Horizon	Wanka III	Inka and Wanka II types
1460	Late Intermediate	Wanka II	Wanka Red, Micaceous self slip, Base Roja, Base Clara
1300		Wanka I	Base Clara Micaceous Coarse ware Wanka Purple slip Wanka Purple on Orange unslipped Wanka Purple on Light Wanka Light on Red
1000	Middle Horizon		
800		Huacrapukio II	Huacrapukio Purple on Orange Huacrapukio types Wanka Purple on Orange slip
600	Early Intermediate		
500		Huacrapukio I	Huacrapukio Purple on Orange Huacrapukio types Pink Paste ware
200[a]		—	Pebble Polished Creme slip?
A.D. 0[a]			
900 B.C.[a]	Formative	Late Formative Early Formative	Cochachongos Pirwapukio

SOURCE: Hastorf et al. 1989.
[a] Estimated date

the lowering of life zones would have increased the risk of crop failure due to frost and decreased substantially the total area available for agriculture (Hastorf 1993: 106–8).

The archaeological sequence available for the Mantaro Valley is summarized in Table 2.1. Early hunters first settled the valley margins sometime prior to 1000 B.C. (Browman 1970) and most likely adopted animal herding, as documented in the Junin puna to the north (Rick 1980). For the lengthy Formative Period (1000–300 B.C.), population density was low. Settlement survey has identified only a few settlements, scattered through the valley. Considering the small size of these sites and the long time period represented, Formative occupation may well have been no more than a few hundred people, living in several villages.

In the first several hundred years of the Early Intermediate Period

(EIP) (roughly 300 B.C. to A.D. 200), no settlements have been conclusively identified, and population probably remained very low, perhaps only one hundred or so (Table 2.2). Then during Huacrapukio I (A.D. 200–500), population jumped to around 12,000 before stabilizing at around 14,000 in the late phase (A.D. 500–800) of the EIP.

The Middle Horizon (MH) (A.D. 800–1000), time of Wari imperial expansion, is poorly defined in the Mantaro Valley. Browman (1976) believes that the valley was conquered by Wari, which built Wariwilka in the south to administer the region. In the northern part of the valley, however, no Wari imperial settlements have been identified, and the time period is only marked by a handful of Wari sherds found on settlement survey and during excavations (Borges 1988). Sometime during the MH, perhaps related to the collapse of the Wari empire, the cultural inventory changed dramatically. Huacrapukio ceramics were replaced by the new technology and style of the Wanka, and population appears to have remained unchanged.

The Late Intermediate Period is subdivided into Wanka I (A.D. 800–1300) and Wanka II (A.D. 1300–1460). In Wanka I, settlement numbers remained quite stable within the study region, and estimated population continued at about 14,000. Wanka II then witnessed a dramatic climb in population. At this time, the size of settle-

TABLE 2.2
Estimates of Population Change in the Upper Mantaro Valley

Time period	Population estimates
Formative	
Pirwapukio	1000
Cochachongos	2500
Early Intermediate Period	
Huacrapukio I	12,000
Huacrapukio II	14,000
Late Intermediate Period	
Wanka I	14,000
Wanka II	61,000
Late Horizon	
Wanka III	36,000
	+ 9,000 Inka

NOTE: Population is calculated by estimating the area of occupation, the occupational density, and the percentage occupied at any moment (Earle et al. 1987:8–10; Hastorf 1993:71).

ments and their internal density increased astonishingly. Population for the northern valley region peaked at 61,000 (D'Altroy 1992: 60). During the Late Horizon (A.D. 1460–1534), when the Inka dominated the valley, the population appears to have stabilized or declined, with a Wanka population estimated at 36,000 and with an additional 9,000 Inka (D'Altroy 1992: 194).

What is to be made of the erratic population patterns documented for the Mantaro Valley? Two cycles of chiefly development appear to be represented. First, following a long period of no apparent growth, population levels jumped during the middle EIP and then appear to have stabilized. A reasonable explanation of the rapid growth would be the introduction of new crop varieties (potatoes, quinoa, and special maizes) that were tolerant of frost and permitted settlement expansion based on a lower-risk and more productive agricultural base. The valley forests were probably cleared at this time. The stabilization of population during the late EIP and MH *could* then have been the result of some upper limit related to the productive potential of the region's agricultural economy, but glacial retreat at this time should have created ideal conditions for farming (Seltzer and Hastorf 1990).

The second cycle of population growth and decline commenced during the Wanka period. What caused the dramatic population increase? The subsistence base and its technology appear to have changed little. Counterintuitively, the dramatic population increase took place despite the significant decline in productive potential that would have resulted from the glacial advance (Hastorf 1993). Moreover, perhaps because of competition over prime land, population shifted to higher defensive locations. This shift at the same time that temperatures declined would have further decreased the agricultural productivity of the lands near to settlements. That decrease, coupled with the increasing size and aggregation of the population, would have placed the subsistence economy under severe stress. This stress evidently caused high infant mortality rates and low life expectancy, as evidenced in the burial data (Owen and Norconk 1987: 112). Yet as subsistence conditions worsened, population continued to increase, perhaps even more rapidly than previously.

Why did density-dependent regulation fail? The key factor explaining continued population growth in Wanka II would appear to be the dynamics of the political economy. Intense political competition between local chiefdoms may have favored larger families to provide warriors for defense. In traditional warfare nothing is more successful than size. Population appears to have leveled off or declined after a regional peace was established by the conquering Inka (D'Altroy 1992: 194). Why did the improved conditions of peace not result in further population expansion? Perhaps with the reduction of fighting, the inducement to have more children was relaxed. Alternatively, young Wanka couples might have delayed marriage (and childbearing) as a response to an invasive Inka political economy, in which families were the taxed unit. Declining population could have been an unintended consequence of such attempts to resist taxation.

The dynamic processes in the Mantaro turn our attention to the political organization of the valley and the long-term cycles of chiefdoms. To summarize briefly, during the long Formative Period and into the Early Intermediate Period, small and scattered settlements would suggest the presence of relatively egalitarian agricultural communities.

During the Huacrapukio Period, simple chiefdoms appear to have developed in the valley. The best evidence for these chiefdoms is the distinctly rank-sized distribution of settlements. Around a few larger sites clustered smaller sites, forming delimited regional groups. Four such groups existed within the northern valley, and each may represent a simple chiefdom with perhaps two thousand people. The largest sites were probably political centers of small chiefdoms. For example, J132, on a low hill above the Mantaro Valley at 3,500 meters, contains 17.9 hectares, with extensive architecture remains that could have housed perhaps a thousand or more people. Surrounding fortification walls would have been built by communal labor organized by community leaders.

At the end of Huacrapukio, while the Wari state still held dominion over regions to the south, the dramatic shift in the artifact inventory was associated with the beginning of the Wanka cultural tradition. At present, the cause for this change has not been resolved, but

such periodic collapses may characterize a general pattern of cycling in chiefdoms, representing the unstable power base among the Mantaro chiefs and others around the world (Anderson 1994).

The Wanka society was a world of fiercely competing chiefdoms: similar chiefdoms existed throughout the Andean highlands during the Late Intermediate Period (Hastorf 1993; Hyslop 1977; Krzanowski 1977; Topic and Topic 1987). These chiefdoms were based on intense warfare and local warrior leaders (see Chapter 4). Populations were concentrated in a few large settlements "defending the heights" (Hastorf 1990). Status markers distinguished chiefly rank, but the elaboration of the display was subtle.

Throughout the highlands, the society was settled in hill forts arranged in an increasingly marked settlement hierarchy. During Wanka I in the Mantaro, the largest settlement covered 8.2 hectares, suggesting a population of eight or nine hundred. Rubble mounds are common on sites, and fragmentary structures of round stone houses are arranged in patio groups (Hastorf et al. 1989; Hastorf 1993). At least some settlements were fortified by encompassing walls. The larger Wanka I settlements were fairly regularly spaced throughout the valley and may well have been the centers of small chiefdoms. An individual chiefly polity would have contained three to five settlements spread across a small territory with a population of one to two thousand. These statistics are characteristic of many small-scale agricultural chiefdoms around the world. Perhaps a third of a Wanka I chiefdom's population would have been living in the main central settlement.

In Wanka II the scale and complexity of the chiefly polity increased dramatically. Within the research area, three chiefdoms have been identified, centered on the large settlements of Tunánmarca (J7; 24 hectares), Llamap Shillón (J109; 31 hectares), and Hatunmarca (J2; 74 hectares). These are impressive sites, located on high ridges just north of the main Mantaro Valley (Fig. 2.12). Many people lived in these settlements (10,600, 5,800, and 8,800, respectively), crowded within their sturdy fortification walls (D'Altroy 1992: 56–57; Earle et al. 1987: 10–11). A number of smaller settlements were located near each main center, and the styles of ceramics were distinct between

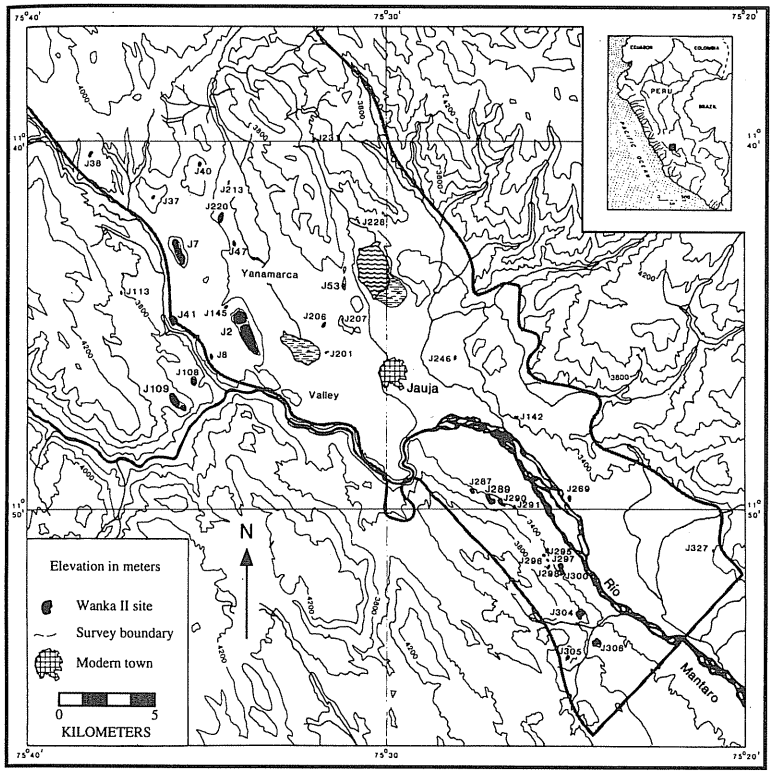

Figure 2.12. Wanka II settlement pattern for the upper Mantaro Valley. Shaded line indicates survey region (D'Altroy 1992).

these groupings (LeBlanc 1981). Analysis of the sites' artifact assemblages documents that each center and its associated settlements represented an economic unit; these units were linked by craft specialization and exchange of both lithics and ceramics (Costin 1986; Russell 1988).

As an example, Tunánmarca was an impressive chiefly polity in the northern Yanamarca Valley. It was dominated by the town-sized center, J7 (Fig. 2.13), located defensively high (elevation, 3,850–3,900 meters) upon a limestone ridge that overlooks the agricultural Yanamarca Valley. Architectural preservation is excellent, and many of the prehistoric structures have standing stone walls up to two meters high

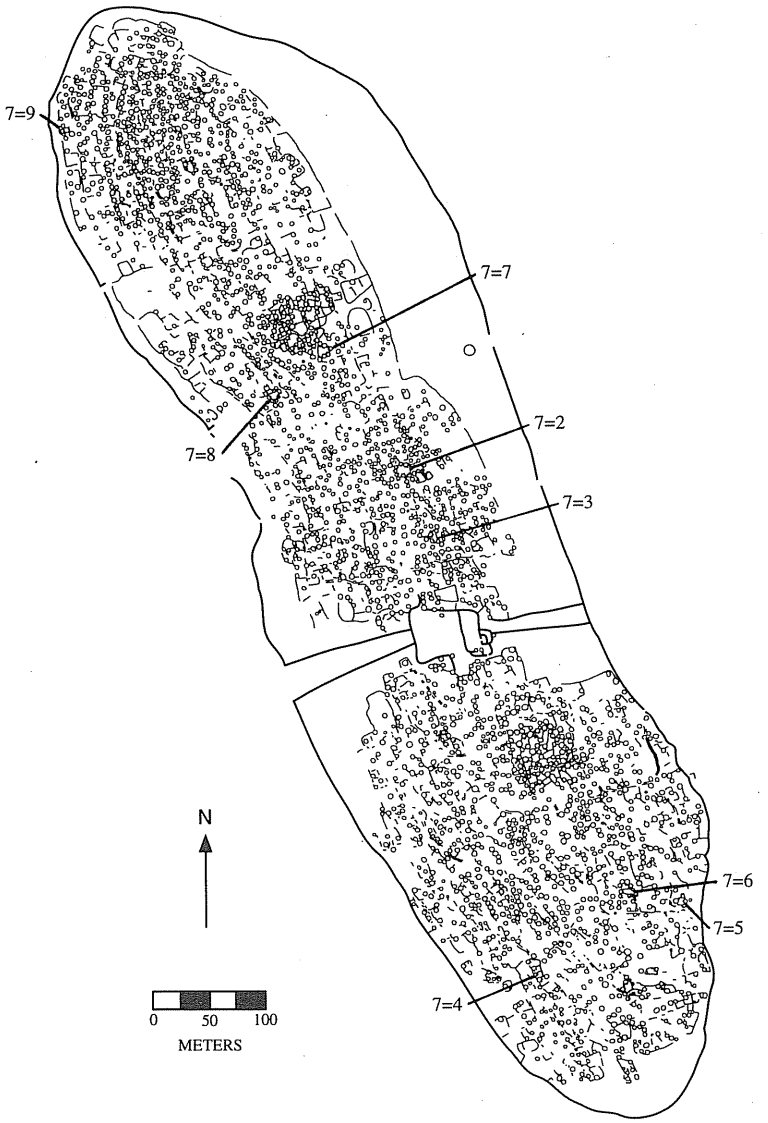

Figure 2.13. The large Wanka II center of Tunánmarca. The patio groups excavated by UMARP are indicated by numbers (Earle et al. 1987; reprinted courtesy of the Institute of Archaeology, UCLA).

Figure 2.14. View across the Wanka II center of Tunánmarca (D'Altroy 1992).

(Fig. 2.14). We have mapped the basic layout of the settlement from aerial photographs and identified an estimated 3,800 residential structures within the 24-hectare residential area. Houses were arranged around walled patio areas that appear to have been private spaces for individual households. A network of irregular pathways connected the patio groups, and the center of the site was dominated by a double plaza. The Tunánmarca polity incorporated seven additional settlements; of an estimated total population of 24,000, 44 percent lived within the center's walls.

In our excavations we were able to differentiate between elite and commoner residences (DeMarrais 1989; Fig. 2.15). Typically commoner households such as 7=9 had a single structure and small patio area. Their architecture was simpler in terms of labor investment and finishing of the stonework, and their location was more peripheral in the settlement. In contrast, elite households were larger and contained multiple houses. Patio group 7=2 at Tunánmarca contained six structures, all believed to be residential based on a uniform pattern of hearths, domestic artifacts, and subfloor burials. The several structures in the elite compounds could have housed the chief's

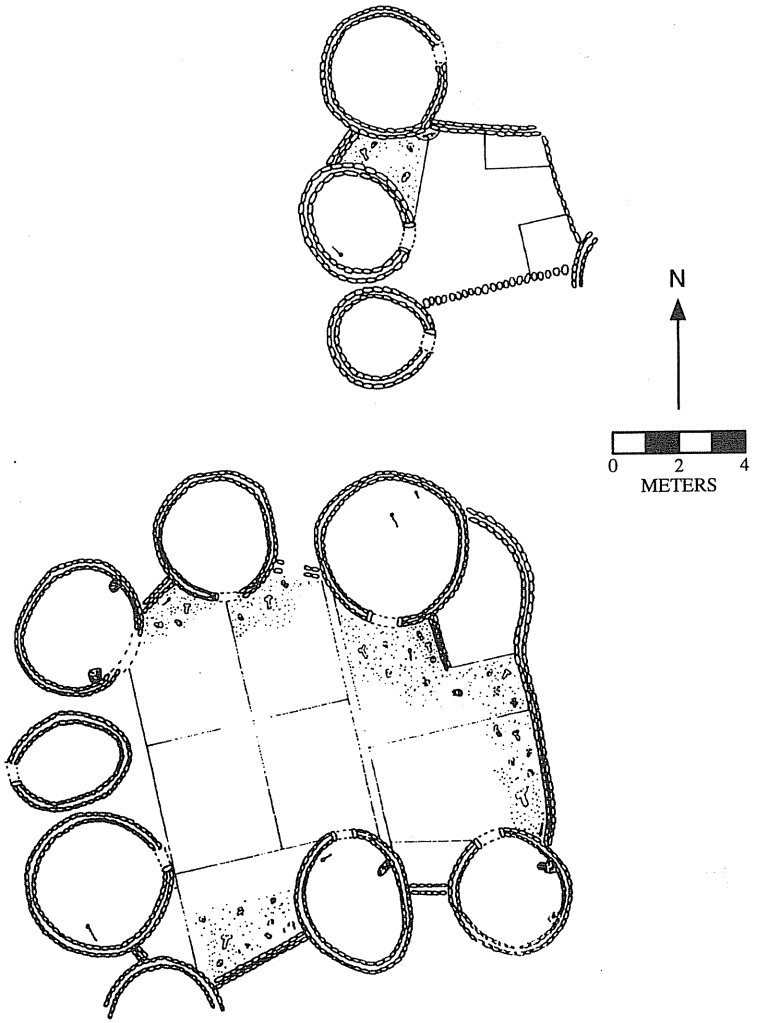

Figure 2.15. Examples of elite and commoner patio groups at the Wanka II Tunánmarca. At the top is a commoner household (7=9), at the bottom an elite household (7=2) (Costin and Earle 1989).

extended family, his several wives, or attached specialists. The structures were carefully finished with stone shaping and chinking. They were found high on the ridge, typically in central locations of their settlements. The distinction between elite and commoner housing, however, should not be overdrawn. The differences were of degree, not kind. All people lived in similar housing, differing only in size and finish.

Leaders and followers were also not marked by great difference in other material conditions of life. Although prestige goods, such as metals and elaborate ceramics, were statistically concentrated in the elite residences, they were not restricted to them. Special silver or copper pins (*tupu*) were found almost exclusively in the elite patio groups, but other metals and special ceramics were found broadly, albeit in smaller numbers in commoner households. A Wanka elite was apparently not a distinctive class.

Into Wanka III, subsequent to Inka conquest and political incorporation, continuity and transformation can be seen in the archaeology. The basic settlement hierarchy continued (Fig. 2.16), but settlements were downsized. The great center of Tunánmarca was abandoned quickly, and the residential area of Hatunmarca shrank in size to 27 hectares (with an estimated population of 3,300). Most people now lived below 3,650 meters, although some special-purpose pastoral and mining settlements were at higher locations (D'Altroy 1992: fig. 9.2). The downsizing and resettlement was likely an outcome of pacification. The dense population centers of Wanka II were economically inefficient; with pacification, farmers would have sought residences closer to their agricultural fields.

At least two sociopolitical units appear to have continued the preconquest organization of separate large chiefdoms. The largest Wanka III settlements, the new town Marca (28 hectares; 3,300 inhabitants) and Hatunmarca, were similar in size, and their ceramics were distinct, evidently of different systems of manufacture and distribution (Costin 1986; D'Altroy and Bishop 1990). The local styles at Marca continued Tunánmarca patterns, and it seems that Marca was settled by the inhabitants of Tunánmarca; Hatunmarca continued to occupy

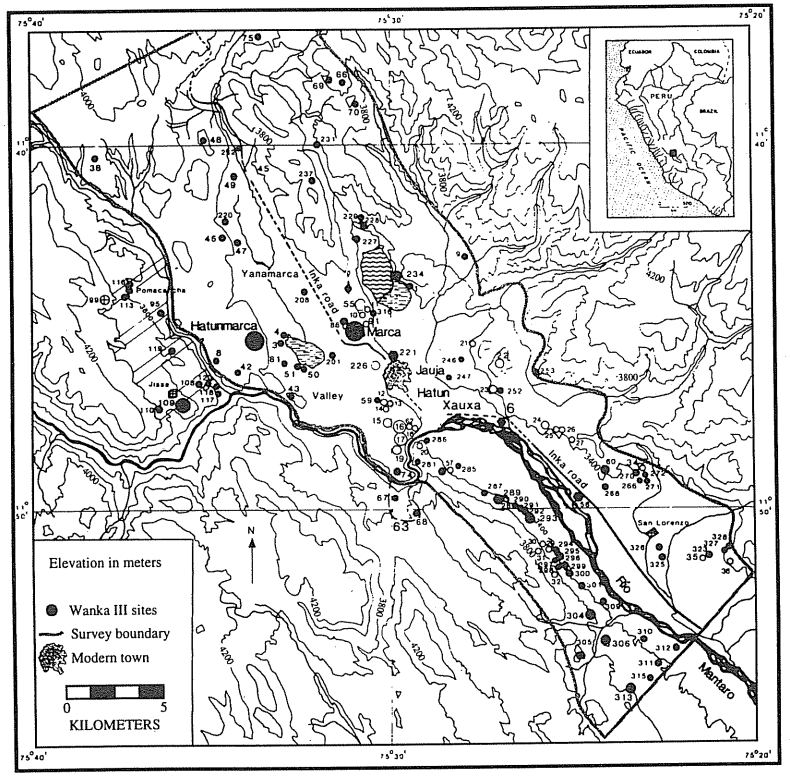

Figure 2.16. Wanka III settlement pattern for the upper Mantaro Valley (D'Altroy 1992).

its Wanka II location. The Inka state appears to have ruled the Mantaro through its preexisting political organization of chiefdoms.

Hatunmarca was a chiefly center, like Tunánmarca, during the Wanka II period, and it continued its political position under Inka rule. Hatunmarca was a large settlement, with a long span of occupation history. The habitation extended for two kilometers along a limestone ridge that edges the Yanamarca Valley on the west (Fig. 2.16). The settlement covers two broad knolls, separated by a lower saddle (Fig. 2.17). On the top of the southern knoll, stratigraphic excavations have revealed earlier Huacrapukio I and Wanka I occupations,

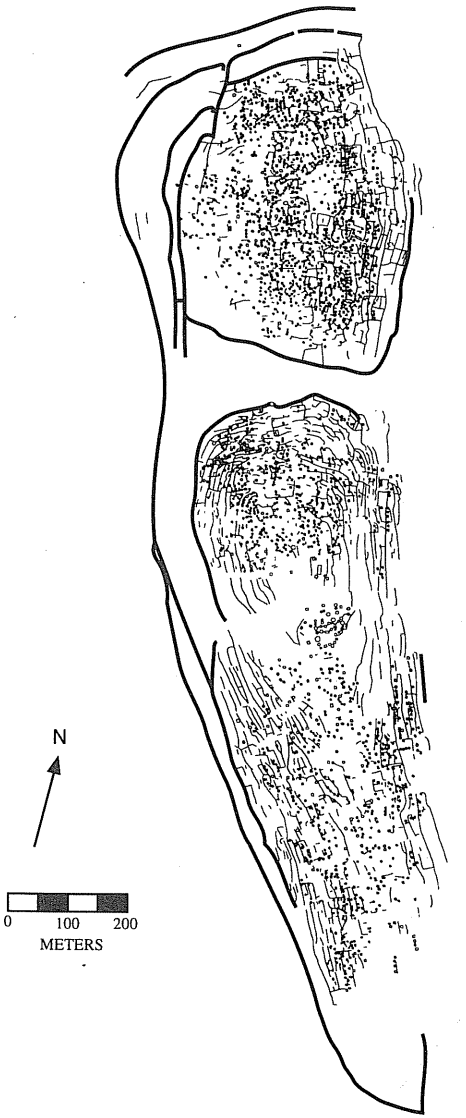

Figure 2.17. The Wanka II and III center of Hatunmarca (Earle et al. 1980; reprinted courtesy of the Institute of Archaeology, UCLA).

but the full extent of the residential settlement dates to the Wanka II period.

On the southern knoll, a central ceremonial precinct contained open plazas and special buildings (D'Altroy 1992: fig. 9.4). Although the precinct probably dates from Wanka II times, it was heavily reconstructed during Inka hegemony. Various buildings were constructed in the Inka imperial style, including a large rectangular building with gable ends and trapezoidal niches.

Elite compounds at Hatunmarca concentrated on the ridge just south of the ceremonial precinct. They contained several rectangular Inka-style buildings and large Wanka-style circular buildings. Commoner patio groups, in contrast, were smaller, typically containing only one circular building.

A separate settlement system was related to the Inka state administration of the Mantaro. Hatun Xauxa was a large planned state center, located on the main imperial road (D'Altroy 1992). Cieza de León (1984 [1551], pp. 242–43) described a rich temple and palace at Xauxa with 8,000 in service. Other state constructions in the valley included secondary way stations along the road, a suspension bridge, and thousands of storage structures on the hills above the center and bordering the valley. The Inka invested heavily in the state infrastructure in the Mantaro as a means of economic and political development (D'Altroy 1992).

Looking at the three cases of long-term social evolution among chiefdoms reveals common themes amid diversity. The cases illustrate *alternative pathways to complexity* that intermediate-level societies can follow. Each society existed under unique environmental and historical circumstances, and these conditions profoundly determined the specific developmental trajectories. Are we left with the apparently obvious conclusion that the uniqueness of each society makes cross-cultural comparison in search of general human process futile? I think not.

Environmentally the three cases are as different as one can imagine—from the lush tropical islands of Hawai'i, to the barren mountain valleys of the Andes, to the windblown terrain of Denmark. But

regularities exist in the process of landscape transformation under long-term human use. In each case, agricultural use remade the land from forest to fields. New species were introduced, and old species were lost. The landscape became a cultural artifact, able to support larger populations and a political economy of developing chiefdoms. What caused these transformations of the environment?

Population growth is one obvious cause. Over the thousand or so years covered by each case, population expanded to fill the environment. With new domesticates and the technology to exploit them, humans colonized and transformed these environments to support increasingly dense populations. But the growth in population was neither monotonic nor simply predictable. A bare biological model might predict logistic growth in the numbers of people as environmental resources and the technology to make them productive were depleted and further growth was limited. Although this density-dependent model of population growth provides a background for understanding the long-term dynamics, much more appears to be happening.

Rather than experiencing long and sustained growth, the populations at these three locations expanded and declined in erratic cycles that were not evidently related to resource conditions. Certainly populations grew initially because new habitat niches were made available by colonization and the introduction of agricultural technologies. But then growth stalled for reasons not clearly related to resource availability.

This stalled growth appears to be linked first and foremost to the nature of the developing political economies, and in this regard the specific conditions of each case were quite different (see Chapter 3). In Denmark, the stagnant population during the Early Bronze Age appears to reflect an increasing focus on animal herding. But why herding? Animal herding lowers the carrying capacity of a region and makes no sense in the logic of the subsistence economy. Its increase most probably resulted from the use of animals as a source of movable wealth within a prestige-goods exchange system (see Chapter 5). In Hawai'i, existing evidence does not document population increase after A.D. 1400, when the complex chiefdoms were instituted. At the

time when the massive new irrigation systems were constructed, population had apparently leveled out. The irrigation systems were created not to feed more people, but to mobilize a surplus of subsistence goods used to finance the chiefdoms' expansions. In the Andes, population increased rapidly in the period of intense warfare among local chiefdoms, despite the mini–ice age and the move to higher locations where frost would have made production increasingly unstable. But when the region was incorporated into the Inka empire, population stabilized or declined despite the pacification that reopened prime lands to intensive use and the construction of new agricultural facilities by the state. These changes were evidently not new opportunities for an expanding population; rather, they were used to generate surplus for imperial finance.

Complex social systems are frequently seen by anthropologists as managing problems of subsistence and as thus permitting population expansion. But the opposite is true in these three cases. For example, population increase was not limited by increasing hardship in the Wanka II chiefdoms of Peru; rather, under the better conditions of the Inka state, population growth stabilized.

The three cases represent clear variation in the development and cycling of chiefly societies. In each case, there were conditions under which emerging elites could control the lives of their subjects. The specific opportunities for power and control then created variable possibilities for investment, growth, stabilization, and collapse. How the different sources of power created contrasting dynamics in long-term political development is the subject of the following chapters.

CHAPTER THREE

Sources of Economic Power

The development of political systems must be based on an ability to lead and to have others follow. Leaders who provide rewards are accepted, but those who fail to do so lose authority. Leadership is always problematic; it requires an individual, family, community, or nation to relinquish autonomy and transfer loyalties. No individual or group does this joyfully, for it means sacrificing personal or group interests to a different, larger, or distant body (Carneiro 1981; Johnson and Earle 1987). This chapter and the next two examine how leadership can emerge and become institutionalized—how institutions are created and expand to direct group activities toward a broader objective. I focus on three main kinds of power that are used to govern human affairs—economic, military, and ideological.

Control over the economy is a direct and material power over the lives of people. Individuals and households must obtain the food and goods necessary for their survival. They must eat daily to survive, and they must obtain clothing, housing, and craft goods routinely. Humans exist in a world of energy flows that sustain all life, including their own. In simplest terms, to understand economic control, we must understand the subsistence economy—how societies are adapted to their environment; how people make a living (Johnson and Earle 1987). Then it may be asked if the nature of the subsistence economy is such that it *may* be controlled and that, through its con-

trol and manipulation, the activities of a group can be brought under a leader's authority.

Economic power derives from control over key sectors of the economy. Two types of social theories have been expounded to understand this control—voluntarist, adaptationist theories and coercive, political theories (Brumfiel and Earle 1987; Haas 1982; Johnson and Earle 1987; Service 1975). *Voluntarist, adaptationist theories* follow an ancient rationalist tradition in western thought. Social systems are seen as evolving through a process of improvement, the gradual development of better solutions to the problems of existence and excellence. According to such theories, leadership in human society evolved to create efficient solutions to individual and group problems of survival.

Cultural ecology is the intellectual tradition in anthropology most closely associated with voluntarist theories (Binford 1968; Service 1962, 1975; Steward 1955). In simple terms, cultural artifacts and knowledge, sociopolitical organization, and religions are viewed as parts of a society's core adaptation to its environment. A specific form of political organization, such as a chiefdom, has been interpreted as a social technology to solve critical problems. Thus the central direction of a chiefly leader could be seen as necessary for the group's survival.

Service (1962: 144; Fried 1967: 183) described chiefdoms as redistributional societies. As populations grew and humans became settled in and restricted to smaller territories, local variation in resources led to specializations in locally efficient subsistence and craft activities. In environmentally patchy regions, communities shifted from generalized, self-sufficient economies toward specialized, regionally integrated economies. These economies then required central management by chiefs to coordinate the distribution of specialized products. The chief gathered in the goods produced locally by specialized communities and redistributed them to all communities. The chief's authority derived from his essential position coordinating a regionally integrated economic (and political) system.

Alternatively, Wittfogel (1957; cf. Earle 1978: 37–49; Kirch 1994; Service 1962: 150) saw the essential role of chiefs in the management

of irrigation as the cause for the development of central leadership and eventual state bureaucracies. The hydraulic theory of Wittfogel presents a simple adaptational linkage—in a dry environment, irrigation technology was a major improvement allowing more areas to be farmed and lowering the risk of drought failure. To expand irrigation systems and improve the subsistence base, central management was necessary. In some ways like capital-intensive modern industries, irrigation technologies require a division of labor. Managers are necessary at many steps in the production process, including construction of the large network of dams, ditches, and terraces; management of the equitable distribution of water; reconstruction of the system following a disaster such as flooding; and settlement of disputes arising from the allocation of water and the contribution of labor. Who could provide this management other than a powerful leader? Chiefs and later kings were thought to derive their authority from their managerial responsibilities, which created irrigation systems (eventually large ones) on which the productivity and survival of the local communities depended.

Through the 1960's and 1970's, processual archaeologists analyzed long-term cultural change as an adaptation to the environment (Binford 1968; Flannery 1972; cf. Kristiansen 1984). Using models adopted from Service, many researchers argued that redistributional economies were managed by chiefs to make effective use of ecological diversity (Cunliffe 1978; Gibson 1974; Renfrew 1973) and to lessen risks of subsistence failure (Peebles and Kus 1977).

But, starting in the 1970's, detailed historical and archaeological studies questioned the accuracy of the managerial theories for the development of central leadership in chiefdoms and states (Brumfiel 1980; Earle 1977, 1978; Feinman and Neitzel 1984). Basically it was argued that in chiefdoms the complexity of trade and irrigation was not closely correlated with the degree of central leadership and institutional control. The complex chiefdoms of Hawai'i became a central case for the reanalysis of the economic role of chiefs, and some of the detailed reasons for the inadequacy of managerial theories are described later in this chapter.

Coercive, political theories of social evolution, based on a critique of

the adaptationist theories, emphasize that individuals and groups do not give up autonomy except when compelling power is exerted to make them submit. Control over the factors of production, distribution, or consumption provides the mechanism for amassing power. To the degree that the economy is essential to human survival, control over the economy yields direct control over people's lives. This control need not, however, be all-inclusive; it is often selective, based on dominating particular parts of the economy.

The roots of these political theories are nourished in the soil of historical materialism, built up by Ricardo (1821), Marx (1967 [1867]), and the subsequent tradition of scholarship, which is much too rich to be summarized here (McGuire 1992). The basic point is to understand how control over the productive process translates into control over the political economy and resulting class differentiation. In the *Communist Manifesto*, Marx and Engels (1965 [1848]) assert that ownership of capital gave industrialists a stranglehold on the political process in modern society. Ownership translated into an ability to alienate the surplus and use these "profits" for the owners' benefit. Ownership of the industrial technology asserts political domination.

But the model developed by Marx and Engels may in fact have general applicability to the emergence of social complexity. The basic principle from which their analysis derives can, I argue, extend to the emergence of leadership in "tribal society," that is, among Big-Man societies and chiefdoms.

Social Power from Economic Control

The core problem for the emergence of centrally organized and socially stratified societies must be the development of a political economy to finance the activities of new governing institutions (Earle and D'Altroy 1989). To understand this process, I have found it useful to differentiate staple and wealth finance, two systems based on different mechanisms of economic control.

Staple finance involves "obligatory payments in kind to the state . . . as a share of commoner produce, as a specified levy, or as a produce

from land worked with corvée labor. This revenue is then used to pay personnel attached to the state and others working for the state on a part-time basis" (D'Altroy and Earle 1985: 188). Effective staple finance must be based on a property system through which staples are mobilized from commoners as "rent" in return for access to subsistence resources. The critical problem is to maximize the gross "surplus" (Orans 1966) from the subsistence economy that can be deployed to support elite projects ranging from ritual occasions to craft activities to a warrior cadre. To mobilize a surplus for finance requires intensification, and the process of intensification creates conditions that often allow land to be more easily controlled.

There are a number of strategies for intensifying agricultural production for social and subsistence goals (Morrison 1994). But these alternative strategies have profoundly different consequences, some foreseen and others unintended. A common strategy involves the building of agricultural facilities to retain and guide soil and water for productive and sustainable farming. These facilities are developed by local farmers to solve specific problems in agricultural production and by their regional overlords to develop an institutional financial base. In Nigeria, agricultural intensification is correlated with the development of "perimetric features"—boundary walls, ditches, enclosures, and the like—that both increase the land's productivity and mark the improved lands as owned by individuals (Stone 1994). Intensification creates a social formatting of the landscape (Alder 1990), and the resources demarcated by the constructed facilities can now be owned and manipulated within the political economy.

The critical factor appears to be how the development of technologically intensive farming provided the opportunity for control by ruling institutions through a land tenure system. Locke (1947 [1690]) conceived natural resources, such as land, as given by God to all persons alike; then individuals invested their personal labor to transform the resources, to improve land and make it private property. But why does a culturally specific concept like "improvement" translate into a more broadly applicable principle for human societies? Technological improvements of the resource do two things. First, they radically differentiate land in terms of quality. Specific loca-

tions that are improved become more productive and desirable than other locations in the region. Second, improvements evidently delimit and mark the resource in ways that can be easily represented and recognized within the cultural landscape. Improvements such as walls, terraces, and ditches materialize the division of the landscape and form the basis of a cultural system of land ownership (see Chapter 5).

How agricultural improvements translated into the development of systems of land tenure and political domination has been studied best with irrigation systems. By financing the construction of the irrigation canals (and retaining warriors to enforce restricted access; see Chapter 4), ruling institutions became the owners of the most productive lands. "The digging and maintaining of irrigation systems are social tasks. . . . Now control of water puts in society's hands a potent force to supplement supernatural sanctions" (Childe 1942: 70). The leaders, by acting as the embodiment of the social group, assert rights over the agricultural systems and the mundane control that they encapsulate.

Adams (1966) argues that the irrigation technology of early states was comparatively simple, but it created a productive and delimited resource base. In Mesopotamia, the long-term transformation of the landscape limited the areas most productive for human use (Flannery 1969). For hunter-gatherer societies, overall opportunities may have been low, but productivity was quite egalitarian—the most productive lands were spread over much of the landscape (perhaps 35 percent). The shift to rainfall agriculture noticeably decreased this distribution of the best lands, limiting them to those microenvironments with higher rainfall. The development of irrigation, however, transformed the environments such that now only 2 percent of the land (the best-irrigated portion) was the most productive. With the selective application of force this land could be controlled by an emerging central authority.

In southeastern Spain, prehistoric farmers were bound to the developed facilities on their farms (Gilman 1976, 1981). Although irrigation systems and other agricultural facilities may not have *required* central management, farmers would have been reluctant to abandon

them; farmers were thus tethered to their farms and subjected to control by the regional elites, who could threaten eviction for nonpayment of tribute in labor and goods. In these circumstances, farmers were easily victimized by the "owning" ruling segment, as emerging chiefdoms focused on the limited and productive irrigated sections.

A ruling segment could expropriate rent from farmers "caged" by the productive advantages of irrigation (see Mann 1986). By irrigating the deserts, emerging leaders provided rich farmlands in a sterile world. Life in the desert derived from the rivers' water, channeled to fields by the irrigation canals. The construction of the irrigation systems provided great opportunities for settlement and farming, but the canals were lifelines for the farmers, binding them securely to their masters. The farmers were caged, unable to survive except by what was offered by ruling institutions that owned the irrigated lands.

An alternative form of economic control was possible in regions where exchange was significant. Control over specialized production and distribution was singled out by Childe (1936) as the critical factor for the emergence of urban, state society. Although the market-based exchange that he envisioned did not exist in known chiefdoms, exchange of wealth objects was common and offered chiefs an alternative source of political power.

Wealth finance is the use of special objects (primitive valuables, prestige goods, or money [Earle 1982]) as political currencies to compensate people within ruling institutions. Wealth includes diverse forms that range from chiefly prestige goods (Friedman and Rowlands 1977) to state market currencies (Brumfiel 1980). Objects are wealth in that they symbolize value in social meaning and/or in exchange. Emerging elites control wealth finance by commanding specific aspects of the economy. For example, they can control production by supporting attached specialists who craft the wealth (Brumfiel and Earle 1987), or they can control exchange by intimidating competitors (Junker 1990), by owning the means of transport (Arnold 1995), or by dominating trading routes (Sáenz 1991).

In chiefdoms, wealth is the means of symbolizing relationships upon which social ranking rests. Since the social structure is the most important determinant of cultural, political, and economic values,

substantivist economists define the economy as "institute process" (Polanyi 1957), by which they mean that the social structure determines the relationships and goals of the economy. Modern structural Marxists contend that control over the economy is handled through traditional rights and obligations of the social structure. Leaders control the economy by their authority over their kin. According to Friedman and Rowlands, "the structures of reproduction . . . dominate the processes of production and circulation and . . . therefore constitute the socially determined form by which populations reproduce themselves as economic entities" (1977: 203). "Reproduction" in this context refers to the continual remaking (maintaining) of existing social relationships. Following a structuralist logic, rules must exist that function to replicate the system. Thus the social structure determines the relationships of production by which traditional leaders direct the labors of their supporters involving accumulation of goods, exchange of women, feasting, and accumulation of prestige on a regional basis.

I argue that control over the ideology of social ranking rested on control over the system of wealth finance. Wealth finance has a major advantage over staple finance. Its highly valued objects are easily transported over considerable distances and can be used to exert long-distance control over people. The centralized distribution of wealth allows surpluses to be accumulated centrally. But the apparent advantages of wealth finance are quickly offset by its limitations. Control over wealth can be highly problematic; as its value increases, a strong pressure builds to smuggle goods outside of established networks and to produce fakes outside of recognized craft shops. At the same time, the value can be destabilized through inflation or cultural disruption. While the needs of nutrition in staple finance are constant, the desires of wealth can be fickle. But this is getting ahead of myself; the Danish case will illustrate the use of wealth.

What the cases show are the diverse means of economic control and the different outcomes that are possible among chiefdoms. The Hawaiian case illustrates how economic power emerged with the creation of irrigation systems owned by the chiefs. I then look at the limitations of economic power in the Andean case, where agriculture

was less intensive and environmentally marginal. In the Danish case, irrigation and intensive agriculture did not exist; the political economy rested on involvement with the prestige-goods exchange that stretched across Europe. In all cases, economic power was in some senses basic to the political strategies to amass power, but the success of these strategies in allowing chiefs to institutionalize and extend their domination proved highly variable.

Kaua'i, Hawai'i (A.D. 800–1824)

The Hawaiian case illustrates how irrigation technology served as a source of economic control in the emergence of complex chiefdoms. My doctoral dissertation research (Earle 1978) began by discrediting the managerial theories of Wittfogel and Service, as related to Hawai'i, and went on to emphasize the role of irrigation in the political economy that operated on the western Hawaiian Islands where irrigation dominated. Ruling chiefs used the staples grown on the irrigation systems to finance their political aspirations. Economic control was based upon ownership of the irrigation systems; land plots were allocated to commoner farmers in return for their corvée labor growing foods that were the currency of the chiefdoms.

To summarize briefly the argument documented in my dissertation (Earle 1978), my goal was to evaluate the "prime movers" (irrigation, redistribution, and warfare) then thought to be responsible for the evolution of social complexity. According to the managerial theories, population growth created problems for human adaptation that could be solved only (or at least most efficiently) by the central direction of chiefs and eventually state managers. However, the archaeological and historical evidence from Kaua'i appeared to show that the managerial theory of Wittfogel (1957) regarding irrigation and that of Service (1962) regarding redistribution were inadequate to explain the evolution of the islands' chiefdoms.

Wittfogel (1957: 239–46) used the Hawaiian chiefdoms to support his hydraulic hypothesis that the technological complexity of irrigation technologies caused managerial problems that could only

be solved by a central administration. He believed that the development of the konohiki, the chiefs' land managers, was a result of the technical problems of Hawaiian irrigation.

The early western explorers were impressed by these productive and orderly irrigation systems of the Hawaiian Islands. The botanist Archibald Menzies, who traveled with George Vancouver's expedition to Kaua'i in 1792, describes the irrigation systems in the Waimea Valley:

> We walked to the confluence of these two streams [which feed into the Waimea River], and found that the aqueduct which watered the whole plantation is brought up with much art and labor along the bottom of the rocks from the northwest branch, from here we saw it supported in its course through a narrow pass by a piece of masonry raised from the side of the river, upwards of 20 feet and facing its bank in so neat and artful a manner as would do no discredit to more scientific builders. Indeed the whole plantation is laid out with great neatness and is intersected by small banks conveying little streams [irrigation canals] from the above aqueduct to flood distant fields on each side at pleasure, by which their esculent roots [taro] are brought to such perfection, that they are the best of every kind I ever saw. (Menzies 1920: 29)

The neatness of the irrigation systems appealed to the European sense of an ordered landscape.

The irrigation systems on Kaua'i were, however, quite small in scale and technically simple. The mean size of 44 irrigation systems described in the Halelea district in the historic period (Earle 1978) was only two hectares; only one system was larger than five hectares, and sixteen were smaller than one hectare. The mean number of farmers on a system was only five, and with only one exception, each system was entirely restricted to a single community's territory. Traditional Hawaiian irrigation was evidently small-scale and community-based, and it certainly did not require the supracommunity organization envisioned by Wittfogel.

Moreover, the technology of Hawaiian irrigation systems was quite simple (Earle 1978: 110–13; Spriggs and Kirch 1992). A typical system can be reconstructed from a combination of the historical, archaeological, and ethnographic evidence available in the early 1970's on Kaua'i (Fig. 3.1). Historically on Kaua'i, each major valley

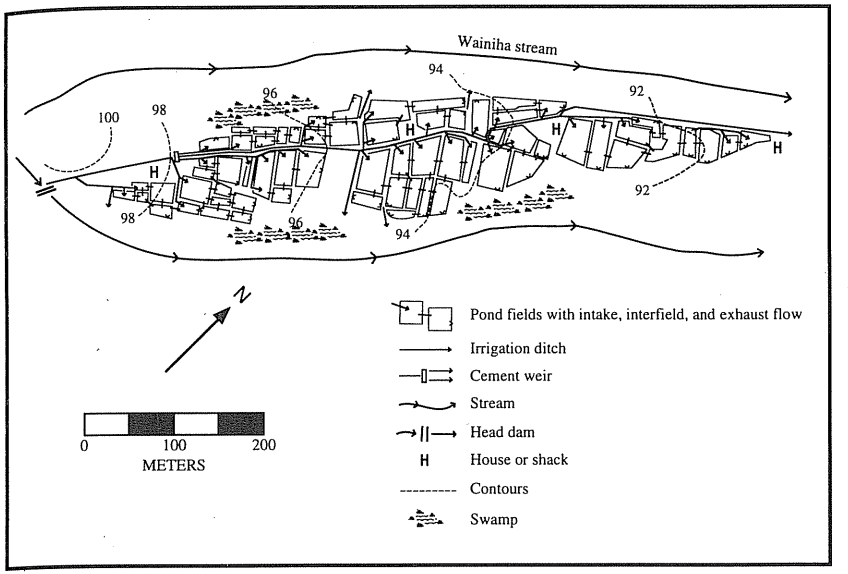

Figure 3.1. A traditional irrigation system on an island in the Wainiha stream, Kaua'i. This system was functioning in 1972 (Earle 1978).

was a community (ahupua'a) controlled by a high-ranking chief and his or her manager. As a valley stream approached the sea, alluvial soils had been deposited on islands in the stream, on the valley floor, and on the coastal plain. Typically, a percolation dam of loose stream boulders was thrown up across the stream; water backed up behind the dam and was diverted into a simple earth ditch that carried the water a hundred meters or so along the edge of the valley or down the center of an island to the taro fields. Water was delivered to pond fields (*lo'i*) either directly from the central ditch, from a short secondary ditch, or from a higher field. Each field was embanked by a bund, a one-to-two-meter-wide earthen bank that impounded water to create the artificial pond-field environment. Each field was a separate terrace with a front retaining wall of beaten earth or reinforced stone, depending on the steepness of the topography. Water was kept flowing through the pond and down the stair-stepped terraces, eventually returning to the stream. The highly productive taro (*Colocasia esculenta*) was planted in the water. Taro is a cultivated aroid, originally

domesticated in southeast Asia. It produces a corm, an enlarged stem below the surface, which is one of the most productive carbohydrate root crops in the world. Other crops, such as banana, sugarcane, and sweet potato, grew on the banks that surrounded the pond fields.

The technology of Hawaiian irrigation was ingenious but elemental. The primary technical principles were that water flows downhill and that it can be contained by beaten earth. No special knowledge or large-scale labor was necessary for construction of any part of the system, and the systems could have been expanded easily over an extended time. A cross-cultural comparison of societies with similar scale and complexity of irrigation makes clear that central, chiefly management was unnecessary. After the Great Mahele and up to the present, irrigation systems of similar complexity have been maintained by cooperating farmers (Earle 1978).

But the chiefs' managers *did* routinely oversee the construction and management of Hawaiian irrigation. Many accounts (Corney 1898 [1818]; I'i 1959: 68; Stewart 1830: 142) describe the work crews that constructed the pond fields and prepared them for planting. The konohiki organized the layout and digging of a ditch, the building of the pond fields, regular repair, rebuilding following flooding, and preparation for planting. For example, a festive work crew under the direction of their konohiki trod the earthen base of a pond field to restrict water percolation and prepare the soil for planting: "On the day of treading the lo'i was filled with water, and the owner of the patch made ready plenty of 'food' (poi), pork, and 'fish.' It was a great day for men, women, and children . . . bedecked with greenery and worked with all might" (Kamakau 1976: 34). The irrigation systems were the product of social labor, people working together in an organized social event. But why, given that the irrigation systems were so small and technically simple that each farmer could have built his own?

Irrigated agricultural production was a great opportunity for surplus that could be used to support the Hawaiian chiefs. Even for relatively small irrigated fields, the extraordinary productivity of irrigated taro easily allowed 50 to 70 percent surplus output (Spriggs and Kirch 1992: 161). Once an irrigation system had been built, the farmers could expect a high yield with relatively low risks (Kirch 1994); it was a good deal for them. But farmers will not produce a surplus unless compelled to do so. The logic of the subsistence economy is simply to produce for the immediate needs of the family and then to rest (Sahlins 1972). The ability to produce surplus only translates into the mobilization of resources if political controls are in place.

The physical nature of the irrigated fields formed the linchpin of the Hawaiian political economy. The community's konohiki oversaw the construction and maintenance of its irrigation system and by extension other community activities. As part of his management, the konohiki allocated land to individual households, including their house sites (*pahale*), individual lo'i on the valley's irrigation systems, and associated dryland plots (*kula*). Each man then farmed his lo'i and kula for his family's subsistence, and in return he was obligated to farm *ko'ele* land, which produced staples for his chiefly overlords (Fig. 3.2).

This system of land tenure was not codified in law; it was highly flexible, manipulated by chiefs to generate the surplus used in political maneuverings. Ultimate "ownership" rested with the paramount chief, based on his political office. Although this office was, in principle, inherited patrilineally by the first son of the first son (and thus by the highest-ranked individual in the society), in fact it was most commonly seized during wars of succession and conquest. The paramount then delegated to his closest supporters the rights in a community. The title of community chief was a political compensation for support and could be rescinded at will by the paramount. The community chief then appointed a konohiki, often to compensate a lower-ranking chief who had been a warrior supporting the paramount. The konohiki allocated the land to commoners, and the staples mobilized as rent from the commoners were the currency of the chiefdom.

During the Great Mahele, when the Hawaiian land-tenure system was transformed to one of private ownership like that in Europe, the details of traditional practice were recorded in legal proceedings (Earle 1978; Linnekin 1987; Sahlins 1992). Each person came forward to describe his or her claim on land and its traditional basis in hierarchical land allocation, inherited use rights, and continued use. A

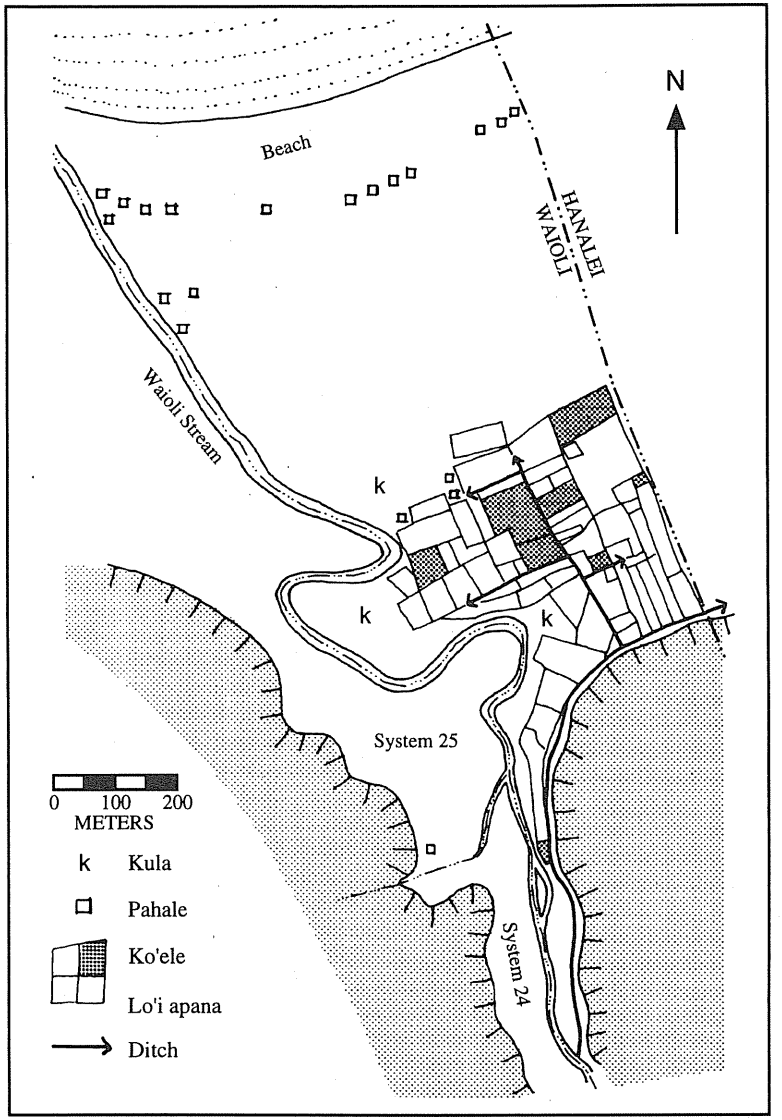

Figure 3.2. Layout of the historical settlement and farming areas in the ahupua'a of Waioli. Shown are the house lots (pahale), commoner irrigation allotments (*lo'i apana*), and chiefly ko'ele (Earle 1978).

typical claim might contain information like that of Koiniho (Land Commission Award [LCA] 2,927), who lived in Anahulu Valley, O'ahu. He claimed seven pieces, the most important including his irrigated pond fields: "To the Land Commission: I, Koiniho, a kamaaina [lit., 'child of the land'], have a claim from ancient [the time of] Kamehameha. The first [tract] is [in] Lahuimoho, where there are four *mo'o 'aina* [sections] with 23 *loi* [wet taro fields]. It is surrounded by the land of Nauwahi, the stream and the cliff, Napunawai's land, and my cliffside paper mulberry grove on the north of Lahuimoho" (Sahlins 1992: 11; bracketed insertions in original). To document the claim, a farmer recounted the original assignment, characteristically by a konohiki to the claimant or his or her ancestor. The land-use right of commoners descended in the male line. Prior to the Mahele, land passed almost exclusively patrilineally, from father to son, or paternal grandfather to grandson; women, receiving the land in the 1840's when many were dying of introduced diseases, were but "placeholders on the land" (Linnekin 1987).

This patrilineal inheritance of traditional use rights in land, I argue (Earle 1978; contra Linnekin 1987), reflects the position of land in the system of staple finance. Land was given to men because they were the corvée workers on the chiefly ko'ele land and other projects organized by the konohiki. When a female received land, it was quickly transferred to a male. A common pattern, recorded in the Mahele records on Kaua'i, was for a woman to inherit from her dead husband and then to transfer ownership immediately to her new husband. To retain use of the land a widow apparently had to remarry so that her new husband could provide the labor service. The land-use rights of the commoners rested on this corvée-labor contribution.

The Mahele records provide cases in which individuals' claims were contested because their use rights had been rescinded by the konohiki (Earle 1978: 187). The cause for the rescinding was often simple—the inability of an individual to provide labor to the konohiki. Specific cases of lost land-use rights give such reasons as emigration, death without a male heir, or even ill health: "Konohiki took away [tract] numbers 3 and 4 on the grounds that the claimant was getting old and his labor on the konohiki days of little worth" (LCA

10,313). "Lands were given by the konohiki in the days of Kaikeoewa [governor of Kaua'i 1825–39] and have been held 'til 1849 when claimant was elected superintendent of schools and became freed from the konohiki work. The result was that the konohiki took away his lands and gave them to another. Kowelo was left destitute of food" (LCA 11,063). The lesson was clear. A person's farmland, on which he and his family depended for subsistence, was his only as long as he worked for the konohiki.

The land-tenure system controlled commoner labor and lay at the base of the system of staple finance. From the chief's ko'ele lands, the community chief received the staples that were used as currency in the political economy. The staples supported feasts to compensate work crews. The staples also supported the specialists attached to the chiefs, who included the konohiki, warriors, and craft specialists. Community labor was also used to raise pigs, maintain fishponds, collect special products from the mountains, and perform many other duties. Units of land use, the individual irrigated fields, were the entities of social production. By controlling the commoners' labor through owning their means of livelihood, the chiefs mobilized the resources to finance other sources of power in the complex Hawaiian political economy (see Chapter 6). The irrigation systems, in particular, provided the opportunity for control over the commoners' subsistence and labor.

The point, to which I return in Chapter 5, is that the development of the irrigation technology was pivotal for an ideology of chiefly rule. The chiefs, as organizers of the social labor responsible for the irrigation systems, were the owners. From the commoners who lived on the pond fields' harvest derived a steady and predictable supply of labor that created the infrastructure and superstructure of the chiefs' ruling institutions.

Kirch (1994) has criticized the position that irrigation and its ownership and use in the political economy were basic to the evolution of Hawaiian chiefdom. Throughout the Pacific, political evolution rests on agricultural intensification, but the pathways and processes are in fact highly complicated and not reducible to simple formulations. He emphasizes that a wet-dry contrast existed in prehistoric subsistence practices and that areas with dry farming often sustained political development. On the Big Island, where the largest Hawaiian chiefdoms developed, irrigation was highly localized and comparatively unimportant (see Earle 1980: fig. 1). In the Pacific generally, Kirch sees that dryland systems, with limited potential for involution (internal intensification through capital investment), were channeled into political expansion. Therefore, the dryland zones of the Hawaiian Islands may have been incubators for conquest chiefdoms. Kirch adds a significant dimension to our understanding of long-term evolutionary dynamics that created divergent pathways founded on different forms of intensification. Two contrasting power bases are thus recognized—the economy, based on improved agricultural facilities that increased political surplus, and the military, an expansionist force to seize and channel surplus (see Chapter 4).

As an example, according to traditional history, Liloa, father of 'Umi, lived in Waipi'o Valley, and "that was the land on which the ruling chiefs lived in ancient times" (Kamakau 1961: 2). Located on the rain-drenched north coast of Hawai'i, Waipi'o is a deep valley where the most extensive prehistoric irrigation systems on the Big Island had been built. But when 'Umi was forced out of Waipi'o, he retreated to the marginal dryland zone, where he created an intensive agricultural base to support his ambitions (Kirch 1994: 261). Eventually he was able to conquer the irrigation base of Waipi'o and to unite the island of Hawai'i. Kirch (1994) emphasizes that because the great Hawaiian paramountcy was based in the dryland areas, it required a political strategy based on military expansion.

But on Hawai'i, at least, and probably elsewhere throughout the Pacific, the intensification of dryland farming created agricultural facilities that, I would argue, had characteristics similar to those of irrigation. Of course the irrigation systems were inherently more productive; once in place, the high yield of the farmers' labor would have drawn them to the facilities. The dryland fields were more problematic; they were less inherently desirable to the local farmers, but they placed similar limitations on the options available to those farmers. In this regard the creation of agricultural facilities, whether irrigation or the dryland complexes, established a demarcated landscape.

Stone (1993, 1994) describes how the intensification of dryland agriculture in Africa does not necessarily result in expansionist strategies. He contrasts the Kofyar, who invest in agricultural facilities, with the Tiv, who practice extensive farming and are an expansionist segmentary society. By investing in the dryland agricultural facilities, the Kofyar create a landscape that is improved and demarcated by physical markers of owned land. This situation of capital improvement, with a corresponding manufactured cultural landscape, may characterize prehistoric Hawai'i as well. Agricultural facilities, whether irrigated or dry, were part of the "landesque capital intensification" (Blaikie and Brookfield 1987; Kirch 1994: 19) that formed the economic basis of power across the Hawaiian Islands (see Chapter 5).

The fields of Lapakahi, located on the western North Kohala coast (Rosendahl 1972; Kirch 1984, 1985b), illustrate how agricultural intensification in dryland areas of Hawai'i created an owned landscape. The terrain slopes gently from the Kohala Mountains to the coast, unbroken by eroded valleys. The ahupua'a were defined more or less arbitrarily as narrow strips (often less than two kilometers wide) running from coast to mountains. Trails and stone markers designated the community territory, and within the community, Hawaiian cultivators built extensive fields in a zone of suitable temperature and rainfall that lay between 250 and 600 meters above sea level. Permanent fields were constructed with low stone walls that made narrow, contoured terraces, lessening erosion. The fields were divided into sections by a regular pattern of trails that were laid out up- and downslope and were marked by bordering stones. Within the fields were small living shelters. As Kirch describes, "the field borders and trails break up the agricultural landscape into a regular grid with individual field units of rectangular shape" (1984: 182; see Fig. 3.3). In Stone's (1994) terminology, the "perimetric features" built to intensify dryland production served to mark boundaries of ownership and use.

Menzies describes the dryland field system of Kona in terms directly comparable to his earlier descriptions of the irrigation fields: "As we advanced beyond the breadfruit plantations, the country became more and more fertile, being in a high state of cultivation. For several miles above us . . . [every spot] was with great labor and industry cleared of loose stones and planted with esculent roots. . . . In clearing the ground, the stones are heaped up in ridges between the little fields" (1920: 75). These complexes of dryland fields, terraces, borders, boundary walls, and trails were, like the irrigation systems, technological improvements to the productive potential of the landscape. Their control of sheet runoff and erosion was essential to allow shortening of the fallow cycle. At the same time, though this may not have been intended by their builders, the new physical landscape was subdivided into specific units of production on which use rights could be allocated and monitored.

Kirch (1994) argues convincingly that the dryland field complexes were much less productive than the irrigated fields. Two very different dynamics were thus created for the development of chiefdoms: one on the western Hawaiian Islands, where irrigation dominated, and the other on the eastern islands, where dryland complexes dominated. His argument emphasizes a key part of my thesis: the specific nature of the chiefdoms' economic base affects profoundly how they can control economic resources. But even for the intensified dryland farming areas, the physical nature of the built landscape created the basis for a land-tenure system not unlike that founded on the irrigation facilities. Whether built directly under chiefly supervision or later taken over by chiefly overlords, the technology of intensification created a sharp separation between improved and unimproved lands (cf. discussion in Chapter 2 of Gilman 1976, 1981). The facilities themselves, with walls and other divisions, became the ownership markers of plots that local farmers would leave reluctantly. (Kirch [1996, personal communication] questions why the farmers of Hawai'i were then so willing to leave their farmlands to accompany the military invasion of O'ahu in 1804. It may be relevant that the western islands which Kamehameha invaded were rich in stream valleys for irrigation, and that a main activity following conquest was to construct new irrigation systems and to give land in compensation to his supporters, many of whom were from the less productive drylands.)

At contact, the power of Hawaiian chiefs derived from their control over commoner labor, exercised through the system of land ten-

ure. As just described, this system to mobilize labor was embodied in the facilities of intensive agriculture. The historic sequence illustrates how the emergence of islandwide chiefdoms was tied to the intensification of the subsistence economy that formatted the landscape. Early in the Hawaiian sequence, during the long period of colonization and settlement spread, some irrigated taro fields were built. Because taro-pond-field agriculture was widespread throughout the Pacific, Hawaiian colonists may have carried the knowledge of irrigation with them. Alternatively, irrigation technology could have been developed independently under similar conditions (Kirch 1984: 171; Kirch and Lepofsky 1993). Of six pre–A.D. 800 radiocarbon dates for agriculture in the Hawaiian Islands, half were from irrigated fields (Allen 1992: 54). During the Formative Period (A.D. 1200–1400), when population in the islands grew rapidly, oral histories describe an emerging stratified society (Hommon 1976). The numbers of radiocarbon dates for irrigation complexes increase, but initially quite slowly (Allen 1992).

Then, apparently quite rapidly, irrigation systems were built as a means to institutionalize the financial structure of the new chiefdoms. During the Consolidation and Unification Periods (A.D. 1400–1650), the building and use of irrigation systems soared, peaking around A.D. 1500 (Allen 1992: fig. 3). Oral histories describe this time as one of fiercely competing regional chiefdoms that periodically succeeded in integrating an island. The development of the irrigation systems was evidently tied to the development of the system of staple finance (Allen 1991). The dryland complexes were built during the same time. The Lapakahi sequence documents the construction of dryland agricultural facilities starting about A.D. 1450, with intensification thereafter. The expansion of both irrigation and dryland systems seems to fit with the expansion of the Hawaiian chiefdoms and the demands of the political economy. As an important element of the ruling ideology, the famed 'Umi was depicted as a farmer. With his own hands, "he built some large wet taro patches in Waipi'o, and farming was done on all the lands. Much of this was done in Kona" (Kamakau 1961: 19). The construction of the major agricultural facilities appears to have been part of the political strategy to increase surplus production. It was not a response to population growth.

During the Annexation Period (A.D. 1650–1821), the island chiefdoms were solidly instituted, and island paramounts attempted by conquest warfare to bring multiple islands under their sway. Kaua'i paramounts extended control over the smaller island of Ni'ihau, and the chiefdoms of Maui and Hawai'i were locked into reciprocal invasions. The coming of the Europeans with their large ships and guns broke the stalemate and gave Kamehameha, the young paramount of Hawai'i, his opportunity to conquer the western islands of Maui, O'ahu, Molokai, and Lanai; only the chiefdom of Kaua'i resisted invasion and retained some political autonomy until the death of Kaumuali'i (see Chapter 4).

Although not well documented by radiocarbon, this late, rapid political expansion was apparently funded by the expanding productivity of newly constructed irrigation systems. Following conquest of O'ahu, Kamehameha, like 'Umi before him, developed the island's agriculture. Based on the ruling ideology, he personally participated in construction: "[Kamehameha] labored himself with his own hands. He worked at the fishponds . . . all about O'ahu. He made the great taro patches at Waikiki . . . and cleared the land at Waikiki, Honolulu, Kalamanamana . . . and all the other places; and when all the lands were under cultivation he cultivated *mauka* [inland, toward the mountains] in Nu'uanu" (Kamakau 1961: 192; see also I'i 1959: 68). The combined historical and archaeological investigation in the Anahulu Valley on O'ahu demonstrates that the primary development here, at least in the upper valley section, dates to the invasion of Kamehameha. The irrigated taro fields were constructed to support his army, which was 7,000 strong, and to finance his planned invasion of Kaua'i (Kirch 1990, 1992).

On Kaua'i the major development of irrigation on the fertile northern coast was very late, into the historic period (Athens 1983: 29). The land records give cases of warriors receiving land around the fishpond of Kanoa in Hanalei, and it appears that this facility was newly constructed for them (Earle 1978: 154).

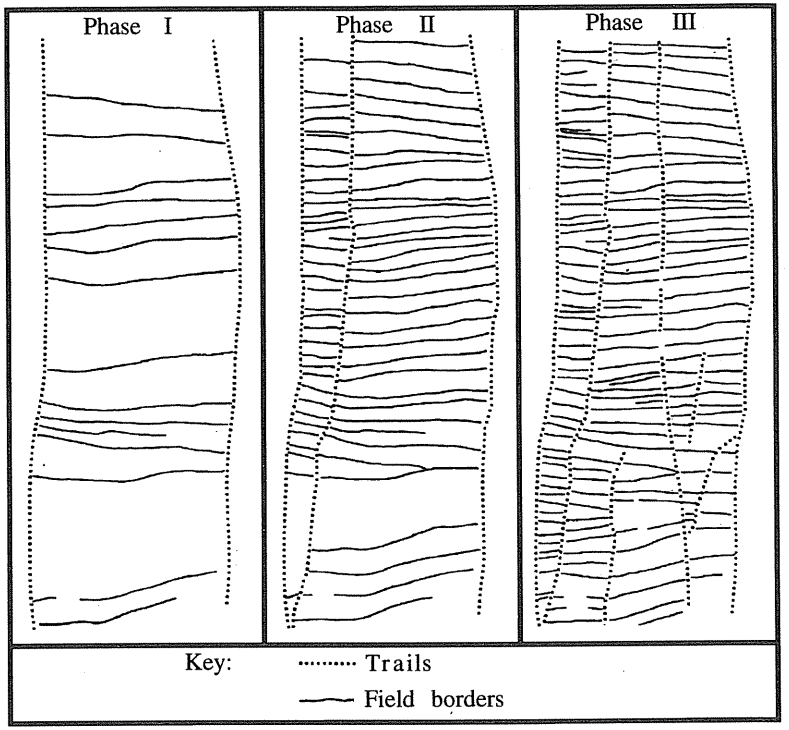

Figure 3.3. Three phases of development of the dryland fields and trails within the narrow ahupua'a land of Lapakahi, Hawai'i (after Kirch 1984; reprinted courtesy of Cambridge University Press).

The dryland field complexes on the Big Island of Hawai'i may well have been expanded extensively in the early historic period. Kirch (1984: 182–92) describes how the demands of the political economy caused a rapid expansion and restructuring of the dryland agricultural systems. The fields of Lapakahi appear to have been continually subdivided, suggesting increased investment in soil- and water-control facilities (Fig. 3.3). The Lalmilo-Waimea field complex, which included both permanent fields and irrigation for intermittent water flows, was apparently constructed between 1790 and 1794, when Kamehameha was consolidating his regional power base (Reeve 1983). The large-scale and intensive construction of agricultural facilities at

the beginning of the nineteenth century was a means to expand the staple finance system based on intensive agricultural production. The conquest then seized irrigation complexes that allowed for lateral expansion of the finance base for the new Hawaiian state.

But even as the system of staple finance was being created, it was already being undermined by new economic relationships that sprang from the incorporation of Hawai'i into the world economy. Opportunities for foreign exchange undermined control exercised through subsistence. The first major economic transformation dated to the Sandalwood Period (1812–30), when the island stands of fragrant wood were cut for export by foreign traders to China (Sahlins 1992: 57–97). The community chiefs, through their konohiki, mobilized labor to cut the wood. The rapacious exploitation of the natural resource rapidly exhausted the available supplies, on the one hand, and diverted labor away from the construction and maintenance of the community irrigation systems, on the other. To escape the konohiki's increasing demands for labor and to take advantage of new opportunities for escape provided by the expanding commercial economy in the port city of Honolulu and on the western ships, farmers began to leave their rural communities. The feudal tethers on labor through control over staple production were severed, and an exuberant economy of grandeur followed (Sahlins 1992).

Prior to the islands' incorporation within the world mercantile economy, power in the Hawaiian chiefdoms came to rest firmly on the foundation of the intensive irrigation economy. The facilities and the land-tenure system that they materialized were a consistent and strong form of economic control upon which other sources of power could be assembled. Surplus mobilized through the agriculture systems supported a warrior elite (Chapter 4) and the materialized ideology of chiefly rule (Chapter 5).

The Upper Mantaro Valley, Peru (A.D. 500–1534)

The primary economic explanation for the evolution of complex societies in the Andes has been Wittfogel's hydraulic hypothesis. He saw

quite correctly that the potential use of the dry coastal valleys depended on the development of large-scale irrigation systems to make the deserts bloom. The improved productive facilities of irrigation would have encouraged the development of centralized political systems as either their managers (Wittfogel 1957) or their owners (as in the Hawaiian case; Earle 1978).

Regardless of their potential merit for coastal Peru, the hydraulic theories have proven less adequate to explain the development of the chiefdoms and conquest empires in the Andean highlands. Unlike those in the coastal valleys, in the highlands irrigation systems were small-scale; few communities depended on irrigation, and existing systems could easily have been managed within traditional community organizations. Economic control, so important to the Hawaiian case, appears here to have been rudimentary; here the primary basis of power for the chiefdoms was warfare (see Chapter 4). These chiefdoms remained relatively small and institutionally undeveloped except when conquered by the highland empires of the Wari and later the Inka.

In the upper Mantaro Valley in Peru, population grew along with the intensification of production. Forests were cleared away and some permanent agricultural facilities were built. Superficially this process seems similar to the Hawaiian case, but the high-elevation environment of the Mantaro Valley was radically different. Agriculture would always have been marginal, because the limits were imposed by temperature, which could not be altered substantially. "Landesque capital intensification" was thus ineffective, and opportunities for economic control were not created.

In the Mantaro, the history of agriculture and its associated landscape facilities have been the focus of extensive research (Hastorf 1993; Hastorf and Earle 1985; Parsons 1978), and the construction of these facilities appears to correlate with the political evolution of the valley's chiefdoms. During the Huacrapukio Period (A.D. 200–800) in the Yanamarca Valley, increasing population occupied extensive areas where dry, fallow-cycle farming predominated, and small-scale chiefdoms developed (see Chapter 2). Local communities may also have constructed 200 hectares of drained fields at this time (Fig. 3.4;

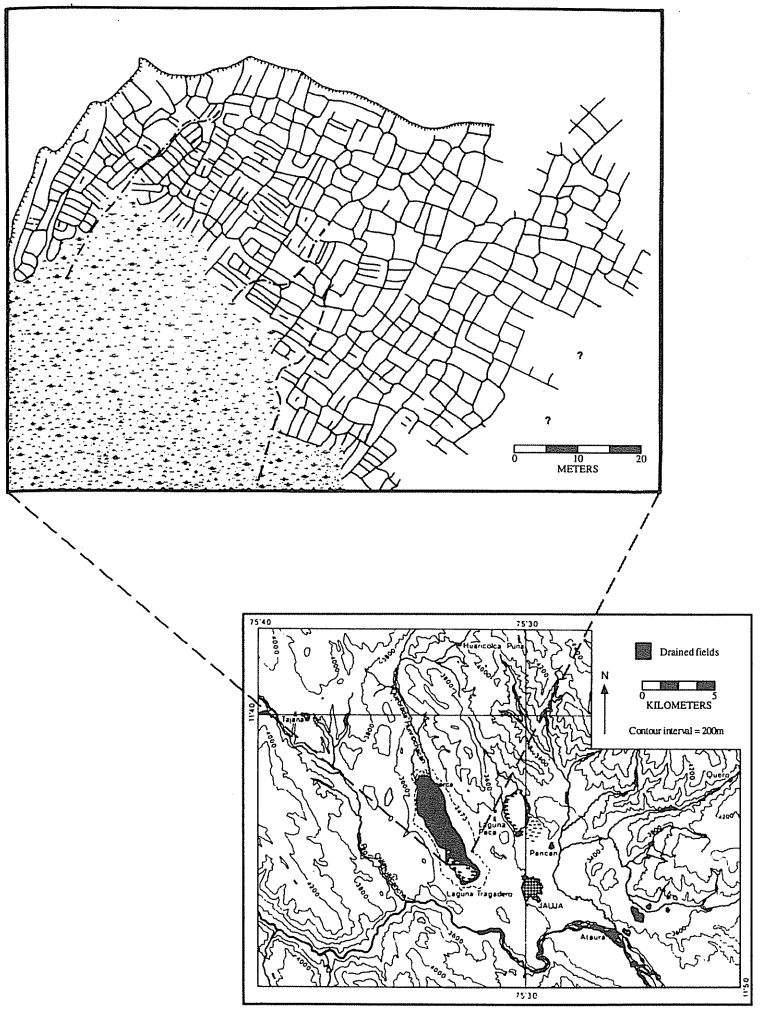

Figure 3.4. Drained field complex in the Yanamarca Valley, Peru (after Earle et al. 1980; Hastorf and Earle 1985; reprinted courtesy of the Institute of Archaeology, UCLA).

Hastorf and Earle 1985: 572–77). These fields were small, raised planting surfaces surrounded and interconnected by a web of drainage canals that led water off the planting areas toward Lake Tragadero.

At a very different scale, large complexes of drained fields existed elsewhere in the Andes. In a region of annual flooding known as the Llanos de Mojos in lowland Bolivia, Denevan (1966) estimates that about 80,000 drained fields covered 6,000 hectares, or 0.1 percent of the region's land area. Fields were of several types, but they raised the planting surface permanently above flood levels. Extensive artificial settlement mounds and interconnecting causeways were associated with the agricultural complexes and created an artificial landscape of savanna chiefdoms (Denevan 1966: 133).

Extensive areas of raised field also edged the highland Lake Titicaca (Erickson 1987; Kolata 1991; Smith, Denevan, and Hamilton 1968). From experimental work, Kolata (1991) argues that the raised fields created highly productive quinoa and potato farming that sustained the urban center of the Tiwanaku empire (A.D. 400–1000). The three highland valleys at the empire's core contained 19,000 hectares of raised fields. "The flow of water from natural sources that fed Tiwanaku raised-fields was enhanced and regulated by massive hydraulic projects designed by the agroengineers of Tiwanaku" (Kolata 1991: 101). Kolata (1991) argues that the subsistence base of the Tiwanaku state depended upon these technically sophisticated, regionally integrated field systems, designed and overseen by state managers. These systems, in contrast to those in the Mantaro Valley, were apparently constructed as part of state development projects to provide a staple finance base for the state. The intensified, highly productive landscape of agricultural fields would have tethered the farming population to their land and indirectly to the state.

Dating of the long-term development and use of agricultural systems has been problematic, but the distribution of settlements with respect to the agricultural facilities has proved a clue to their temporal sequence (Stanish 1994). In the Juli-Pomata region along the shores of Lake Titicaca, extensive areas of drained fields were constructed. Although the distribution of Middle Formative settlements suggests that the first use of the fields was as early as 800–200 B.C., the primary development and use of the facilities correlates well with the emergence of the Tiwanaku state. Stanish (1994) argues that the state developed the capital-intensive restructuring of the agricultural landscape so as to generate surplus to finance its activities, including construction of massive ceremonial precincts at the nearby center of Tiwanaku.

In the Mantaro Valley, the specific character of the environment appears not to have offered such opportunities for intensification. The drained-field systems there created small "islands" of permanent, highly productive agricultural fields among extensive areas of dry farming. Although capital improvements like the drained fields could quite easily have been constructed by farmers according to their individual needs, a drained-field complex becomes a capital improvement to the landscape that offers some opportunities for control. Superficially at least, the drained fields of the Mantaro are similar to those that supported the small-scale political economy of New Guinean Big Men (Heider 1970), but the specific soil and water conditions of the Mantaro may simply have limited the opportunities for agricultural intensification that accompanied the emergence of the southern Tiwanaku state.

During the Wanka I and II phases (A.D. 800–1460) in the Mantaro, population again expanded rapidly. The corresponding outbreak of hostilities forced populations into large, fortified settlements located at higher elevations on hilltops and ridges. Perhaps as a result of the growth and concentration of Wanka population, or alternatively at the initiative of their chiefs, some significant agricultural facilities were constructed at this time. Fed by a puna spring, a high-elevation irrigation system (Parsons 1978; Hastorf and Earle 1985: fig. 8) led water through 24 kilometers of branching canals to irrigate about sixty hectares of agricultural land. In one location, prehistoric fields contained elaborate ridges that apparently drained excess moisture and controlled the settling of cold air and resulting frost (Hastorf 1983). Extensive ridged fields were also constructed throughout the puna of Junin immediately to the north of the Mantaro; these fields were associated with the Late Intermediate Period settlements of puna chiefdoms (Matos 1975).

The canals of the high-elevation system carried water along the base of the mountain ridge upon which stood the main Wanka II center of Tunánmarca, and they crossed the territories of several smaller settlements that were politically dominated by the Tunánmarca chiefdom. By analogy with present-day irrigation in the Andes (Mitchell 1973, 1991), community labor, organized by leaders, likely built and maintained the irrigation ditches. Irrigated lands would have been the community's most productive, and they may have included the chief's fields, which were farmed for him by members of his community.

To the degree that a family's participation in the farming cycle was necessary for it to qualify for a land allocation, the management of both the labor and the allocation gave some leverage, however weak, to the local leader. "[The Wanka] neither paid land tax or gave tribute to any overlord and recognized no overlord except that they gave respect to the said *cinchecona*" (Toledo 1940 [1570]: 23, translated by LeVine 1979: 82); "to these leaders they gave no tribute other than that they respected them and cared for their fields" (Vega 1965 [1582]: 169, translated by LeVine 1979: 82). The Wanka warrior lords were institutionally weak, although they did have rights to their community's labor for farming their personal fields. The main point is that the fields were most likely the product of communities working to solve their own subsistence problems; chiefly control over these resources would ultimately have rested on military force (see Chapter 4).

The political economy was fully developed in the Mantaro only under Inka domination, when more extensive agricultural facilities like those elsewhere in the empire's core were built (D'Altroy 1992; D'Altroy and Earle 1985). As in Hawai'i, the political economy of the empire depended upon staple finance. Large warehouse complexes, located on the hills above the administrative center Hatun Xauxa, contained staple goods that included maize, other foods, and rough clothing. "After the Inca conquered them [the Wanka] he commanded that they provide him with foodstuffs and clothing in quantities which were as great as they were able to produce" (Vega 1965 [1582]: 169; translated by LeVine 1979: 50). These bulk subsistence goods supported the Inka army and compensated people working locally for the state.

The power to control the subsistence economy derived from both an explicit military threat and the system of land tenure. All lands belonged to the state by virtue of conquest, and these lands were held by, and financed the operation of, the state administration and religious institutions. The lands, expropriated from the vanquished local communities, were returned to them for their subsistence use in compensation for their providing corvée (*mit'a*) labor to farm state lands and to carry out other state projects. The system of land tenure, itself part of the state ideology, was the justification for this economic power. But the state's dependence on mit'a labor must always have been difficult, as subtle resistance to state mobilization would have been prevalent.

The agricultural lands appear to have been divided into undeveloped and developed lands. Most of the highlands were largely undeveloped, without such agricultural facilities as irrigation canals, terraces, and drainage ditches. On the expansive uplands surrounding the valley floor, open fields of potato and quinoa were farmed in cycles of farming and fallow (Hastorf 1993). Presumably before the Inka conquest, and certainly thereafter, large blocks of land were held by the *ayllu*, the ambilateral, endogamous kin groups that were the basis for highland communities. Any household of an ayllu retained rights to subsistence land plots, which were assigned annually by the community's leaders.

The Inka empire, however, transformed its economic base with radical new production schemes that developed large agricultural zones with carefully designed canals and regular terraces. The contrast between the rustic terraces of the Andean communities and the regular and ordered terrace complex built by the Inka testifies to central planning and management. In the valleys near the capital of Cuzco, elaborately planned irrigation and terrace complexes transformed the local landscape (Rowe 1946), where estates of the ruling Inka were created for their personal support. Perhaps the most famous are the beautifully sculpted, large, arching terraces immediately below the Inka fortress at Pisac (Donkin 1979: 108–11). State farms to support

the Inka army were also developed in places like Cochabamba, where a massive canal and field complex was constructed on the poorly drained valley floor. Produce was stored in large warehouse facilities on the surrounding hills before being transshipped to support Inka military operations (Wachtel 1982; LaLone and LaLone 1987). Here lies the basis of strong economic control, toward which the Inka state was apparently moving.

The Inka state system of staple finance apparently shifted away from community corvée labor and toward agricultural managers directly attached to the state (Murra 1980 [1956]). For these managers the Inka state began to rely heavily on internal colonists (*mitmakuna*) who were removed from their local communities and resettled in "foreign lands" to support state activities. In Cochabamba, state personnel oversaw 14,000 mit'a laborers who farmed the newly developed state agricultural facilities. The development of these facilities restructured the landscape so that the agricultural units would have been easily recognized and monitored to facilitate the central management of staple production.

In the Mantaro, we suspect that the state built and maintained similar agricultural facilities (D'Altroy 1992: 172). The typical pattern in the valley was to pair local villages with small storage facilities that consisted of a line or two of circular silos. The villages would have been responsible for filling these units. About 200 hectares of simple stone-faced terraces were built on the steep slopes above the Mantaro Valley (Hastorf and Earle 1985: 580). By association with local settlements, these terraces were apparently built during the Late Horizon, and they may represent local intensification for the surplus demanded by the state. On slopes of fifteen degrees or more, littered with talus, retaining walls demarcated small fields of about 250 square meters each. Each field represented a major capital improvement and probably was in permanent production with the use of animal fertilizer. Agricultural intensification at Late Horizon settlements is also documented by the high density of agricultural stone hoes used to work the soil laboriously (Russell 1988).

On the fertile eastern side of the Mantaro, a different pattern is seen. A cluster of five large storage complexes contains long, regular

lines almost exclusively of rectangular silo buildings. No local habitation sites were found near these facilities, and we believe that they were probably associated with a state farm located below in the valley. The state agricultural facilities in the Mantaro are not preserved, but nearby in Tarma, a carefully planned canal and terrace complex, evidently of Inka construction, is still in use adjacent to the ruins of the Inka administrative center (Donkin 1979: 98–99; LeVine 1985).

To summarize, the marginal conditions of the high Andes limited development of major agricultural facilities in the Mantaro Valley. The small-scale facilities developed as part of agricultural intensification provided some basis for chiefly power, but this source of power was diluted by surrounding regions of low-intensity production. The added productivity of developed facilities was simply not greatly higher than that of other lands, and so farmers were not tied strongly to these facilities. The evolutionary cycling of chiefdoms in the Mantaro continued for over a thousand years. Eventually it was broken not by internal process but through conquest and external restructuring by the Inka state. The state constructed new agricultural facilities on a massive scale to underwrite its system of staple finance. Such developments increased control over the production of staples destined for state finance and effectively broke through the limits imposed by the highland environment and resistance by local overlords to unified control. Financed by the elaborate political economy, the imperial armies and ideology of the Inka provided a new institutional formation.

Thy, Denmark (2300–1300 B.C.)

Economically based theories for the evolution of chiefdoms in Denmark have been difficult to argue convincingly. Working within the adaptationist paradigm that was popular in the New Archaeology of the 1960's and 1970's, Jørgen Jensen (1973) argued that the evolution of more complex social and political forms was an adaptive response to growing population. But the ecological theories do not hold up to recent scrutiny (Kristiansen 1984). Population densities were low

and agricultural facilities were not highly developed. During the Neolithic and Early Bronze Ages, there is no evidence for intensive farming. Referencing Kristiansen's (1982) summary of Danish prehistory, Mann argues: "Development was not from egalitarian to ranked to stratified societies or from equality to political authority to coercive state" (1986: 67). Rather, northern Europe convinced Mann that a simple evolutionary model of expanding power and centrality is flawed. Population did not grow monotonically, chiefs did not consolidate broad regional power, and only fragile states evolved late in the Iron Age. The pattern was one of stasis, or more precisely of cycles of development and fragmentation.

The oral histories, written down during the medieval period, describe a dynamic yet unstable Germanic world. The economy, based on farming and herding, was relatively unproductive, and wealth was won by raiding the former Roman empire. The seized metal wealth was melted down for objects of display, such as neck and finger rings, that were given to warriors in return for their military support. Wealth was a measure of personal valor and connection. It could not be used as investment to consolidate economic power. The eventual rise of states late in the Viking period was based on the development of extensive trade and a true currency to support a new urban growth focused on trade (Hedeager 1994). But even then effective control of areas like Thy was always difficult, as traders from outside the cities refused to be regulated.

The cycling of political institutions in northern Europe appears to have resulted from conditions that kept economic control decentralized and weak. The windblown, cold climates limited the long-term development of agricultural facilities and prevented construction of the social cage fashioned elsewhere from an agricultural infrastructure. The forests were cut down, and fields and pastures dominated the landscape. But without irrigation, drained fields, or other carefully measured and divided production units, the landscape of Denmark was open and difficult to control directly. Denmark may thus be the exception that proves the rule. Perhaps it was the difficulties of instituting control based on direct ownership of the means of staple

production that limited the power of the Danish chiefs and restricted the evolution of more complex social forms.

The thousand-year scope of Danish prehistory encompassed the evolution (and devolution) of chiefdoms, and we must understand how even partial consolidation of power was feasible. In part these chiefdoms were based on alternative sources of power, namely, warrior might and ideological legitimacy (see Chapters 4 and 5). But an emerging political economy also served as a basis, however limited, for the power of the Danish chiefs.

During the Early Neolithic, Funnel Beaker society created an agricultural economy most suited to the heavier clay soils of eastern Jutland and Zealand, where forests could regenerate following cultivation. Excavations have unearthed evidence of cereal grains and polished stone axes used to clear forests; in addition, the pollen diagram documents cultivation in a changed forested environment. By the Middle Neolithic in Thy, cultivation practice was shifting coppice agriculture (Andersen 1993: 91). No evidence exists for agricultural improvements beyond the clearance of the forest, but some division of the landscape into community territories is suggested by the burial dolmens and passage graves, megalithic stone and earthen monuments that created culturally significant places (see Chapter 5). These carefully constructed homes for the group's ancestors literally planted the group history in the landscape, which would have been permanently inhabited by their ghosts.

During the Middle Neolithic, after 2600 B.C., the Single Grave populations created and occupied a new niche in Denmark by clearing the forests permanently for herding. This move toward herding would appear to make little sense, unless the herds were the source of a movable wealth tied to the "secondary products revolution" taking place across Europe (Sherratt 1981). During the third millennium B.C., local populations became involved in livestock production as part of an emerging exchange in hides, cheese, and plow animals. This exchange may be the early stage of a prestige-goods exchange involving the production of wealth used in status competition (Shennan 1986).

During the Late Neolithic, a growing population may well have intensified farming; the environment was extensively farmed, as indicated by the ubiquity of ard marks below Neolithic and Bronze Age barrows (Thrane 1989) and by cereal grains recovered from our excavations (Bech et al. n.d.). But no permanent agricultural facilities have been documented. Also, during this period permanent settlements were placed prominently on the highest ground. Why would these settlements have been built on these exposed hills, where the winds bite mercilessly? Perhaps their high visibility declared the territorial rights of the community over the lands upon which the settlements looked.

Until the end of the Neolithic period, the leaders of Thy seem to have been unable to solidify control over populations. Without an intensified agriculture with "landesque capital intensification," only community territories were evident. As is discussed in Chapter 5, wealth was produced and exchanged within a prestige-goods economy, but there is little evidence that leaders could effectively control these movements of wealth. The prestige-goods exchange and the status rivalry that it materialized did not create a system of finance that could easily be controlled. Production of wealth in cattle, amber, and flint axes was difficult to control centrally and remained in many hands.

What happened in the Early Bronze Age, when the economy was transformed to support an emergent chiefly organization? Unlike in the Hawaiian case, the possibilities for capital improvement to the landscape were quite limited; Denmark's environment is marginal for most forms of intensive agriculture. Indeed, population may have declined and settlement became less permanent.

What happened instead was that the export economy was apparently intensified to produce goods for exchange as a means to obtain foreign metal wealth. The political economy appears to have expanded cattle raising, which could have been done here effectively. The pollen diagrams from below the Early Bronze Age barrows document the shift to grasslands presumably used for pasture. Increased herding reflected an apparent emphasis on cattle for exchange within the political economy. The Old Norse word for wealth (*fé*) was cattle.

Into the medieval period, cattle were the main source of wealth in Thy; raised locally on the region's grasslands, animals were moved south along established drove roads to Germany and the Low Countries. Here they were sold for cash that the lords of Thy were amassing.

The primary advantage of cattle, as opposed to the broader-spectrum subsistence base of the Late Neolithic economy, would have been the ease with which they could have been managed and owned as currency in the political economy. An animal is a convenient unit of ownership and production. In herding chiefdoms, the preponderance of animals are owned by the local chief, who lends them out to individual households for their subsistence in return for support. Herding economies are thus comparatively easy to control in one sense; each animal, although not highly productive, is, like an individual field, naturally defined and clearly marked as a unit of subsistence production and ownership.

To be an effective source of wealth, the cattle would have been traded regionally for the storable wealth of prestige objects. This linkage, however, had existed since earlier times and had not resulted in the development of a centralized economy and political hierarchy. As discussed in Chapter 5, during the Neolithic, the sources of wealth in northern Europe were all local and virtually impossible to control. Alternative sources would always have existed for flint daggers, amber beads, and even cattle.

Cattle, for example, would have been difficult to control unless their pasturelands were owned. The open pastures were naturally unbounded, and it must have been difficult to define their ownership and rights of use. As I have argued for the time of Stonehenge in Wessex, highly visible monuments may have served as focal points in the open landscape to define ownership of pasturelands (Earle 1991a; Renfrew 1973). The burial monuments of the Bronze Age chiefs of Thy may have demonstrated proprietary control by chiefly lineages over the economic landscape. The barrows, as built elements, could have functioned rather like property walls, but they would have defined ownership in a focal sense. The chief's ancestors, interred in the mounds, looked out over their legacy to the living lords of the land.

Given the extensive nature of pasturelands, using the burial monu-

ments to mark ownership may have been imprecise, but it was probably the best means to delimit space and chiefly rights of allocation. The funerary barrows of the Bronze Age chiefs were built directly on top of the Late Neolithic settlements and may have functionally replaced them. As argued in Chapter 5, the system of land tenure became institutionalized and formalized as a broader ideology that positioned the chiefs at the center of the society and its economy. The ownership of pastures by the Danish chiefs would have reinforced an emergent political economy based on the maximization of production of cattle, the society's most basic wealth.

As I discuss in Chapters 4 and 5, the production of movable wealth in Denmark was linked to long-distance prestige-goods exchange that integrated the peer-polity chiefdoms of Europe (Friedman and Rowlands 1977; Renfrew 1982). Cattle were movable across considerable distances, and their secondary products (cheese and hides) were highly valued (Sherratt 1981). Control over the cattle and the pastures on which they grazed provided a weak and decentralized structure for the emerging political economy. But the essential motive for the intensification of herding was to gain export products by which to obtain metal swords and other prestige goods.

Key to the emergence of chiefdoms in Bronze Age Thy appears to have been the expanding control, however tenuous, over the production and distribution of metal wealth, which was the means both of destruction (military power) and of communication (ideological power). The metal may well have given a critical leverage to chiefs, who would have been able to assert control over the wealth by financing the metalsmiths, with their special and limited knowledge. The introduction of metal into the prestige-goods exchange of northern Europe allowed some control through attached specialists, especially those involved in sword manufacture. In this way a weak control over staple production was strengthened by emphasizing cattle export production, which led to subsequent control over the manufacture and distribution of imported metal wealth.

By controlling a population's livelihood, leaders can exercise strong control over labor and lives. As seen most evidently in the Hawaiian

case, the construction of agricultural facilities created a cultural landscape that was carefully measured and divided into significant economic and social units. A leader's ownership of the productive facilities — the irrigation systems, drainage canals, and terraced fields — derived from sponsoring their construction or from seizing them in war. The walls and ditches that expanded and stabilized subsistence farming for commoners also formed the bars of their social cage. As commoner farmers became increasingly dependent on the improved facilities, their freedom to act became constrained by the chief's konohiki, who managed the labor that built the facilities and supported a chiefly class.

Such economic power is highly variable according to environmental, economic, and political circumstance. The developed facilities are effective as the foundation for economic power to the extent that options in the subsistence economy are few, so that productive facilities are "circumscribed" by limited alternatives (Carneiro 1970; Webster 1985). The degree of circumscription reflects both the nature of the environment and its development. First, climate, rainfall, soils, and topography vary in their potential for capital improvements to agricultural production. The Hawaiian Islands simply had a greater potential for capital-intensive agriculture than did the highland Mantaro Valley and northern Thy. Second, the environmental potential was then developed differentially as local populations transformed the landscape to meet their daily needs. The forests were cleared and agriculture was intensified, but not always with permanent facilities.

The ruling elite had a vested interest in creating the facilities to intensify local production that financed ruling institutions and created the infrastructure for control. On Kaua'i, and to a lesser extent in the Mantaro, the lords of the land and its people organized the building of agricultural facilities that increased local production and bound the producers to this improved infrastructure. In Thy, the shift to herding ultimately destabilized long-term staple production, but it increased elite control over long-distance exchange. The elite designed the political economy to finance chiefly institutions. But despite what were probably similar long-range chiefly goals to strengthen and extend political power, their success at centralizing power was variable.

Preexisting conditions in the environment and its development determined the speed, stability, and character of political development.

In simple terms, the environment and its long-term capital improvement created opportunities for control that directly affected the tempo and the mode of development in the political economy. On the Hawaiian Islands, complex chiefdoms emerged relatively rapidly and tested the boundaries of state society prior to European contact and incorporation. In the Mantaro Valley, the highland chiefdoms managed to integrate large populations, only to stagnate and collapse. The state was established only through imperial conquest. In Thy, chiefdoms were highly fragile and comparatively low-scale, emerging only tentatively and for a short time.

Despite the highly varying conditions, the creativity of emerging leaders is evident in these different lines of development. In all three cases, the staple economy provided a foundation for development of the political economy. Inadequate or limited opportunity for control was simply a challenge as alternative sources of power were developed. The nature of these alternative sources of power—warfare and ideology—and their linkage to material conditions will now be considered.

CHAPTER FOUR

Military Power: The Strategic Use of Naked Force

The military is a segment, group, or institution of warriors or other fighting specialists. They conquer, defend, police, and intimidate. In these multiple and overlapping roles, the military is perhaps the key element in the creation and retention of large-scale political institutions, such as complex chiefdoms and, later, states. The military is the immediate means of creating regional chiefdoms by defeating opposing rulers and incorporating their populace within the new polity. Inasmuch as political institutions are inherently competitive, the chiefdom constantly defends itself against neighbors eager to seize lands and people. Internally the military maintains institutional relationships of the chiefdom by policing rules of hierarchy requiring the following of commands and the providing of tribute. As a last resort, intimidation is a powerful means to ensure compliance: the person who resists authority is hammered down by the power of the ruling institutions. Another aspect of intimidation is the fear of attack that herds people together under the leader who offers them protection. Gilman (1991) describes the evolution of stratified and centrally organized society as a protection racket. Leaders provide protection from attack by social predators (including themselves) in return for tributary payoffs.

It seems so simple and elemental, a fact learned in the school yard. All complex societies rely to some measure on the military to bring

people under the ruler's sway and to guarantee compliance with his or her orders. The hallmarks of civilization may be as much the conquering warrior, the armed guard, the city wall, the whipping post, the prison, and the gallows as they are the high arts, religious monuments, and writing. Military power has created large polities through conquest and eliminated dissidents ruthlessly. Carneiro (1981) called chiefdoms fundamentally warlike, with leadership vested in the war chiefs. Chiefdoms are continually at war, and war is a critical element in chiefly power strategies. Coercive force is so elemental that it is some wonder that high civilizations do not rely on it exclusively as the source of political control. But they do not.

The anthropological literature on warfare is extensive (Ferguson 1988). In this chapter, I consider the nature and place of military power in the evolution of chiefdoms. I consider how warfare can be used as a political tool not only for integration but also for resistance to integration. Inherently warfare is limited in its effectiveness as a power for central control. Although military force may create a broadly integrated polity, it can as well dissolve it by intrigue, coup, and rebellion. The power of force rips at the social fabric, the institutions of society. To be effective as a power of centrality, coercive force must itself be controlled, a difficult task that is achieved by binding the military with economic and ideological tethers.

Theories of Military Power and Social Evolution

Machiavelli's (1963 [1532]) *The Prince* recommends the pragmatic use of coercion for political action. To govern effectively, the prince must follow some basic rules: Always appear overwhelmingly strong, dependent on no one except your own forces. Use force infrequently, but decisively. When you inflict pain, do it suddenly, all at once, rather than meting it out slowly while the oppressed can plan resistance. The fear of attack must be cultivated and the inevitability of defeat assured. Power feeds on fear: "It is much safer to be feared than to be loved, when you have to choose between the two. . . . Love holds by a bond of obligation which, as mankind is bad, is broken on every occasion

whenever it is for the interest of the obliged party to break it. But fear holds by the apprehension of punishment, which never leaves men" (Machiavelli 1963 [1532]: 72–73). Fear makes compliance the only conceivable option and enables the ruling lord to stand against the forces wishing always to depose him or her.

During the late eighteenth and nineteenth centuries, competition and conflict were stressed as primary forces in the evolution of human society. Increasing integration results from "the forces which cause movement towards a common center" (Spencer 1967 [1882]: 249). Conquest makes nations, and war necessitates leaders, who become civil authorities. The popularity of these theories (and their eventual discredit) reflected their use to justify nineteenth-century western imperial expansion (Harris 1968: 134).

Among the great evolutionists of this century, Childe saw that warfare created empires as "tribute-collecting machines" (1936: 234). The power of a political institution rested on the gross surplus that it could allocate, and warfare played a critical factor in expanding the revenue-producing base of states (Adams 1966). Warfare captured new revenue sources that were then used to finance political control through other means (Spencer 1967 [1882]: 206). Warfare procured slaves, by which a political economy could be reconstructed, intensified, and tightly controlled. Warfare permitted the "great discovery" that "men as well as animals can be domesticated. Instead of killing a defeated enemy, he might be enslaved; in return for his life he could be made to work. . . . By early historic times slavery was a foundation of ancient industry and a potent instrument for the accumulation of capital" (Childe 1936: 134). A new "reciprocity" was born. Warfare was a means to bring people forcefully within a centrally organized political system.

During the 1960's and 1970's, a debate swirled over the social versus the ecological causes of war in human society. Deriving from both American cultural and British structural theories, some researchers (Heider 1970; Koch 1974) argued that cultural values and social structure best explained war. Cultural ecologists (Brookfield and Brown 1963; Meggitt 1965, 1977; Rappaport 1967), in contrast, emphasized the underlying role of population growth, which exacer-

bated intergroup competition over scarce resources and created a need for leaders and intergroup alliances to guarantee protection for productive resources.

In his influential "Theory of the Origin of the State," Carneiro (1970) synthesized a political and ecological approach to explain the evolution of complex society. Within a circumscribed environment, he argues, population growth creates competition for limited resources. The resulting intergroup warfare necessitates strong leaders to defend a group's resources against hostile neighbors, and a society with strong military leaders can expand laterally to bring new lands and their people under dominion. Warfare thus results in the rise of state organizations when circumscription has defined limited resources needed for subsistence and controlled by warrior might.

Webster (1985: 467) emphasizes the importance of four basic conditions for warfare to result in the evolution of political centralization: (1) close juxtaposition of environmental "zones with markedly different productive and demographic potential"; (2) sufficient environmental and technological productivity to produce a financing surplus; (3) "local variability in resources" sufficient to structure an economic hierarchy; and (4) rapid population growth favoring colonization. Under all four of these conditions, ecological and demographic circumstances create circumscription through *markedly different resource productivities*; with some localities much more desirable than others, people are bound to these lands, which they defend against outsiders. As complex societies emerge, elites use war to seize and defend the most productive agricultural lands and facilities. Leaders then control these most productive lands as their basis for political power.

Extending his ideas to stateless societies, Carneiro (1981) argues that chiefdoms are warrior societies in which village communities have been conquered by a regional authority. Chiefdoms, as he sees it, are forged only through fiery competition over land. The new consensus among scholars is that warfare characterizes most chiefdoms (Feinman and Neitzel 1984). Among the Iroquois, as an example, intense warfare involved revenge, raiding, trophy taking, prisoner torture, and cannibalism (Snow 1994). Many favor Carneiro's general formulation, especially his emphasis on the importance of circumscription (Kirch 1988). This vision of chiefdoms as coercive and fundamentally warlike contravenes earlier models, broadly accepted by a generation of researchers, of chiefdoms as kin-based societies, voluntarist, peaceful, and religious (Fried 1967; Webb 1975). But the question still remains *whether the warfare of chiefdoms represented the political failure of chiefs to organize stable regional systems or a successful chiefly tool to construct such systems*.

In societies without an institutional superstructure, warfare can involve chaotic and continuous conflict, a political failure to resolve conflicts within a region (Feil 1987; Johnson and Earle 1987). The threat of violence, where no political superstructure exists to mediate it, creates opportunity for local leaders to gain strong authority through offers of protection. In the interstitial spaces of the modern Italian state, the Sicilian Mafia offers "protection" from violence in return for financial payoffs. In the eastern highlands of New Guinea, recent subsistence intensification has developed improved facilities, such as orchards, fenced fields, irrigation ditches, and terracing; warfare has been intense. "Leaders are warriors, men skilled in fighting and renowned for their defense of small polities" (Feil 1987). This pattern, however, contrasts to the western New Guinean highlands, in which established exchange relationships regulate the intensity and frequency of war. Local groups or simple chiefdoms seem able in some circumstances to negotiate regional collectivities that regulate warfare through a balance of power.

Only with the evolution of complex chiefdoms does the nature of warfare change fundamentally. It then ceases to be an outcome of unregulated competition and becomes a means of conquest. Elites organize offensive campaigns to defeat and incorporate villages and thereby bring their improved land under the ownership of, and the conquered population into a tributary relationship with, the ruling chief (Earle 1987). Warfare between the Hawaiian chiefdoms, for example, was a means to expand the financial base of each chiefdom and to defend that base against the predatory intent of competing chiefs (Earle 1978). Conquest warfare seizes control over the subsistence base in an emergent system of staple finance.

Another line of argument holds that warfare in chiefdoms strategically manipulates exchange in prestige goods. David Dye (1993) describes how, among the prehistoric and protohistoric Mississippian chiefdoms, prestige goods circulated in warfare, in alliances, and in peace negotiations. They became objects of booty in battle, and they were exchanged during intergroup ceremonies related to war. Among the historic Natchez of the American Southeast, the termination of war required restitution payments for killed kin; when winners and losers were clear, peace involved established tribute payments in wealth. Thus a motivation for, and an effect of, warfare was the control of prestige-goods exchange.

In the Philippines, chiefdoms transformed the local exploitation of forest products, such as woods and spices, to obtain export goods used to trade for foreign prestige goods (especially Chinese porcelains, silks, and metals) (Junker 1990, 1994). These foreign goods could then be used as a "material fund of power" in forming political alliances and as materialized representations of a dominant ideology. Warfare was critical in attempts to control access to the foreign maritime trade and its sources of power; individual chiefs sponsored raids and vicious conflicts to disrupt and block the trade conducted by their competitors (cf. Wells [1980] for Iron Age Europe). Warfare was directed explicitly at the flow of the wealth objects, and it served first and foremost to control these symbolically charged objects. This goal of control over prestige-goods movement links to control over ideology as a source of power, political symbolism, and wealth finance, as discussed in Chapter 5.

Warfare in chiefdoms is an attempt to control by force the staples and wealth on which a political economy is based. It is thus closely linked to the other sources of power—a society's economy and ideology. But as a source of power, warfare is problematic. While it may serve to create regional tributary relationships between the victors and the vanquished, warfare does not necessarily institutionalize a political or economic hierarchy. Wolf (1982) clarifies the problems faced by elites who depend on tribute; when payments are withheld, costly and unpredictable punitive missions must be carried out. But the warriors are always a threat, whose demands quickly turn to treachery.

The Upper Mantaro Valley, Peru (A.D. 500–1534)

Peru provides an outstanding case in which to examine the role of warfare in the evolution of complex societies. The prehistory of coastal societies demonstrated to Carneiro the connection between conquest warfare and state formation. But in the highlands, warfare produced a different result. In the Mantaro Valley, warfare merely resulted in a political standoff between hill-fort chiefdoms. Here both detailed documentary evidence and well-preserved fortified communities testify to the limited significance of warfare as a political strategy for the expansion of chiefdoms.

Along the Andean Coast, warfare can explain the evolution of states. Carneiro (1970: 735–36) argues that, in the dry coastal deserts of Peru, potential arable lands were limited oases that were naturally circumscribed zones. Farmlands watered by irrigation ditches fringed the rivers from the Andes through deeply incised valleys and deserts to the sea. Beyond the reach of the irrigation, nothing grew. The sands, Pacific waters, and bordering mountains tightly hemmed in the economic landscape. As population grew and irrigation systems were constructed, competition for limited productive lands increased. Carneiro envisioned this as the archetypal example of how circumscription led to warfare and to the evolution of complex societies.

Extending Carneiro's argument, Haas (1982; Haas, Pozorski, and Pozorski 1987) emphasizes the role of warfare in the emergence of state societies on Peru's coast. He argues that an initial emergence of chiefdoms was based on a combination of economic and ideological power, but that the crystallization of state society required the addition of military power. His argument is particularly cogent for the demonstrated interdependence of the different sources of power (economic, ideological, and military) in the evolution of human society (see Chapter 6).

Although warfare was critical to state formation along the coast of Peru, its significance in the earlier chiefdoms is uncertain. At the Early Horizon ceremonial site of Cerro Sechin, iconography portrays decapitated and disemboweled bodies, apparent victims of military vio-

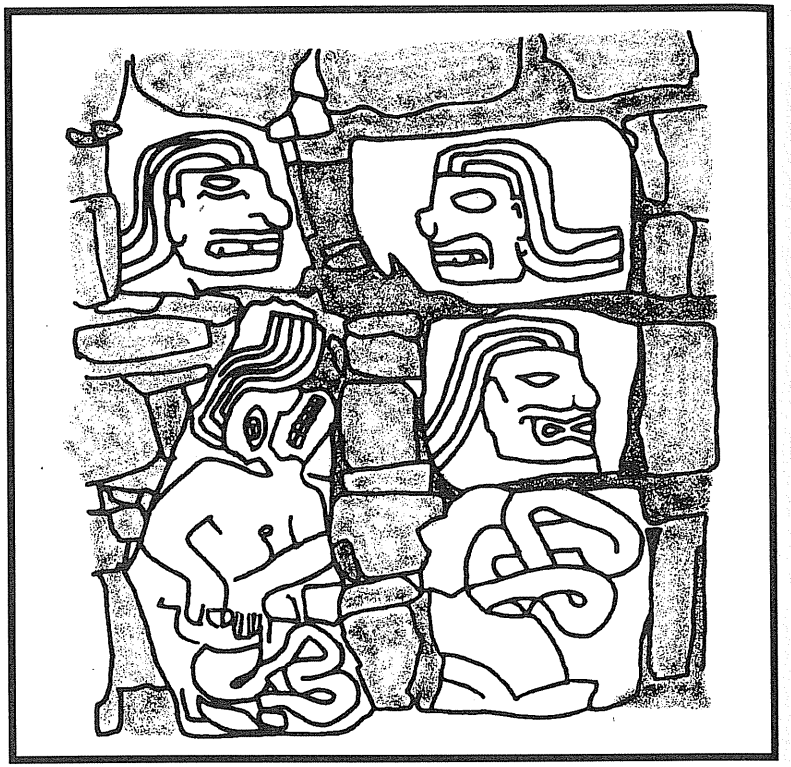

Figure 4.1. Early Horizon iconographic representations in carved stone, showing decapitated and disemboweled bodies. At Cerro Sechin, Peru (Michael Gabriel).

lence (Fig. 4.1). Shelia Pozorski (1987), however, argues that this iconography must document a victorious battle when an invading polity subjugated the valley during state formation. Whether this monument documents interchiefdom warfare or state-sponsored conquest warfare may rest on questions of definition. Certainly with the collapse of the Early Horizon states (or complex chiefdoms) warfare became endemic and widespread in the coastal valleys. Warfare at that time is documented by fortified settlements positioned on the ridges and hills that border the coastal valleys (Daggett 1987; Earle 1972; Topic and Topic 1987; Willey 1953; Wilson 1987). This warfare ap-

pears to have been small-scale, probably involving intense conflict between local groups or chiefdoms. The important point is that burgeoning warfare among these comparatively simple societies corresponded with the collapse of regionally integrated polities and does not appear to have facilitated political integration.

In the Andean highlands, conditions were apparently much less circumscribed than on the coast, and so one might expect a different role for warfare. Population was relatively low, and arable lands for the practice of rainfall agriculture were extensive. In apparent contradiction to Carneiro's hypothesis, although environmental circumscription appears to have been less significant in the highlands than on the coast, warfare was endemic in the highlands through much of the prehistoric sequence. In fact, it was virtually the leitmotif of political life among the highland chiefdoms. Settlements frequently sat perched on knife-edge, defensible ridges and were surrounded by fortification walls (Browman 1970; Hastorf 1990, 1993; Hyslop 1977; Krzanowski 1977; LeBlanc 1981; Parsons and Hastings 1988).

In the Mantaro Valley, the Wanka chiefdoms were continually at war, but warfare here, and among chiefdoms elsewhere in the Andean highlands, was of only limited effectiveness in creating larger-scale polities. It was only for the imperial states of Tiwanaku, Wari, and Inka that warfare was ultimately successful as a political strategy. Specifically, Carneiro's emphasis on population pressure as the underlying cause of chiefly warfare and development needs to be reevaluated in light of recent evidence.

Documentary Evidence of Warfare in the Mantaro Valley

In the upper Mantaro Valley, historic sources* vividly document warfare before Inka conquest. At this time, the Wanka lived in crowded hilltop fortresses such as Tunánmarca and Hatunmarca (see

*The best early Spanish sources include the brief initial observations of Cieza de León (1862 [1550]) and two later visitas (Toledo 1940 [1570]; Vega 1965 [1582]). These sources were originally translated and analyzed by Terry LeVine (1979), and I have relied on her work to provide my English translations. Subsequent UMARP researchers (D'Altroy 1992: 52–55; Hastorf 1993: 87–100; LeBlanc 1981) have worked with the same sources to reconstruct pre-Inka, Wanka society and the important role of

Chapter 2). Any doubt that this settlement pattern was a response to intense intergroup warfare can be quickly dispelled by reviewing the historical documents.

Prior to Inka pacification of the region, communities in the Mantaro were "wild," constantly at war with each other (Cieza de León 1984 [1551]). In interviews with four elderly Wanka leaders, Toledo asked specifically about the state of war and peace prior to Inka incorporation. Uniformly the local leaders described the fierce hostilities that existed: "One community always fought with others over their fields and over their animals and over their women . . . and they would always try to seize the lands of the others" (1940 [1570]: 19). "When a local community multiplied to many people, they would eventually fight with others to seize their fields and food and their women" (ibid.: 28). Vega summarizes the state of war among the Wanka as follows: "Before the Inka, one [community] would fight with another to acquire more land, and they would not go outside the valley but those from one side of the river would fight with those across the river" (1965 [1582]: 169). The Wanka leaders interviewed by the Spanish could have been writing a section for Carneiro's paper. They speak of a growing population causing resource pressure that necessitated military action to seize and defend land, animals, and women from other Wankas.

As if to further Carneiro's argument, the Wanka informants described their former leaders as primarily warriors (cinchekona). Quechua cinche (pl. cinchekona) was translated into Spanish as *el valiente*, the "valiant, strong, powerful" individual. By footnote, the cinche of modern Peru is a ruthless antiterrorist military operative (the government's own terrorist).

Toledo's informants describe the original cinchekona as follows: "This one [our leader] is a brave person who can defend us from our enemies; let us obey him" (1940 [1570]: 18). "The only leaders they had were cinchekona whom they chose and respected because he, as their captain, defended them against their enemies" (ibid.: 34). A

warrior leadership within it. My brief summary draws substantially on all their analyses, which provide detailed interpretations to which interested readers should refer.

leader led because of his military prowess and ability to protect his local community against attack.

The position of community leader could be inherited patrilaterally, but all cinchekona had to demonstrate fighting prowess.

> When one of the cinchekona died, they would choose his son to be cinche if he were brave, but when he proved not to be brave, they would choose another. And during the lifetime of a cinche, it is said, when he had sons, he would send them to war with his people, and, if they proved themselves to be brave, the people would say that they [the cinche's sons] would make good cinchekona after their father's death. (Ibid.: 31)

The leaders of the Wanka were brave and strong warriors, proven in battle.

Did these cinchekona, leaders in war, also become leaders in peace, as Carneiro's theory proposes? It appears as if their legitimacy rested in large measure on warfare and their role as defenders of their community and sources of booty. Thus informants mention the cinchekona's need for war to keep their communities focused on the warriors' leadership. "I have also heard it said among the elders that these cinchekona always wished to instigate wars among themselves, because afterwards there would be fiestas and they would acquire increased respect, and when they conquered some villages, the women would come forth with pitchers of chicha and other things" (ibid.: 31). "[The Wanka] gave [their cinchekona] no tribute nor any thing other than when they would defeat their enemies, they would give them land" (ibid.: 23). But as discussed below, these statements of the single, military nature of Wanka leadership appear exaggerated.

One important question is the size of group organized as an independent polity. The basic political unit was the local community. "Each pueblo governed itself without recognizing the style [authority?] of other pueblos" (ibid.: 34). "Each pueblo and each house was independent as they were a community" (ibid.: 18). It would appear as if the political organization was highly fragmented, but we know from the archaeology that settlements could be large and tightly packed, as were Tunánmarca, with an estimated 8,000–13,300 inhabitants, and Hatunmarca, with 6,600–11,100 inhabitants (D'Al-

troy 1992: 57). It has been our interpretation that the town-sized settlements of Wanka II were agglomerations of populations brought into close confines by a need for defense (LeBlanc 1981; DeMarrais 1989).

Beyond these separate local communities, a number of Wanka II settlements were politically connected. This regional organization is depicted by some native testimony recorded in the visitas. "The pueblos that were very close to each other allied to fight over land with villages that were farther away" (Toledo 1940 [1570]: 35). "When some pueblos did not want to live in peace with other pueblos, the cinchekona and their followers would make war, kill them and take over their land and other times subjugate them and their leaders. For those who submitted peacefully, they were permitted to remain on their lands because they proclaimed that they were willing to be vassals" (ibid.: 24). Thus Carneiro's basic argument seems to hold in this regard: warfare created socially circumscribed groups for defense (and offense), and warfare was used to conquer other peoples and dominate them politically.

To summarize the historical evidence, a close relationship existed between warfare and the evolution of late Wanka chiefdoms. The following key facts seem clear: Warfare was endemic in the late prehistory of the Mantaro Valley. The goals of warfare were economic—seizing land, animals, and women. Leaders were warriors, with their authority legitimized by success in battle. Chiefdoms appear to have been fairly small spatially, typically focused on a single dominant settlement, but with populations upward of ten thousand. The large size and regional integration of communities were based on defensive necessities.

The late Wanka chiefdoms were evidently based largely on military power—a need for common defense and the subjugation of neighbors following negotiated surrender. People entered the larger Wanka confederacies through fear and intimidation. The political power of the Wanka chiefs rested almost exclusively on their military might. As expressed by the Wanka informants, pueblos and individuals should have been economically self-sufficient and politically independent. Remember the evident lie, "Each pueblo and each house was independent." But this lie was the ideological and economic truth. The political superstructure of the Wanka rested on military threat and promise. The institutional elaboration of the Wanka chiefdoms was remarkably undeveloped and unstable (see Chapter 5).

Archaeological Evidence of Warfare in the Mantaro Valley

To understand more about warfare and the evolution of chiefdoms, I turn to the archaeological evidence for the Mantaro Valley, spanning more than a thousand years. I overlay knowledge of population change and the evolutionary trajectory of human society (summarized in Chapter 2) with the archaeological evidence for the intensity of warfare. Specifically, I want to evaluate, in the context of the prehistoric Mantaro Valley, Carneiro's theory that population growth within circumscribed economic zones caused the escalation of warfare and the elaboration of chiefly societies.

In the Mantaro, the most useful archaeological indicators of warfare are fortified settlements, with such features as surrounding town walls, narrow entrance gates, and compact housing; settlements defensively located on hilltops and ridges and at higher elevations, where topography is generally easier to defend; and the presence of weaponry.

During the Formative phases in the Mantaro Valley (1000–300 B.C.), population densities were low. Initially, during the Piripukio, warfare was apparently of little importance, as many settlements were positioned at low elevations in nondefensive positions. But by the Cochachongos phase, defense was apparently a consideration; most settlements (62 percent) were positioned on ridges and knolls above 3,500 meters. Even at the low population levels then existing, warfare was a concern for the local groups prior to the evolution of chiefdoms.

By the Huacrapukio phases (A.D. 200–800), population grew rapidly before leveling off. Simple chiefdoms became the dominant social organization through the valley. Warfare was prevalent during Huacrapukio I, as population pressure increased. Settlements, such as J216, were evidently fortified. This central settlement of about four-

teen hectares, with an estimated population of perhaps 700, sat atop a high knoll overlooking the Acolla Valley; steep slopes protected it from attack on all sides. Although the settlement was badly destroyed by subsequent farming, rubble remains from three residential areas on three connected knolls. Like J216, the majority of all Huacrapukio settlements (59 percent) were sited defensively, above 3,500 meters.

During Huacrapukio II (A.D. 500–800), despite continued high population, the immediate threat of warfare apparently subsided. Settlements in fortified high locations were abandoned and relocated to lower elevations. Only 25 percent of settlements continued to be occupied through both phases. In comparison with Huacrapukio I, fewer settlements were positioned defensively on ridges and knolls (40 percent) or at elevations above 3,500 meters (44 percent). J221 was one of the largest settlements, with an estimated 500 inhabitants; spread over about ten hectares, this central settlement sat on a low knoll from which it could not have been easily defended. Many of the newly founded Huacrapukio II settlements, such as Pancán (J1) and Tragadero (J4), were constructed flat on the valley floor or on the lower slopes.

During both Huacrapukio phases, weapons may have included ground discoidal "donut" stones (probably mace heads) and a few arrowheads (Hastorf et al. 1989: 99–102). Characteristically the donut stones were made from naturally smooth and flat cobbles of fine-grained basalt, ground around the edges to create a circular disk, and biconically drilled through the center. The absence of wear on the edges suggests that they did not serve a utilitarian function, such as breaking up earth clods, but the central holes evidenced extensive polish consistent with being hafted. The few dozen arrowheads include a variety of triangular and ovoid forms. Although arrows could have been used for hunting, wild game remains were so rare in the excavated Huacrapukio deposits that hunting could not have been important. The possible weapons of war (the mace and arrowheads) declined through the Huacrapukio sequence at Pancán (Hastorf et al. 1989: table 5).

To summarize, from the Formative Period and into Huacrapukio I, warfare partly determined settlement location. Warfare apparently predated the organization of small chiefdoms in the valley and continued thereafter. Then, despite continued high population, fortification and its associated warfare decreased in Huacrapukio II. Why did more peaceful conditions come about? Scattered Wari state ceramics throughout the central highlands, suggested by some as representing imperial conquest (Isbell and Schreiber 1978; Browman 1976), date from this period. Although there is no direct evidence for Wari conquest in the northern Mantaro area (Borges 1988), the empire may have imposed a regional peace, such as the one over 700 years later following Inka conquest. Alternatively, the local chiefdoms may have engineered a regional peace through alliances and negotiations similar to those described historically for the Big-Man collectivity in western New Guinea (Johnson and Earle 1987; Feil 1987).

At the beginning of the Wanka phases (A.D. 800), population stabilized (see Chapter 2). Despite this population stagnation, and corresponding unchanged pressure on resources, more warlike conditions returned to the Mantaro. Now 54 percent of settlements were positioned defensively on knolls and ridges, but still quite low in elevation (only 44 percent were above 3,500 meters). The settlements on the knolls and ridges were probably fortified, but preservation is poor because their locations are under modern agricultural use. The reason for the increase in warfare was evidently not increasing population and resulting circumscription and competition among communities. It was apparently the outcome of a collapse in the regional organization that regulated warfare.

Subsequently, into Wanka II (A.D. 1300–1460), the pattern of demographic change and hostilities neatly fits Carneiro's model. Corresponding to a rapid population increase, the threat of intercommunity warfare escalated dramatically. As described in the historical documentation, intraregional warfare raged. The positioning and layout of settlements document their defensive character. Most settlements were positioned on knolls and ridges (57 percent) and/or above 3,500 meters (60 percent). A disproportionate 72 percent of the estimated population lived perched on these heights, removed from productive valley lands. Fortifications of the large towns were substantial. Surrounding Tunánmarca (Fig. 2.13) were two fortifica-

tion walls; surrounding Llamap Shillón were five concentric walls. Inhabitants built up irregularly shaped limestone blocks into high-fronted walls that would have stood two meters tall. Except for four or five narrow entrance gates and for areas naturally guarded by steep cliffs, the defensive walls continuously encircled the towns. These defenses were formidable obstacles, reinforcing the natural defensive advantage of site locations. Human work in the walls' construction was substantial. People were obviously frightened of attack.

Interestingly, weapons are virtually absent from excavations of the Wanka sites. The frequency of the donut stones and arrow points declined markedly through the Pancán sequence, especially when contrasting Huacrapukio and Wanka levels (Hastorf et al. 1989: table 5). From surface survey, Wanka I and II settlements yielded few weapons. Extensive excavations at Wanka II settlements found only the odd donut stone or arrow point, perhaps just curiosities from a bygone age.

The absence of weapons from the Wanka period suggests that the nature of warfare had changed substantially since the Huacrapukio. Personal, offensive weapons were largely replaced by defensive facilities and by natural (or minimally modified) stones that could be hurled down on attackers. The evidence for Wanka II presents an instructive comparison to the Danish case, in which weaponry was relatively common but defensive facilities were nearly absent. Although warfare obviously increased through the Wanka period, investment was apparently in defensive works rather than in weapons. The implications for political development are profound. The military walls were highly visible and emphasized community integrity. The effect was a political standoff between the local hill-fort chiefdoms.

In terms of Carneiro's theory, the increase in warfare through the Wanka period evidently caused a rapid increase in the demographic size of polities, which grew to sizable chiefdoms of greater than 10,000 people, led by warrior chiefs (cinchekona). But the defensive nature of the warfare and the resulting inability to gain substantial offensive advantage severely limited the spatial extent of the polities. The chiefdoms were effectively limited to small regions, and conquest expansion, expected by Carneiro, was cut off. The Wanka case fits into

a particular type of chiefdom, what I am calling a *hill-fort chiefdom*, in which the developmental potential for political expansion and institutionalization was evidently limited. This limitation is characteristic of chiefdoms in which the *primary* basis of power is defensive military might.

The characteristics of a hill-fort chiefdom include:

Features generally characteristic of chiefdoms (see Carneiro 1981; Earle 1987):

1. Polity with a population in the low thousands (simple chiefdom) to tens of thousands (complex chiefdom)
2. Regional settlement hierarchy with a center and secondary settlements
3. Politically centralized and stratified social structure
4. Emergent political economy for institutional finance

Features unique to hill-fort chiefdoms:

5. Heavily fortified settlements
6. Preponderance of population in the largest settlement (see Drennan 1987)
7. Emphasis on military power
8. Warfare to defend territory rather than to conquer new revenue sources
9. Staple (as opposed to wealth) finance (see Chapter 3)

The political fragmentation and continual state of war that characterized Wanka chiefdoms were broken only by imperial conquest (D'Altroy 1992; Hastorf 1993). Out of a world of competing chiefdoms, the Inka exploded to conquer chiefdom after chiefdom throughout the highlands and eventually to take on and defeat the large coastal states of the Andean world. The main point, also made by Fried (1967; Haas 1982), is that conquest warfare as a strategy to extend and build polities became effective only for states. In fact, the Inka state may have formed and solidified its regional organization around Cuzco well prior to imperial conquest (Bauer 1990).

But why were the Inka armies, the military of the state, so success-

ful when chiefly warriors failed to conquer sizable regions? There was no fundamental technological change. No special weapons like iron spikes, guns, or horses were introduced. Those changes were to wait until the imposition of Spanish rule on the Andean world. "The Inka military tactics reported in the Spanish sources were relatively unsophisticated, consisting principally of variations on massed attack with troops, such as slingers and archers, who threw projectiles or with shock troops who engaged in hand-to-hand combat. . . . Battles were usually conducted either as melees in the open field or as assaults on hilltop redoubts" (D'Altroy 1992: 75). But the Inka conquest did not result solely from the greater size of their armies. The changes accompanying the rapid Inka expansion rather involved weaving a tapestry of power that united the powers of military, economy, and ideology. Warfare became effective as it became supported by a state financial system and institutionalized by a state ideology. The destructive power of military might was fashioned into an effective political source of centralizing power in Peru only when it was harnessed and controlled through its articulation with the other sources of power (see Chapter 6).

Thy, Denmark (2300–1300 B.C.)

The military as a source of chiefly power is further clarified in the Danish case. By the Early Bronze Age, the Thy region was organized as chiefdoms led by a warrior elite, who were identified in death by their bronze swords. The nature and implication of warfare in the prehistoric Danish societies present a different trajectory for chiefdoms from that described in the Andean case. Demography appears to have exerted little influence on hostilities and corresponding leadership. The eventual outcome, however, was similar. The reliance on warfare as a source of power limited the potential for political expansion and incorporation of larger polities. In Denmark, the warrior chiefs were unable to expand their domination over broad regions or sizable populations.

Although no historical sources document Danish society of the

Bronze Age, some reflection of what it may have been like can be gained from the analogous warrior society of Beowulf and the later Icelandic sagas. Warfare was endemic and politically significant. Hrothgar, king of the Danes, gained his power through success in raiding and the wealth he amassed.

> Then Hrothgar gained through hardihood success,
> through conquest honor so that comrades eagerly hastened to obey him and until a host of youths
> swelled his might. (Huppé 1987: 35)

Support was compensated by gifts of many things, but perhaps most importantly of the actual weapons of war.

> Hrothgar gave Beowulf the warbanner
> gold-adorned standard, and sword of Healfdane,
> his prized helmet and armor as repayment of victory,
> and many men saw the illustrious sword
> borne to the hero. (Huppé 1987: 62)

A leader worked to build his wealth and weapons and then to gather around him the warriors needed to raid and to defend the meadhall as center of power. He gave out the weapons that were used by his warriors, but they might always turn treacherous and carve out their own place in history.

In Njal's saga, it is clear that little central power existed among the chieftains of Iceland. A chief was continually in fear of his life, and its fragile guarantee rested on his family, retainers, and personal reputation as a fearsome warrior and valued friend. The saga is filled with vivid descriptions of combat, as a person defended his life against attack. The famous hero Gunnar died defending his home:

> Gunnar seized his halberd two-handed, whirled round on Thorband, drove the halberd through him, and hurled him off the wall. Thorband's brother, Asbrand, leapt up; Gunnar lunged again with the halberd, and Asbrand thrust his shield in the way. The halberd went right through the shield and between the upper arm and forearm. Gunnar then twisted the halberd so violently that the shield split and both Asbrand's arm-bones were shattered; and he, too, toppled from the wall.

By that time, Gunnar had wounded eight men and killed two. Now he received two wounds himself, but everyone is agreed that he flinched neither at wounds nor death itself. (Magnusson and Pálsson 1960: 170)

And so Gunnar, most mighty of the Icelandic chieftains, died.

To turn to the Danish archaeological record, throughout the period, warfare was evidently a central source of political power and chiefly identity. The primary evidence for warfare is the preponderance of personal weaponry, including battle-axes, daggers, and swords, as male burial goods. For over a thousand years (2600–1300 B.C.), male status was tied to personal weaponry.

Prior to 2600 B.C., the evidence for warfare in Thy is limited. No special weaponry has been recovered, although arrowheads of this period could have served as well to kill people as deer. The settlements in Thy are generally poorly defined and appear to have been small unfortified hamlets. Only causewayed enclosures were placed on high ground and enclosed by banks and ditches. During the Early Neolithic, the causewayed enclosures throughout Europe were part of a restructuring of the symbolic landscape with monumental constructions (Thomas 1991; see Chapter 5 below). But they may also have been important as refuges or defended settlements. Evidence for warfare in Early Neolithic Europe includes defensive locations of the enclosures and their association with arrowhead concentrations (Burgess, Topping, Mordant, and Maddison 1988; Keeley 1996).

During the Middle Neolithic (approximately 2500 B.C.), when the Funnel Beaker Culture (TRB) was supplanted by the Single Grave Culture (see Chapter 2), a distinctive cultural change was the introduction of weaponry to define male status. (Interestingly, battle-axes were found in the megalithic monuments dating from the very end of the Funnel Beaker Culture, perhaps overlapping with the Single Grave Culture, and beautiful amber necklaces of battle-ax-shaped beads were diagnostic of the phase.) At this time, individuals were buried singly or in pairs under earthen barrows. Males were characteristically buried with a ground-stone battle-ax. The new message was clear—the status of persons had become individualized and, for males, associated with warfare.

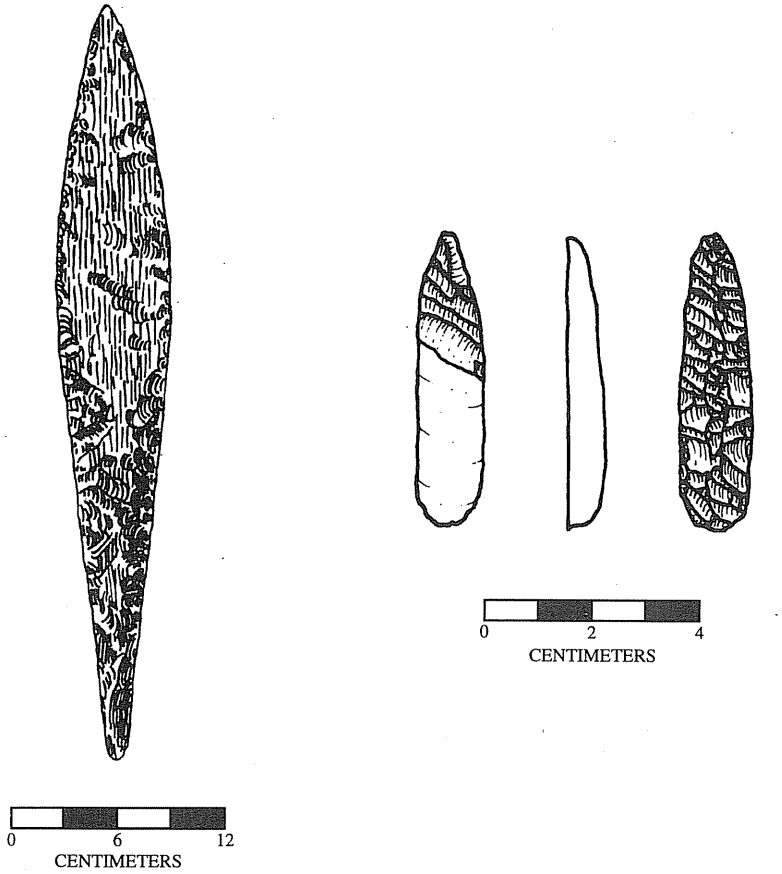

Figure 4.2. Late Neolithic flint dagger, Denmark, and flint dagger miniature from House 1, Thy 2758 (Michael Gabriel).

The significance of weapons, both as symbols of status and probably as fighting implements, continued during the Late Neolithic cultures of Thy. This was the Dagger Period. Northern Jutland is known for the manufacture and exchange of beautifully flaked flint objects (Fig. 4.2). A typical dagger, knapped from translucent flint, was 25 or more centimeters long, with a thin blade and a handle that was probably bound by leather. These daggers were carefully knapped, ground, and then pressure-flaked to a form modeled after

metal daggers used elsewhere in Europe. The broadly distributed Bell Beaker assemblage includes the daggers, beautifully crafted arrow points, and wrist guards—a warrior's personal equipment. Another element of Late Neolithic material culture was the miniature dagger, only about six centimeters long. These daggers show the distinctive wear patterns of strike-a-lights, used to start fires. The common distribution of the daggers and arrowheads suggests that they were functional weapons, but they probably also served to define male status as warriors.

In Thy, Late Neolithic daggers and arrowheads are occasionally recovered from burials, but more frequently from field walking and settlement excavations. In the parish of Sønderhå, many daggers have been recorded in farmers' collections, where they turn up yearly after spring plowing. The distribution of these daggers and their associated lithic scatters have helped identify Bell Beaker phase settlements. These settlements were located on the highest prominences in the landscape, perhaps for visibility and defense. Daggers, arrowheads, and strike-a-lights were recovered from all Bell Beaker period settlements and from the three houses that we excavated at Thy 2758 (Table 4.1). House 1 at Thy 2758, however, contained the most weaponry, with nine fragmentary daggers, a beautiful miniature strike-a-light dagger (Fig. 4.2), and two arrow points. Unfinished arrow points from House 2 suggest the manufacture of these weapons within the settlement. Evidently, the flint daggers and arrowheads were common in everyday life, finding their way routinely into floor and trash deposits of the houses. The importance and breadth of distribution of the weapons suggest incessant warfare and the need to defend family and person. Status was probably marked by the finely manufactured daggers and strike-a-lights, but quite evidently access to these weapons was not limited.

During the Early Bronze Age, weaponry continues to be a distinctive element of the material culture of Thy, but settlements appear to have shifted toward lower elevations, such as Bjerre, where the immediate need for defense must have been less. During this period, and at earlier Neolithic settlements, fortifications were not present. The primary evidence of warfare in Denmark, in contrast to the dramatic case

TABLE 4.1
Distribution of Flint Daggers from the Excavations of the Thy Archaeological Project

Site	Features	Number of daggers
Thy 2757	House 1	1
	Other	3
Thy 2758	House 1	9
	House 2	1
	House 3	1
	Other	2
Thy 2922	Other	2

from Peru, was weapons, not settlement defense. This suggests a distinctive goal of war, perhaps raiding for wealth and the protection of trade routes, rather than in-place battles between competing communities for control of land.

The weaponry from Denmark at this time included bronze swords, lances, and daggers recovered exclusively from burials. Figure 4.3 illustrates a Montelius II Period chiefly sword from Thy; its exquisite handle was crafted with lost-wax molding. From the Bronze Age barrow at Egshvile, Thy, a warrior's grave contained a flanged-hilted sword and sheath, small knife, and various other pieces of bronze decoration (Haack Olsen 1990: 143–45). The bronze sword probably originally lay attached at his waist. It was a typical fighting sword of Period III of the Bronze Age. Ideal for close-in combat, it was originally about sixty centimeters long, with the blade about fifty centimeters long and four centimeters wide at the hilt. The blade was undecorated; a simple horn grip was riveted to the handle flange. Such swords were light and well-balanced weapons, useful especially for stabbing. In his analysis of Bronze Age swords from Denmark, Kristiansen (1982) describes two functional types. Most common were the warrior swords used in combat. Their hilts are fairly simple, and their blades show ample evidence of use and sharpening. In contrast, the rarer chiefly swords have elaborated hilts with individualized decoration and intricate metal working, and their blades show little evidence of use. They were primarily symbols of warrior superiority and elevated status.

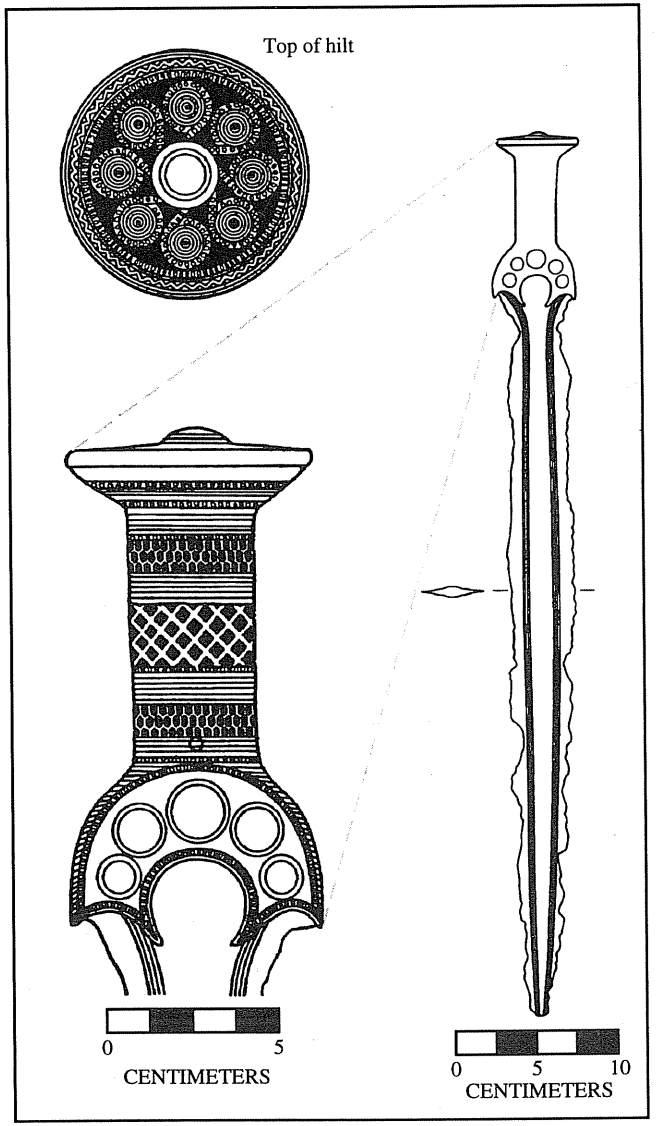

Figure 4.3. Early Bronze Age (Montelius II period) chiefly sword from Thy (DeMarrais, Castillo, and Earle 1996; reprinted courtesy of University of Chicago Press).

From the barrows of Thy, nineteenth-century excavations recovered more than a hundred swords, now housed in the National Museum in Copenhagen. Characteristically these swords came from central burials of elite males. Only a small percentage of the population was apparently buried in these central graves, and they probably represented a warrior elite. A double bronze button from a sword belt was recovered from the chieftain's house excavated at Bjerre (Thy 2999); no swords or other weaponry have been recovered from the residential excavations that TAP conducted to fill in the picture of Bronze Age society contemporaneous with the barrows.

To understand the nature of the warfare documented in Thy and elsewhere in Denmark, I evaluate the potential role of population in causing conflict. Warfare in the Danish case is, contra Carneiro, *not* correlated with changing demographic circumstances. The appearance of warfare with the Single Grave Culture corresponds with a declining population. In fact, the actual evidence of settlements for the Single Grave Culture is so ephemeral that the population must have been quite small. Certainly, staple resources would not have been circumscribed. The increase in population into the Late Neolithic does correlate with an increase in the abundance of weapons and a likely increase in immediate threat, but the actual population densities must still have been quite low. The introduction of bronze weaponry and the corresponding creation of chiefdoms during the Early Bronze Age does not correspond with population growth (see Chapter 2).

That fortified settlements did not exist in Thy during the Neolithic and Bronze Ages suggests that warfare did not primarily involve competition between local communities for control over land. Rather the warfare, documented by personal weaponry, most probably involved raiding for wealth between individual chieftains. Most important as a source of wealth would have been cattle. Cattle continued to be an important source of wealth in Thy up into the medieval period, and it is reasonable to assume, based on ethnographic analogy, that cattle raids were the goal of fighting. Warfare thus would have been a political strategy to concentrate wealth correlated not with population density and intergroup competition but with the distribution of cattle

and political struggles for their domination. As discussed in Chapters 3 and 5, animal products were used as primary exports in long-distance prestige-goods exchange.

During the Early Bronze Age, the prestige goods upon which status rivalry focused continued to be weaponry. Following the cultural transformation during the Middle Neolithic, weapons defined male status and determined personal power. Throughout the Neolithic, the weapons were manufactured from locally available stone, and they could have been made by many who were skilled in stone working. These stone weapons would thus have been broadly accessible. As weapons of war were found in all households, access was evidently unrestricted, and they would have had a strongly equalizing character. To the degree that weapons were widely accessible, all households could arm themselves for protection from raids and predatory overlords.

The introduction of metal weapons changed the balance of power to favor the development of a hierarchical organization. The metal weapons were evidently more effective, as the length and durability of the sword were improvements on those of the dagger. Equally important, the meaning of the sword as an object of value was unambiguous. Access to bronze swords and daggers could have been more easily controlled than access to the earlier stone weapons. The metal itself was imported from the south, and long-distance exchange relationships through which it must have moved could be restricted, to some degree, by emerging leaders. More importantly, I would argue, the actual manufacture of the bronze swords could have been controlled through attached specialization.

Because of the regionalization of sword styles, we know that most Early Bronze Age swords recovered from Denmark were locally produced. The near invisibility of the manufacturing process archaeologically (Levy 1991) suggests to me that the localities of bronze manufacture in the Early Bronze Age were scant. Because metallurgical casting techniques are technically complicated, the number of highly trained craftsmen was most certainly few. A chief, by bringing the craftsmen under his control, could thus monopolize the production and availability of the weapons. My expectation, still awaiting

archaeological confirmation, is that the manufacture of the weapons was immediately associated with chiefly residences.

The shift in weaponry to the more effective metal swords would thus have permitted control over craft production and thereby over the means of destruction (Goody 1971; Kristiansen 1987). This would have extended to control over the warriors armed with the bronze weapons, to a monopoly over cattle gained in raiding, and thus to dominion over export exchange involving the cattle. Perhaps analogous to the historic Philippine chiefdoms that traded with the Chinese (Junker 1994), a primary goal of warfare would have been to secure cattle for export and to eliminate competing chiefly traders. Through warfare the chiefs of Thy probably sought to monopolize long-distance trade and access to foreign goods.

To summarize, the primary evidence for warfare in Thy is the presence of personal weapons of war. Settlements, although placed in visible locations during the Late Neolithic, were small and without evidence of fortification. Through the time periods under consideration, weapons were found in burials, where they must have served to denote status, but only in the Late Neolithic were they also found in settlements. We can imagine a world of intense status rivalry played out through military confrontations among those striving to dominate. The chieftains of Thy were militaristic, but the implications of military force as a source of political power depended fundamentally on the nature of the warfare, its technology, and its relationship to broader economic systems. Warfare alone is an unstable source of power, except in situations where the very technology of warfare can be controlled and its spoils can be invested effectively in expanding the political economy. The Hawaiian Islands illustrate how this can be accomplished.

Kaua'i, Hawai'i (800–1824 A.D.)

Warfare in prehistoric Hawaiian society was a critical means to centralize political power. The paramount chiefs sought to expand the size of their polities through conquest—eliminating potential com-

petitor paramounts within the major island chiefdoms, annexing the smaller, interstitial islands, and going head to head with competing major island chiefdoms as opportunities for expansion arose. By conquering additional territory, the paramount could expand the financial basis of his chiefdom. This expansion did not seek land primarily, but the improved productive facilities (agricultural fields and fishponds) and commoner labor that produced the "surplus" that financed the political economy. Conquest warfare in the Hawaiian Islands created large chiefdoms, and soon after European contact, the famous paramount Kamehameha I overwhelmed the other paramounts to form the Hawaiian state. The way that Hawaiian chiefs used warfare for conquest illustrates how it can play a key role in the fashioning of complex polities.

Although the chiefdoms of precontact Polynesia varied considerably (Sahlins 1958; Goldman 1970; Earle 1978; Kirch 1984), common to all was endemic warfare. None were peaceful; in none was rule uncontested. Warfare was not, strictly speaking, an outcome of any ecological conditions; it was inherently part of the chiefly culture. *Toa*, warrior, is a root word in the reconstructed Proto-Polynesian language dating back to about 500 B.C., when early Polynesian society first differentiated out of its Lapita progenitor (Kirch 1984: 49).

The nature, extent, and ferocity of Polynesian warfare, however, varied according to economic, demographic, and political conditions. Perhaps the most dramatic contrast existed between the more fragmented Maori chiefdoms of New Zealand and the centralized and institutionally complex chiefdoms of the Hawaiian Islands (Kirch 1984, 1988). Kirch (1988) evaluates Carneiro's theory of warfare and demographic circumscription with a useful analysis of these two cases. He begins with the logical argument that, at *any* reasonable growth rate, a colonizing group in a physically circumscribed land mass such as a Polynesian island would expand geometrically to the limits of its productive resources. Competition for the limited resources would cause intergroup conflict and war.

The Maori chiefdoms seem to illustrate this scenario. Initial colonization by A.D. 1000 set off long-term growth as population spread out

through the North and South Islands of New Zealand. Suddenly, around A.D. 1600, fortified settlements and refuges sprang up in many areas on the North Island (Irwin 1985; Allen 1994: fig. 4.2). It would seem that the initial expansion and spread of population had reached some limit at which the best subsistence resources were no longer freely available and intense interchiefdom warfare ensued. Analyzing the historical evidence, Vayda (1960, 1976) argued that a war process existed whereby population expansion within a region exacerbated intergroup conflicts and eventually resulted in armed aggression aimed at seizing lands and supplanting neighboring populations. Chiefs organized warfare and defense within the community.

The Maori and other Pacific societies, such as on the islands of Rapa (Kirch 1984: 211–13) and Fiji (Frost 1974; Rechtman 1992), were hill-fort chiefdoms. In New Zealand, people relied on entrenched *pa*, heavily fortified settlement and storage enclosures. Several thousand of these pa were built within a few hundred years. Allen (1994) documents how a number of pa cluster to form a regional polity, but the scale was limited. The distance from the center of one cluster to the next within the Hawke's Bay region, for example, was perhaps twenty kilometers or less. A pa typically consisted of a hilltop fortress surrounded by multiple embankments. The fortifications provided a securely defended place that, prior to the historic introduction of firearms, would have been difficult to breach. Within the walls were settlements and lines of storage pits for the main agricultural produce (sweet potatoes) to be protected from raiders. As in the Andean case, the chiefdoms evidently developed in response to intense intergroup warfare and the need for defense. Although larger chiefdoms did apparently emerge in particular areas on the North Island, the ability to expand through conquest was limited by the technical characteristics of the warfare and the success of local defenses.

On the Hawaiian Islands, the nature of warfare proved to be different. There is virtually no archaeological evidence for warfare in the settlement pattern and artifact inventory. Villages consisted of separate houses distributed through a community's land, and they were not defended by in-place fortification. The only clear archaeological

indications of warfare are a few concentrations of sling stones, the odd stone club head, and refuges to which a threatened population might run. These refuges included walled-up lava tubes, several steep ridges crosscut with ditches, and ceremonial safe areas (Kirch 1984; Schoenfelder 1992). The archaeological evidence for warfare here, in contrast to the Maori case, is scant. Yet we know from the historical documents that warfare was an important part of Hawaiian politics.

Kirch (1988) suggests that long-term population growth on Hawai'i created locally dense populations centered on agricultural resources. At contact he estimates a population density of 120 persons per square kilometer of arable land. He draws attention to Carneiro's argument, elaborated by Webster (1985), that resource concentrations create circumscription. Competition for the concentrated best lands would have been exacerbated by sustained population growth such that warfare would have been inevitable.

Early historical accounts and the traditional histories document the high frequency and severity of indigenous warfare. Between A.D. 1400 and 1450, Cordy (1981: 180) describes an uninhabited buffer zone along the Kohala coast of Hawai'i where fierce fighting may have restricted settlement. The traditional histories are filled with vivid accounts of chiefly combat, characteristically emphasizing the skill and effectiveness in battle of individual warriors. The accounts describe fighting among district chiefdoms from parts of islands and the eventual unification of islands under single paramounts. The story of 'Umi describes the conquest of the independent districts of the Big Island of Hawai'i and his creation of the integrated island chiefdom there (Kamakau 1961: 1–21).

At succession, warfare between potential heirs was intense, and, just prior to the arrival of the Europeans, wars of conquest were being fought for control of eastern Maui (Kamakau 1961: 78–91). The ferocity of these wars is often mentioned.

> Pele-io-holani [paramount of Kaua'i and O'ahu] cherished a feeling of enmity against the chiefs of Molokai for the death of his daughter . . . and at the battle of Kapu'unonui he slaughtered the chiefs and roasted them in an oven at Hakawaii. . . . Ka-hekili [paramount of Maui and Molokai] sought to avenge upon the chiefs of Oahu their slaying of the chiefs and commoners of Maui [and Molokai]. They had taken Ka-hui-a-Kama prisoner to Oahu and roasted him in an oven, and they used his skull as a filth pot. (Kamakau 1961: 232)

Following battle, the defeated warriors were killed and their memories humiliated, as they became common food and utensils for the victors.

The traditional technology of Hawaiian warfare included weapons of mass attack and close combat (Buck 1957: 417–64). To be used at some distance, as the forces closed on each other, were long, one-piece thrusting spears with flat, carved lancelet blades and shorter throwing spears with carved barbs. Slings were used to hurl small, oblong stones. "Their weapons are Spears or lances, some barbed at one end and flattened to a point at the other, and a short instrument something like a dagger about a foot and a half long, sharpened at one, or both ends and secured to the hand by a string; the use of this weapon is to stab in close fighting and seems well adapted for the purpose" (Cook 1967: 282). The close-combat weapons included these wooden daggers and numerous clubs, typically quite short (less than 50 centimeters long); with a suspension cord through the handle, an enlarged head that could be smooth or rough (a natural root or limb enlargement), and sometimes a grooved stone head or rows of sharks' teeth (Fig. 4.4). The famous feather cloaks and helmets worn by chiefs in battle (see Chapter 5) could have functioned to some extent as armor; at the same time, they would have drawn attention to the chief's exploits during battle and made him a target of attack.

The weapons suggest a fairly simple battle strategy. A massing of warriors would first release a barrage of short spears and sling stones; this would be followed by a meeting of forces with the lances and then by hand-to-hand combat with the short clubs and daggers. The weapons themselves are egalitarian. Although they were manufactured from special hardwood (koa), availability of the wood itself would have been difficult to monopolize, and the weapons could easily have been manufactured by almost anyone. Thus the technology was not

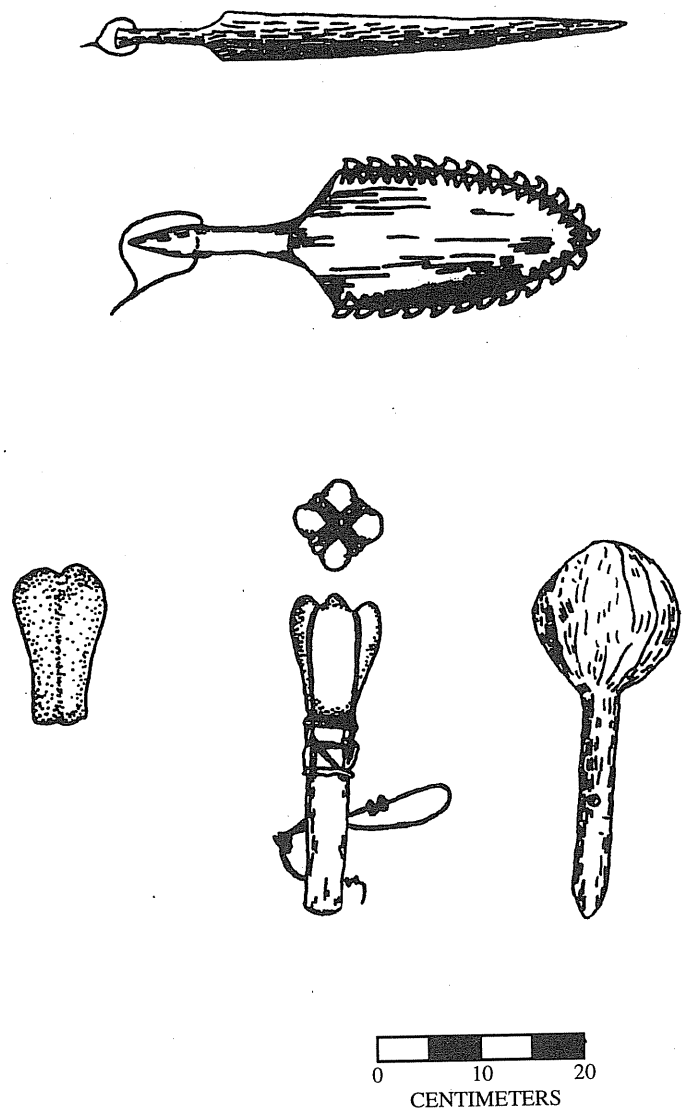

Figure 4.4. Weapons of close combat, contact-period Hawai'i (Buck 1957; reprinted courtesy of the Bernice P. Bishop Museum Press, Honolulu).

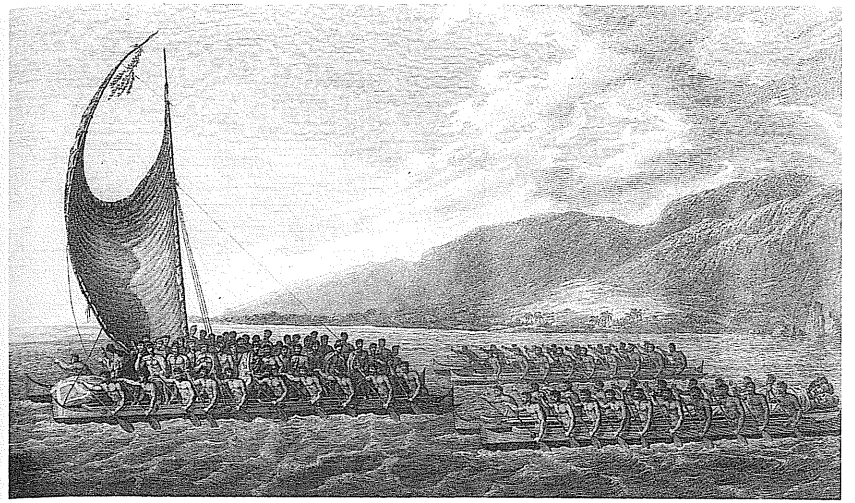

Figure 4.5. On a double-hulled war canoe, Kalani'opu'u, paramount chief of Hawai'i, comes out to meet Captain Cook at Kealakekua Bay (Cook 1784).

controllable. Only the personal skill and training necessary for effective hand-to-hand combat (and perhaps the feathered armor) would have given the chiefs an advantage. I would compare the military technology directly to what we saw in Late Neolithic and Early Bronze Age Denmark, but the place of warfare in the power strategies was quite different.

Potentially more significant may have been the role of the canoes. The Hawaiians had a large, double canoe hollowed out from two large koa tree trunks and lashed together with a platform and sail (Buck 1957: 268). Originally used to colonize the deep Pacific, at contact these large canoes were used in maritime battles and to ferry troops for conquest invasions. Figure 4.5 illustrates the double canoes that in 1779 transported the feather-cloaked warrior chiefs who came out to greet Captain Cook at Kealakekua Bay, Hawai'i. The picture shows twenty paddlers and about forty warriors on the platform of the largest canoe. Peleioholani, paramount of Kaua'i and O'ahu, reportedly had a war canoe capable of carrying 160 warriors into battle (Kamakau 1961: 240).

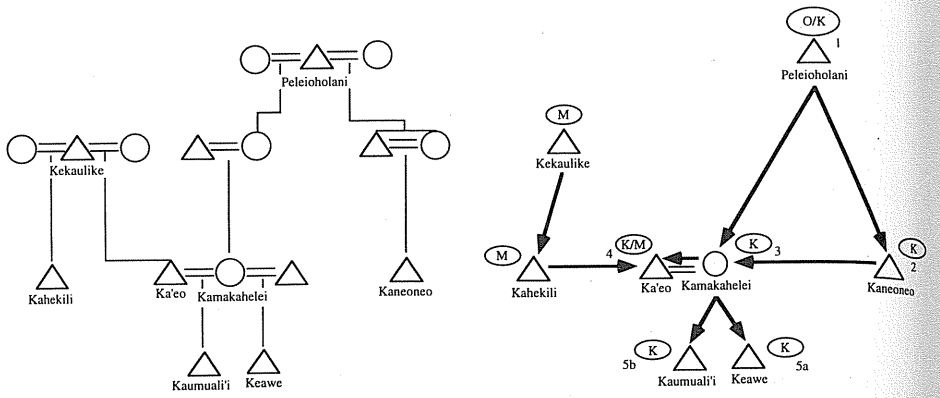

Figure 4.6. Genealogy of the Kaua'i paramounts described in the text. On the right, arrows show the line of succession for Kaua'i (K) and Maui (M) paramount chiefs. Peleioholani was paramount of both Kaua'i and O'ahu (O) (Michael Gabriel).

The historical sources suggest that war was a dramatic event of political confrontation as potential rulers wrestled for control and by so doing demonstrated dramatically their rights to positions of domination. With the arrival of the Europeans, the Hawaiians immediately adopted western technology for warfare, trying to get access to western sailing-ships and guns, and to lure European sail makers and gunners to jump ship and join their invasion forces. The goal of broad-scale conquest was there; the new technology offered the means for Kamehameha's conquest and the subsequent creation of the Hawaiian state.

On Kaua'i, the history of contact-period warfare is clearly documented (Earle 1978: 175–80; Fig. 4.6). As described in the previous quotation, Peleioholani, paramount of Kaua'i, was a famous conquering chief, known for his savagery and effectiveness. On his death, rule passed to Kaneoneo, his grandson by the union of his son and daughter. Kaneoneo was described as paramount chief of Kaua'i when Captain James Cook first landed there in 1778 (Cook 1967), but when one of Cook's vessels returned the following year, political conditions

had changed. Now Kamakahelei, another grandchild of Peleioholani, was "Queen of the Islands" (Kaua'i and Ni'ihau), her new husband Ka'eo, a famous Maui chief, was "her generalissimo," and Keawe, her young son by a former marriage, was "king." Kaneoneo was described as a "usurper." He was on the other side of the island "gathering forces" but soon appeared to talk with the Europeans. Evidently a fight for succession was under way.

For whatever reason, Kaneoneo lost his bid to regain the Kaua'i paramountcy, and he is next heard from on O'ahu fighting with the O'ahu forces against a Maui invasion. He was killed by the Maui forces and could well have been one of those roasted by the Maui chiefs revenging his father's savagery.

By this time, Ka'eo was referred to as the paramount chief of Kaua'i, probably because Kamakahelei had given birth to his son Kaumuali'i, who now would be expected to take on the paramount office. Ka'eo continued as leader of the Kaua'i chiefdom until 1791, when he left the island to support the Maui forces (ruled by his half-brother Kahekili) against Hawai'i (ruled by the young and aggressive Kamehameha). Ka'eo left Kaua'i with his "chiefs, warriors, and paddlers, all well armed with muskets and weapons of all kinds, and with two man-eating dogs" (Kamakau 1961: 159). He led a devastating raid on the Waipi'o Valley of Hawai'i, where he desecrated the heiau of Liloa, father of 'Umi, and fought an indecisive sea battle against the forces of Kamehameha. After Kahekili's death from old age in 1794, Ka'eo became paramount of Maui. Apparently homesick for Kaua'i (or perhaps unable to consolidate his rule), he decided to return, but his home-coming trip had to be aborted when "he discovered a conspiracy among [some of the] chiefs and captains of his fleet to throw him overboard in mid-ocean" (Kamakau 1961: 168). Instead he diverted to O'ahu where he ended up battling that island's chiefs, whom he probably sought to rule. Despite victories, Ka'eo was finally penned in and killed by an O'ahu force, aided by two visiting British ships (who assisted in exchange for 400 pigs).

At the death of Ka'eo, the paramountcy of Kaua'i passed to Kaumuali'i, son of Ka'eo and Kamakahelei. A war of succession soon

broke out between Kaumuali'i and his older half brother Keawe. In 1796, Keawe was in "rebellion" against Kaumuali'i, whom he defeated and kept living close by, "divested of power" (Broughton 1804). But six years later, Kaumuali'i was again in charge (Turnbull 1813: 213). Apparently while on a tour of the island, two former aides to Ka'eo stabbed and killed Keawe (Lahainaluna student composition 1885). Kaumuali'i then withstood an attempted invasion of Kaua'i by Kamehameha when Kamehameha's canoes were wrecked in a disastrous storm. To forestall further invasion attempts, Kaumuali'i accepted Kamehameha's sovereignty, but he retained functional leadership of the island until his death.

This complicated story makes the simple point that few paramounts died in bed. To be an aging warrior chief was rather unusual. Portlock described "one of the greatest warriors," a close relative of the Kaua'i paramount, as follows: "His body was almost covered with scars, and he was quite a cripple; and to add to his distressing situation, he had entirely lost one eye" (1789: 177). Only the strong survived, but often in a rather gruesome state.

Warfare was a strategy that determined real political relationships in the Hawaiian Islands. Succession was won on the battlefield, and rival island paramounts continually confronted each other in battles of conquest. Until the introduction of western weapons, these conquests were effective only up to the natural boundaries of the major islands and their immediately neighboring islands. Complete unification of the major islands through conquest failed, and the Hawaiian state emerged only when an effective new military technology was introduced. Until then, though bound together through marriage and intrigue, the islands remained divided into separate chiefdoms focused on the islands of Hawai'i, Maui, O'ahu, and Kaua'i.

The real question is not how warfare acted to integrate the chiefdoms, which it certainly did through conquest, but how warriors could have been controlled if a chief as powerful as Ka'eo had to constantly fear being thrown overboard by his "trusted" supporters. Warfare can be seen as a force of dissolution, ripping at the institutional fabric of the Hawaiian chiefdoms. But Hawaiian warfare was

successful in expanding the polities to the brink of statehood. Why did the chiefdoms not fragment into the hill-fort chiefdoms seen among the Maori and the Wanka? How were the Hawaiian chiefs able to institutionalize their positions of domination over the many communities of an island? These questions are explored below.

When one compares the chiefdoms discussed here, two conclusions are immediately evident. First, warfare was critical in all three cases; the military was an important source of political power, and the chiefs were warriors. The cinche of the Wanka ruled because of warrior status. He defended his community and its immediate territory against attack. The Bronze Age chieftain of Thy, buried with his sword, similarly had his identity bound to fighting. His military prowess helped seize cattle and control wealth obtained through long-distance exchange. The Hawaiian chief, too, was esteemed as an accomplished fighter. He organized and led wars of succession that determined who ruled, and he fashioned wars of conquest that expanded the chiefdom's domain.

Second, the nature and effectiveness of warfare were highly variable. In the Wanka case, chiefly rule was effectively limited to a small region, only a few kilometers across. Politics were fragmented into small hill-fort chiefdoms, and warfare became focused on in-place defense that proved insurmountable by available military technology. In contrast, the Bronze Age chiefs of Thy relied on no in-place fortification; rather, they must have met opposing forces on the open field, where individual skill and personal weapons won the day. But these chiefs apparently had problems institutionalizing power for any length of time. Only the Hawaiian paramounts effectively used military might for conquest to fashion the large island chiefdoms that verged on state societies.

Although warfare was constant in the three cases, I am reminded of Machiavelli's evaluation of powerful and weak princes:

> Those [powerful princes] are able to maintain themselves who, from an abundance of men and money, can put a well-appointed army into the field, and meet any one in open battle that may attempt to attack them. And I

esteem those as [weak] having need of the constant support of others who cannot meet their enemies in the field, but are under the necessity of taking refuge behind walls and keeping within them. (1963 [1532]: 44–45)

This quotation makes two important points. First, walls are a sign of political weakness and incapacity. Second, the linkage of warfare to the political economy is key. The powerful chief (or prince) controls men and money. The linkage of warfare to ideology is also critical (see Chapter 5).

Among the three cases, the goals of warfare were quite different, and these distinct goals led to alternate power strategies. Among the Wanka, the primary goal was defense of the local community and its rights to land. The nature of this warfare was virtually unchanged from that of simpler, local-group–level societies. These systems were fairly static. Among the Bronze Age chiefs of Thy, the goal of conflict was expansionistic, as the chiefs sought to expand their monopoly on the political economy by seizing animals and more generally controlling access to the export economy and the interregional prestige-goods exchange system. Control through warfare extended to control over the subsistence economy of cattle and the ideology intertwined with the prestige objects of exchange. But such chiefdoms, dependent on wealth exchange, were inherently unstable and dissolved as they formed. Local chieftains would rise to oppose the power of regional authority and attempt to co-opt access to prestige goods. In the complex chiefdoms of the Hawaiian Islands, the goal became conquest of communities and their productive facilities and commoner populations. Warfare in Hawai'i therefore translated into control over the subsistence economy and, by extension, the system of staple finance. Through this linkage, the expansionistic political economy fueled the institutionalization of political relationships and economic control over the unpredictable powers of war.

CHAPTER FIVE

Ideology as a Source of Power

Ideology is the portion of cultural meaning that is used strategically to institute political domination or resistance. Ideology is composed of "meaningful symbolic phenomena *in so far as* they serve, in particular socio-cultural circumstances, to establish and sustain relations of domination. . . . [Symbolic phenomena] are ideological only in so far as they serve to establish and maintain relations of domination" (Thompson 1990: 56–57). But nondominant groups also have interests, and they will develop ideologies of resistance to solidify their position in the social order. Ideology's strategic character distinguishes it from the broader culture. Ideologies are thus worldviews associated with specific social segments. It is inappropriate, for example, to think of a Hawaiian ideology; a ruling-class ideology existed that was in part separate from the broader culture. Multiple social segments within a society can, and often do, have differentiated ideologies that serve their interests in opposition to (or at least separate from) the ideologies of other social segments. Ideology involves ideas, beliefs, values, truths and lies, doctrines and dogmas. Ideologies may be more or less formalized, codified, and internally consistent, depending on the institutional matrix of their creation and use. As I will argue here, however, to be used strategically, ideologies must be made concrete in forms such as ceremonies, symbols, and monuments.

Ideology is evidently a source of power. An ideology, as a view of the world, sets forth an understanding of what is right, what is natural. It contains theories of the world and the place of human society and its segments within it. Characteristically, an ideology is founded on principles of a moral and religious order. Things are the way they are because of cosmic laws. Humanity is but a part of a universe of supernatural, natural, and cultural forces and beings; an ideology is a charter concerning the nature of the universe and our place within it.

As such, ideology also sets up institutional patterns of knowledge and meaning on which patterns of control are logically constructed and legitimized. In part, ideology is based on knowledge about how power is distributed and possessed within a society (Barnes 1988). A monument, for example, contains a simple message about the central control of people's labor in the construction of a cultural landscape. The real contested and negotiated nature of power can thus be simplified and institutionalized through the creation of an ideology. Although other sources of power exist, it is *knowledge* of power (and powerlessness) as presented and experienced on a daily basis that makes it real to people and determines their actions. Power is linked to the knowledge of power, which must be experiential; in simple terms, power rests on materialized ideologies.

DeMarrais, Castillo, and Earle (1996) argue that ideology becomes transformed, through processes of materialization, from abstract ideas and values into practices and products that can be manipulated by a ruling social segment. For my purposes here, I will emphasize the working of a ruling ideology and the processes of its materialization and strategic use as a source of political power. Most important is how the process of materialization links ideology concretely and specifically to the economy and military might to effect social power.

The Nature of Ideology

Since the nineteenth century, the intellectual history of ideology has been rich and diverse (Thompson 1990), and it would be impossible

for me to provide a reasonable summary of how the concept of ideology has developed and enriched our understanding of social process. That is a separate book. Rather, I point to some critical foundation stones that lie at the base of the present argument on the strategic role of ideological power.

Marx (1904) emphasized that the relations of production determine the political arrangement of society. Ideas and philosophies do not rule in the last instance; they are mystifications to legitimize domination. The objective realities of the economy determine the structure and nature of power within society.

Since the Second World War, social philosophers have attempted, more or less successfully, to bring sentiments and ideas back into Marxism. Anthropologists like Godelier (1977) identify themselves as Marxists but emphasize notions of structure and meaning akin to those of Weber (1930). The Weberian historian Karl Polanyi (1957) created "substantivist economics" to stress how the economy was embedded in society. Structural Marxists have since elaborated on similar conceptions that emphasize how specific dynamics for change derive from a society's structure and related values (see Friedman and Rowlands 1977). But the movement toward an intellectual middle ground has left Marxist stances on causation somewhat confused.

Marx himself tried to identify his political philosophy with a scientific, as opposed to a religious, analysis of the world order. Of course, much can be made of Marxism as a new religious dogma and of science as politically and culturally situated. I accept these points, and the distinction between science and ideology dissolves into a recognition that the dominant ideology asserts a monopoly on truth. Following the lead of Marx, Althusser argues that, in a stratified society, a ruling ideology leads a society's consciousness; the state, as an instrument of the ruling class, develops a specific Ideological State Apparatus (ISA) (1971). The ISA is composed of religious, educational, and legal institutions, among others, developed and perpetuated by the ruling class to fashion and maintain domination.

The ruling-class ideology consists of the social values and beliefs that reproduce the material conditions of life upon which the class-stratified political system rests. The state creates and supports the

institutions that promote the legitimizing worldview of the ruling class, and these institutions socialize and indoctrinate individuals to participate willingly in a world structured to benefit that class. Alternative ideologies are, in Althusser's estimation, swamped and suppressed by the strength of the dominant message. The path to power through ideology lies in attempts by competing groups to seize the ISA and thus gain effective control over the promulgation of knowledge.

An evident problem with this conception of ideology is that it assumes full domination by the state apparatus of the promulgation of ideas. In modern society, the generation and dissemination of knowledge is never so tightly controlled or monolithic. Abercrombie, Hill, and Turner (1980) offer a devastating critique of the idea of a dominant ruling-class ideology. Who is it, they ask, who would believe a ruling class's ideology? Certainly not the slaves or the working class. These social segments, like others, are composed of intelligent individuals with eyes open to the objective reality of class domination. It does not take a genius to see how the world works in such circumstances; those who see dominated classes as subservient dupes of the establishment are trapped by their patronizing tone. The dominated are where they are politically and economically because of who holds real power in society, not because of any belief in the inherent legitimacy of their privilege. According to this critique, it is only the ruling elite itself that tends to buy into its own ideological statements.

Mann (1986) partly answers the critique by emphasizing that a successful ideology offers a comforting worldview that makes life's pain and inequalities more tolerable. "People are not manipulated fools. And though ideologies always do contain legitimization of private interests and material domination, they are unlikely to attain a hold over people if they are merely this. Powerful ideologies are at least highly plausible in the conditions of the time, and they are genuinely adhered to" (Mann 1986: 23). While legitimizing structures of domination, ideologies must fit the objective reality as experienced by society's members. Thus they must fit with the multiple realities of participants and give them a sense of interest in the broader society and a willingness to participate in it.

The problem in many of the discussions of ideology is that it is conceived as part of a culture's worldview. Culture is thought to be held in people's heads and shared by the members of a social group. This definition of culture as a mental phenomenon is a standby of anthropological thinking, often repeated in introductory classes and texts. An ideology is similarly envisioned as a mental phenomenon that organizes beliefs, values, ideas, theories, and dogmas about the world and its operation. This mentalist view of ideology and culture is, however, fundamentally problematic (DeMarrais, Castillo, and Earle 1996). What is culture really? What is its essence? If we think of culture as ideas held in people's heads, it is difficult to understand how it could ever be shared broadly. People living closely together, as in a family group, may have the intimacy and constant communication necessary to share an understanding of the world. But for a social group larger than the family, what mechanisms exist for multiple minds to share a common set of ideas? Culture rapidly loses its value as an analytical concept as societies become larger. Each person has an individualized reality, sculpted by his or her experiences.

What is shared must, therefore, be what is experienced in common, and that must lie outside our minds. The external world (not our inner states) is what social groups share in common. How that external world is organized and given meaning must give the important element of sharing to the cultural experience. How that external world is created and controlled provides insight into how ideologies are formed and provide strategic sources of social power. But this conclusion is getting ahead of my analysis.

Culture in American anthropology was originally conceived as a mental structure of rules and procedures, homologous with language. Saussure's distinction between language (as grammar) and speech (as generated behavior) was transferred to the distinction between culture (as rules) and conduct (as daily practice). Ethnoscience, a major intellectual effort of the 1960's, sought to codify the rules of groups as to how they saw the world and acted on that cultural knowledge. But this hypermentalist view of culture proved unsatisfying because it failed to capture the great diversity of viewpoints and behaviors that were immediately evident within human soci-

eties. The complexity of mental process was literally overwhelming, and no mechanism could be immediately envisioned for its codification and transfer. The essence and processes of culture remained underspecified.

Considering ideology as a source of power, Geertz provided the stage for later "practice" theorists (Ortner 1984). Geertz focused on symbols that were made manifest during public ceremonies. Within a society, people communicate symbolic meaning during carefully orchestrated public events. Culture thus is not simply a mental state; rather, it is created and exists through symbolic public rituals, ceremonies, performances, and the like. For example, in his book *Negara: the theater-state in nineteenth-century Bali*, Geertz (1980) argues that the polity (*negara*) was separated from instrumental institutions, such as managed irrigation systems, and lacked an elaborate bureaucracy of governing officials. The primary activity of the "state," as represented by one of ten royal houses, was the staging of large and dramatic public ceremonies whereby the nature and the meaning of society and its history were made public and experienced in common by participants. People were positioned with respect to the performances as appropriate to the social order. Structure and meaning were constantly created through ceremonies that represented—no, *were*—the history, mythology, and society of the Balinese state. But the reader of *Negara* is left to wonder how such a system could have gotten started and how it could be maintained.

Starting in the 1970's, a loosely affiliated group of social philosophers, identifying themselves rather ambiguously with Marx, argued for the importance of practice (Ortner 1984). Cultural phenomena, for them, are not rules held in people's heads but the daily actions of people habituated and instructed as they go about their routine lives. Bourdieu (1977), for example, conceived the *habitus* as a house, built by individuals to structure proper activities—personal versus family, public versus private, sacred versus profane. Culture is thus not a mental order, but an amorphous reality lived out within the guiding walls of a manufactured world and imbued with specific cultural meaning. Geertz and Bourdieu have parallel visions in this regard. As

expressed by Giddens (1979), social life is a process of "structuration" by which people are continually working out their lives by acting as they think is appropriate both culturally and strategically. Following Sahlins's "structure of the conjuncture" (1985: 152), ceremonies and other events are the empirical form of the society's structure—the moments when past conceptions are realized and transformed by social actors. Culture as historical, dynamic, and continually lived, the view held by practice theorists, is immensely attractive. Culture exists as a constantly moving objective world, experienced as it is created by its members.

The present understanding of ideology can be summarized as follows: *Ideology is a system of beliefs and ideas presented publicly in ceremonies and other occasions. It is created and manipulated strategically by social segments, most importantly the ruling elite, to establish and maintain positions of social power*. In states, ideology, as distinguished from other cultural elements, is not simply generated through human interaction; a significant part of a society's worldview is intentionally created and transformed by a social elite to direct the thoughts and actions of subject peoples. State institutions, as part of an ideological apparatus, seek to develop and perpetuate a charter for the institutional order of society. Such strategic charters are a significant source of social power in state societies.

The importance of ideology for understanding chiefly societies has long been recognized. The chiefs were often thought of as priests, and some researchers describe chiefdoms as theocratic societies. Fried (1967) attempted to identify a qualitative divide between ranked societies (simple chiefdoms) based on traditional systems of ranking and stratified societies (complex chiefdoms) based on differential access to the means of production. In simple chiefdoms ranking was seen as part of a natural kinship order, with some possessing sacred powers based on their social and historical positions. Such a system of divine order and governance, perpetuated by the ruling chiefs, would be an ideological system. Chiefly leaders were often viewed as ruling because of a sacred charter that recognized them as divine or with structured differential access to divine power (Webb 1975). Warfare

in such a context was seen to be of minor importance; rule was based on tradition, or a traditional ideology with inherent principles of inequality.

Adding a dynamic and competitive element, Helms (1979) has described the linkage of chiefs to long-distance exchange. She describes how Panamanian chiefs competed for access to and control over powerful esoteric knowledge embodied in long-distance trade items such as the fine lost-wax golden figures traded in from Colombia. By competing for control over the foreign exchange, chiefs sought to control (or manipulate) a system of knowledge that imbued the chiefs with sacred power. The strategic manipulation and creation of the sacred knowledge of course created a system of ideology supporting ruling chiefs. Rival chiefs sought to seize the objects and the power that they conferred.

In a similar vein, Friedman and Rowlands (1977) describe a prestige-goods exchange system that linked together the chiefdoms of northern Europe. Prestige goods passed through a decentralized exchange network, apparently focused on ceremonial events at which the goods were most probably used, displayed, and gifted. The important point is that "prestige" was not a simple, abstract notion of goodness; it represented the realization of a leader's personal powers, as symbolized by possession and gifting of special objects. Control and manipulation of the exchange events and their ceremonial contexts embodied a real strategic manipulation of a chiefly ideology in which objects were important primarily because of their place in a world of meaning infused with sacred powers. The elaboration and maintenance of this ceremonial system, focused on the public symbols encoded in the events and objects, created strong ideological support for the emergent chiefly strata.

What characterizes the use of ideology among chiefdoms is the close integration between idea and object and between sacred and profane powers. As in other aspects of chiefly society, the degree of institutional separation is minimized. Therefore, it is impossible to speak, for example, of an Ideological Chiefly Apparatus. Chiefs were not priests; they were generalized leaders, seamlessly combining economic, military, and religious power. At different moments, chiefs

acted as managers, warriors, and ritual specialists. Much of the competitive arena of chiefdoms involves fights over different sources of power and attempts to bring these sources together. Even within a specific medium of power, such as ideology, control was often problematic and multiple, partially overlapping power strategies were created. Thus chiefdoms were often characterized by very complicated and fractured institutions of power—heterarchies, as opposed to hierarchies. The difficulties of a chiefly monopoly on an ideology are well illustrated in these cases.

Ideology and Materialization

Culture as part of an objective reality must exist outside of the collective heads of its participants. Although practice theorists suggest a means for understanding culture, their work verges on a highly amorphous notion of culture as habituated action. I suggest that most important to our understanding of culture is the process of materialization (DeMarrais, Castillo, and Earle 1996). Public symbols, in Geertz's sense, are present in objects and in the built environment. Cultures are continually enacted on a physical stage with the sets and props of material culture. Actions and interactions are important, but the physicality of the material world gives a permanence and order to the world of culture that make up its very essence in power dynamics.

Materialization is the transformation of ideas, values, stories, myths, and the like into a physical reality that can take the form of ceremonial events, symbolic objects, monuments, and writing. It is the process by which culture is created, codified, and contained. Ideas and objects unite and are inseparable; ideas, unconnected to the objective world, have no means of being communicated, experienced, used, and owned. Ideas must be materialized to become social, to become cultural things. Our ideas are private and powerful for ourselves, but their materialization brings them into the public arena.

Materialization delivers two fundamental properties permitting culture to be strategically created and manipulated as an ideology: it creates common, shared experience, and it permits control over the

production and use of the ideology. *Common, shared experiences* create and manipulate ideas about "appropriate" values and norms through public ceremonies that become the social history, structure, and religious dogma for a group. This is what I see as essential in the notion of public symbol (Geertz 1980). Ideas themselves are inherently fragmented and fractured, representing the many voices characterized by social and personal differences of age, sex, occupation, locality, class, and individuality (Keesing 1985). To mold individual beliefs and to guide social action, ideologies must be manifested in a material form that can be experienced in common by a targeted group. The materialization of ideologies provides the foundations for institutions of power, owned and controlled by a ruling elite.

Control over ideology is necessary to the use of culture as a source of power. Ideas are unquestionably powerful. How an individual is motivated, how he or she sees the world, fundamentally determines action. That is not debated. The question is rather how an individual's motivations and worldview can be controlled and directed to work for the interests of one segment and potentially against the individual's own interests. As already discussed, nothing is more private or harder to access than an individual's personal perspectives. In crude terms, ideas themselves are cheap. Anyone can think whatever he or she wants, as long as that belief does not determine an action that causes a swift punishment. People can develop their own ideas about the nature of the universe that position themselves advantageously. Following the critique of Abercrombie, Hill, and Turner (1980), it is unlikely that people will freely adopt ideas that enslave them. To be effective as a source of power, ideas must be made real through experience and controlled through being embedded in the productive process. Thus, although public symbols can have multiple meanings for participants placed differently in the social hierarchy, control over those symbols is manifest and unambiguous to all.

To the degree that ideologies are materialized, they become part of the physical world that is constructed by social labor. Thus the material nature of an ideology, essential for cultural sharing, offers opportunities for control identical to that over production of other objects.

The materialization of ideology suggests how the standard Marxist analysis of control based on material process extends directly into the world of ideas. The ideas, or more precisely their material representations, with which they are inextricably intertwined, are produced, transferred, used, and owned like other cultural things.

To see how the process of materialization works, it is useful to consider three forms in which ideology can be manifest: public ceremonial events, symbolic objects, and cultural landscapes.* Each has characteristics of ownership, use, transfer, and control, and there are different opportunities for control of each that fundamentally affect its dynamic properties and potential usefulness as a source of political power.

Public ceremonial events provide common, shared experiences to a group through participation in rituals, feasts, or performances. It is the public performances at ceremonial occasions that create the symbolic nexus for a society (Geertz 1980). Ceremonial events are usually cyclical and repetitive performances of the great mythical and ritual narratives of a society. Although examples of unstructured ceremonial events exist, most ceremonies are strictly prescribed in form, participation, and sequence. Ceremonial events are probably the most basic and simple form of materialized ideology, and they have been with us since the beginning of human ideological behavior.

The ability to perform a ritual event may be structurally restricted by cultural determinations of who may participate. Even in small-scale societies, for example, males exclude females or the reverse, and the initiated exclude the uninitiated, from certain ceremonies. A second consideration is the cost of hosting the ceremony. Large-scale ceremonies require leadership to finance them with resources mobilized from the group. In hosting large-scale feasts, a leader demonstrates the capacity to marshal quantities of food beyond the reach of others.

Another way to control ceremonial events is to increase their orga-

*A fourth form of materialization is writing (DeMarrais, Castillo, and Earle 1996). Because it is not used in chiefdoms, it will not be considered here, but the academic motto "publish or perish" may give some idea to its significance.

nizational complexity, that is, the specialized nature and number of component elements required for their performance. These components include the required participation of specific individuals, religious specialists who are commonly associated with the ruling elites. Often a song or specific part of a ceremony will be the "property" of an individual (or social persona) who must participate in the ceremony. The performance might also require specific skills, such as the execution of life-threatening acts that can only be accomplished by trained specialists. The congregation of many participants, whom only the prestige and power of the group can pull together in such large numbers, is usually another ingredient of ritual events.

Public ceremonial events are, however, not an ideal basis for power. Investments in ceremonies are necessarily transitory; they are not capital investments like the construction of a ceremonial place or the creation of ritual paraphernalia. Events are performed and then are over and done with. They cannot be "owned" or passed on to the succeeding generations; only the right to perform the ceremony may be owned. Once enacted, a ceremony is only a memory, quickly forgotten; new capital expenditures will be required for periodic reenactment.

Ceremonial events can be efficient in the short term, especially if they include dramatic performances combined with coercive elements, such as human sacrifice. Their efficacy in the long run depends on their repetition. Because of their immediacy, however, rituals are among the most valuable strategies to enculturate individuals, such as newly conquered populations.

The other forms of materialization are often linked to the power of ceremonies as performance. Special objects are the physical manifestations of key public symbols, displayed as props in the ceremonial drama. Sacred monumental spaces are constructed as stages. Ownership of the objects and the monuments provides means to control the ceremonies.

Symbolic objects, such as ceremonial paraphernalia and ritual attire, are some of the most efficacious means to materialize ideology. The portable nature of most symbolic objects makes them strong candi-

dates for symbolic communication among and within social segments and between political entities, and for personal display of status or affiliation with specific segments of society, whether determined by gender, age, function, or social position. And icons of public display can communicate a standardized message to a large number of individuals simultaneously.

Portable symbolic objects enter into the political economy as political currency mobilized through tribute and produced by artisans connected with elites (see Chapter 3). They are exchanged through elaborate networks of political power relationships. Such objects signify relationships of dependency, affiliation, or correspondence. They can also be distributed within the segments of a society to create or reinforce vertical as well as horizontal relationships and to generate loyalties and consensus among individuals differentially benefiting from social action. Ceremonial paraphernalia or status symbols can be paraded as part of ceremonial events, and, because they can contain coded information, they can serve as mechanisms for narrative representations. This narrative character, common in many complex iconographic systems and shared by the performance of ceremonial events, is one of the ruling elites' most powerful tools to reinforce a message aimed at large masses.

Access to symbolic objects can be restricted by controlling their production or distribution. In some cases, this control can be exercised through the dependence of production on craft specialists, who can be tethered to elite patrons. In other cases, wealth may be monopolized by control over exchange and raiding that depends on complicated technologies, such as oceangoing boats. Symbolic objects, unlike events, can be owned, inherited, transferred, and seized, making them ideal signifiers of social position and social relationships. Symbolic objects can thus accomplish their function even beyond death.

Public monuments and landscapes serve primarily, but not exclusively, ideological purposes. Some great buildings are constructed to serve as ceremonial facilities, others as centers of political power, and some as defensive structures. One factor common to all monuments,

however, is their ability to be experienced simultaneously by large numbers of individuals. Thomas describes dramatically how the construction of monuments transformed Neolithic Britain from the "natural world" of hunter-gatherers:

> The monumental landscapes of the Neolithic were qualitatively different from the spatial orders which preceded and which then succeeded them. By constructing artificial landmarks which placed the bones of ancestors or other symbolic media in space, an attempt was being made to condition the reading of that space. However, as with any symbolic system, the essentially arbitrary nature of this way of attributing meaning to place meant that an endless series of alternative readings was always possible. (1991: 52)

The monuments may embody Sahlins's "structure of the conjuncture." They represent history associated with a group's ancestors and many past ceremonial occasions, but this history is reconditioned in the present through new ceremonial events that can reinterpret their significance for a new social order. While the monuments define an evident continuity with the past, as symbolic systems they offer considerable leeway for alternative meanings. This point, made by Thomas, about the arbitrary and changing nature of the symbolic world emphasized how weak a source of power ideology must be. Or is it?

Thomas and other symbolists miss an essential point concerning the distinctive medium of monuments that makes them different from other symbolic representations and potentially controllable as part of institutional formation and continuity. Monuments convey a simple message of power and wealth (Trigger 1990). This elemental message comes across regardless of the viewer's language, age, gender, or cultural affiliation.

The construction of monuments, such as pyramids or massive ceremonial mounds, and the rearrangement of the landscape, such as the construction of artificial hills or barrows, require considerable labor and resources. In large measure, it is difficult to tell a lie with monuments. Yes, a monument will be placed on a hill to make it more imposing, but observers learn quickly to discount such tricks, to look behind the facades. Monumental constructions require leadership,

coordination, and finance. They are inherently expensive in terms of a group's resources, requiring many people to work together for long hours.

Monumental construction is not found in egalitarian societies. Even the "men's houses" of the Melpa were constructed under the supervision of the clan Big Man, who lived there at the center of the village (Strathern 1971), and the more elaborate ceremonial platforms in Polynesian societies involved the community and regional chiefs. Because of scale, monuments are clearly one of the most remarkable expressions of social power. They are the result of regularly mobilized corvée labor and thus are "works in progress." Inasmuch as there remains a population to be taxed, the monuments will continue to grow in size or increase in number.

Not only can monuments be shared simultaneously by numerous individuals, but, because of their impressive size, they can usually be experienced from a distance. These facilities are thus ideal to indoctrinate a population and to disseminate propaganda. Moreover, within or around monuments large numbers of individuals can congregate to participate in ceremonial events.

The monuments themselves are subject to ownership, transference, and inheritance (Earle 1991a), thereby becoming capital investments of long-term reliability. Among the Mapuche of Chile, the building of a cultural landscape with its complicated constructions of mounds and ritual fields created the stage for ceremonial cycles that were central to the emergence and persistence of a chiefly lineage system (Dillehay 1990). Chiefs and their lineages owned the mounds and directed the ceremonies that institutionalized and materialized their social world.

The monuments thus serve as the solid foundation upon which lasting institutions are constructed. Unlike events, which must be repeated on a regular basis, monuments remain permanent representations of the ideological system — permanent witnesses to the power of the dominant classes. Monuments often effectively represent power even long after a state or social system has disappeared, therefore defying time and giving the impression of permanence and transcendence. The construction of monuments — and other facilities of daily

life, including houses, agricultural fields, trails, rock art, and the like—creates a cultural landscape through which a society moves and works. This cultural landscape is the product of social labor, and its meaning and assignment create an objective and experiential reality for all.

We turn to the cases to see how ideology is an important source of power among chiefdoms. The physical reality of materialized ideology brings cultural meaning within the arena of the economy and the military such that it can be manipulated strategically. Ideology thus becomes the means to institutionalize and signify domination by chiefs, which is inherent in the social process of labor that conducts ceremonies, crafts symbolic objects, and builds monuments.

Thy, Denmark (2300–1300 B.C.)

The importance of ideology in Danish prehistory can be introduced by briefly summarizing the early Germanic literature for Scandinavia. As discussed in Chapters 3 and 4, a gift economy and warfare were important sources of power in Denmark. These powers were visualized in a dramatic materialized ideology. Most important was military might, represented in personal valor. The individual warrior was closely identified with his weaponry, which signified his personal strength. Warriors are typically described with their weapons. In Njal's saga, prior to attacking the great warrior Gunnar, a party of 24 hopeful killers slept in the woods. "They hung their shields on branches, tethered their horses, and laid their weapons by their sides" (Magnusson and Pálsson 1960: 156). Njal's shepherd, who observed them, "could describe the weapons and clothing of all of them, and Njal could tell exactly who each one was" (ibid.: 158).

A leader and his warriors were to be feared because of their reputation for exploits and the weapons that figured in those exploits. The warrior wished to be known for his might so that others would not attack. Any attack would be met by a violent defense, and kin and friends could be counted on for immediate and devastating revenge. As he prepared to die fighting, Beowulf spoke:

> revered one, do not grieve; to revenge a friend
> is better for a man than to mourn much;
> to each must come the close of his life
> here in this world; for the warrior
> that work is best that wins judgment
> which will endure after his day is done.
>
> (Huppé 1987: 71–72)

Dishonor is worse than death because it means loss of respect and the support on which all warriors depend.

In Njal's saga, after his murderous death, "they raised a burial mound for Gunnar" (Magnusson and Pálsson 1960: 172). One night the mound appeared to open and the moon shone in on Gunnar's smiling face. He chanted the following:

> Hogni's generous father [Gunnar]
> Rich in daring exploits,
> Who so lavishly gave battle
> Distributing wounds gladly,
> Claims that in his helmet,
> Towering like an oak-tree
> In the forest of battle,
> He would rather die than yield,
> Much rather die than yield. (ibid.: 173)

Note the parallel between gift exchange and battle—the way honor was materialized.

In a description of a flotilla of Viking longboats, emphasis is placed on its leader: "War-shields lined the gunwales, and at the mast of the leading ship stood a man with a magnificent head of hair, who wore a silk tunic and a gilded helmet and carried a spear inlaid with gold" (ibid.: 180). The sagas are filled with such descriptions. Personal clothing and weapons measured the man, to be feared and respected because of the stories of valor that the objects signified.

Such objects could be obtained directly by successful raids, but they were frequently received as gifts from elite patrons. Each object thus told a tale not only of successful prowess but also of specific relationships with powerful overlords. The Geatish warriors, who came to aid the Danish king, received fine gifts.

> Then the great lord gave to each Geat
> upon the meadbench who came with Beowulf
> across the sea in turn a sword,
> a precious inheritance. (Huppé 1987: 62)

A king's respect and ability to attract followers was created through gift exchange. In her address to the Danish king, the Scylding lady spoke: "My royal lord, apportioner of riches / partake of this cup, gold-giving king" (Huppé 1987: 65). A king gained respect by giving away riches to his supporters; his followers gained respect through their identity with him.

The chronological history of Thy illustrates how the chiefs developed and materialized their hierarchical ideology. A three-period sequence continues to be used: the Early Farmers (3500–2600 B.C.), the Warrior Society (2600–1700 B.C.), and the Early Bronze Age Chiefdoms (1700–1300 B.C.). Two key transformations are evident. First was the cultural shift from the agricultural communities of the Early Farmers, which emphasized group identity, to the Warrior Society, which focused attention on the individual male warrior. Although economically and culturally distinctive, both these societies were small-scale and without strong regional chiefs. Second was the transformation associated with the emergence of regional chiefs during the Early Bronze Age. These chiefs were buried with their special swords under earthen mounds that stood prominently in the landscape.

The first two cultures both had similar forms of materialization—namely, ceremonies, objects, and monuments whose production could not be controlled. The warrior ideology became effective in centralizing political power only when it was materialized in publicly displayed symbols (bronze weapons and personal jewelry) that were manufactured from foreign materials by specialists attached to the chiefs. Chiefly swords defined political office, and personal jewelry defined high-status women. The construction in the landscape of chiefly burial monuments was also important in instituting power relationships in lineages with inherited offices and in claiming rights over pastures.

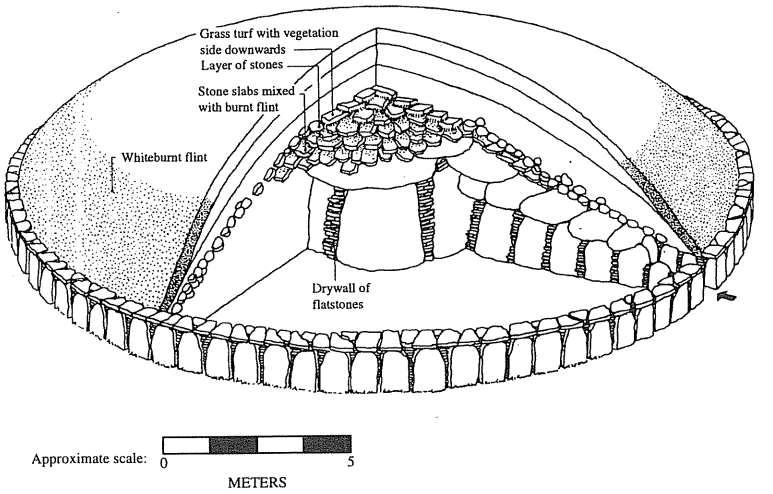

Figure 5.1. Reconstructed cutaway of a megalithic Danish passage grave (Kristiansen 1984; reprinted courtesy of Cambridge University Press).

Early Farmers of Thy were low-density farmers and herders living in the original forests of the region. They belonged to the Funnel Beaker Culture of the Early Neolithic. Their key cultural theme was the identity of the ancestral (collective) group in the communal burials of megalithic monuments and in ceremonial grounds. This society was equivalent to a Big-Man collectivity (Kristiansen 1984; Johnson and Earle 1987).

The megalithic burial mounds (Fig. 5.1) were among the most impressive monuments of Thy. Building these monuments required finding large boulders, sometimes weighing upward of twenty tons, dragging them to the construction site, and seemingly miraculously placing them as upright walls and roofing for a central burial chamber. The labor involved in the construction of a passage grave, such as Lundhøj in Thy, was considerable, estimated at upwards of 15,000 man-days or some British examples (Startin 1982). The central chamber was constructed of boulders with carefully laid drywall between them and a clay cap to make the room waterproof. A passage of megalithic stones led into this chamber, and here lay many burials,

with skeletons intermixed after their flesh had fallen away. Petroglyphs sometimes adorned the stone walls, and symbolic objects of flint and amber were included with the burials. Megalithic monuments were constructed as homes for the dead that could be reopened for additional burials and cyclical rituals of corporate identity and separation between the living and their ancestors (Hodder 1990; Thomas 1991).

Causewayed enclosures, a second monumental form of the Early Neolithic, were also built at this time in Denmark. One example has been excavated in Thy. Spaced fairly regularly through the landscape, these enclosures were positioned on topographically prominent locations, and within their territory were several megalithic monuments (Madsen 1988). Chains of pit were excavated, and the earth was thrown up to build a bank that enclosed a sacred or political space up to twenty hectares or more in area. Special deposits of animal bone and ceramics were placed in pits that were filled all at once, suggesting a ceremonial event. Human skeletal material, such as lines of skulls, documents public ceremonies of death within the enclosures. A comparison can be drawn to the recent symbolic analysis of the British Neolithic monuments (Thomas 1991).

Symbolic objects from the Early Farmer period include elaborately decorated ceramics, other decorative objects, and beautifully polished axes. In front of the entrance facades of the burial monuments are found large pots that were probably associated with death ceremonies (Tilley 1984). Amber necklace pieces that may have been part of female dress were found within the megalithic chambers. Interestingly, the battle-ax form of late Funnel Beaker amber beads would seem to associate female decoration with military might. Although these objects were used for personal decoration and display, their mixing after death would appear to deemphasize individuality.

Nothing is more characteristic of the Early Farming Period than the thin-butted, beautifully polished axes made of special flint from local shaft mines. These are working axes, used to clear the forests of Thy. The axes are frequently recovered as isolated finds, but also as hoards deposited at sacred, wet locations (bogs, streams, springs). Their symbolic association with agricultural clearing and water suggests that the axes were significant in both everyday agriculture and fertility rituals.

Warrior Societies of Thy were made up of low-density herders who also engaged in cereal-grain farming. From the paleo-pollen record, the original forests of Thy were cleared at this time and grasslands established. The warriors belonged to the Single Grave and Dagger Period Cultures. The key new cultural theme was individual identity. Low burial mounds mark the graves of individual men and women. Long-distance exchange ties were established between northern Jutland and western Bell Beaker cultural areas (Jensen 1982; Vandkilde 1991).

The Single Grave burial mounds were quite small, about one meter high and perhaps six meters in radius. A mound covered one central interment (or sometimes two), laid out in a plank coffin. The labor invested in such monuments was modest, only a fraction of that in the megalithic mounds. A sequence of burials might be added, one on top of another with new mounding, or several mounds might be arranged in a line. Both patterns suggest family lines. The contrast between the group identity of the Early Farmers and the personal kin line of the warriors probably represents a shift from clan to lineage organization. From the Single Grave Culture onward, the planting of the dead in the soil of Thy must have created a cultural landscape associated with ("owned" by) specific kin lines, an important basis for chiefly organization.

During the later Neolithic, the use of Bell Beaker ceramics and flint daggers in Thy suggests the importance of ceremonial events that connected the local people to populations across Europe (see Shennan 1986). These ceramics were of special forms, including large and small containers. They were stylistically elaborated with detailed geometric incised lines filled with brilliant pigments. A likely use of these vessels would have been for copious consumption of alcohol at ceremonial occasions. The Bell Beaker phenomenon thus may indicate the development of linked ceremonial events in a peer-polity interaction sphere. Such events would have been both the platform for status rivalry and the arena for establishing regional identities of leaders as set apart ideologically from local affiliations. The cultural ties to the

Bell Beaker tradition probably demonstrate the operation of a dynamic prestige-goods exchange network that stretched across western Europe.

Control over such ceremonial events, however, would have been tenuous at best, as evident in the comparable Moka ceremonies of New Guinea (Strathern 1971). And the events themselves would have provided little opportunity to enlarge relationships or to pass on achieved prestige (contra Friedman and Rowlands 1977).

The use of symbolic objects changed from the Funnel Beaker Culture to the Single Grave and Bell Beaker context. From this period through the Bronze Age, the goods accompanying men and women were distinctive (Randsborg 1984). For males, burial objects emphasized individual status and military standing; Single Grave men's burials were typically marked by a stone battle-ax (or sometimes only flint blades). Women's graves included amber necklaces, often with many hundreds of beads (Bech and Haack Olsen 1985); thus female status continued to be marked by items of personal decoration. Later in the Neolithic, Bell Beaker graves are rare for Thy, but elsewhere male graves contain beautifully crafted flint daggers. Women's wealth seems to have been much less important than earlier, suggesting an emphasis on male warrior status that continued into the Early Bronze Age. By this time, the use of amber for personal display in Denmark had declined markedly, as it now was an important export commodity within the European prestige-goods exchange network (Shennan 1982).

In TAP settlement excavations, flint daggers and arrow points were routinely recovered from *all* households. The daggers, which were used for display and presumably marked male warrior status in the Late Neolithic, would have been difficult to control and must have been quite generally available. Also apparently male-associated were fire-making items (Randsborg 1984). Manufactured in Thy from locally mined flint, the daggers and strike-a-lights were carefully shaped with grinding and a finishing flaking to create beautifully crafted objects. The high level of craftsmanship in the finishing flaking would have restricted the numbers of knappers able to produce the highest-quality daggers, but lower-quality ones were also made

from field flints. Interestingly, the daggers were modeled after metal daggers from central Europe, suggesting a broad warrior ideology whereby group leadership was associated with warrior might.

But the actual objects, manufactured of locally available material, could not be monopolized. The overall impression is of a warrior society in which individual status was not highly differentiated. The important point is that symbolic objects continued to be manufactured of local materials, but that the dominant symbolic reference of these objects changed to emphasize male warrior status, first with battle-axes and then with daggers. Because it was impractical to monopolize access to the wealth, ideological power remained diffuse. Symbolically, as well as militarily, the flint daggers were democratic weapons that empowered many and restricted central authority.

Early Bronze Age Chiefdoms of Thy were made up of low-density herders living in an open grassland environment. They belonged to the Nordic Bronze Age Culture. This was a world of chiefdoms.

Thy is famous for its Bronze Age barrows, the construction of which transformed the landscape. The hilltops were dotted with clusters of the burial mounds. Typically an individual was interred within a central cyst made of glacial boulders. Then a rounded mound was built up with turf and edged with a curb of glacial boulders. Characteristically a central burial was laid out before being covered by the turf barrow; it was common for additional individuals to be buried in the same barrow later, and several of the monuments that we excavated showed rebuilding, with a second construction phase that added a new outer curb and raised the monument's original height.

In the parish of Sønderhå, the barrows clustered on the higher ground, especially above Lake Ove (see Fig. 2.6). Here are the majority of all barrows in the parish, including especially the larger ones. Some barrows, such as the distinctive mound of Bavnehøy in this location, were over 4 meters high and 30 meters in diameter. Clustered around such large mounds were lesser ones, often no more than one meter high. The evident distinction is that some monuments required significantly more labor in their manufacture and probably indicated the burial of paramount chiefs. But overall, the labor invested in individual mounds would have been no more than that in

the earlier megalithic monuments. A small group, working together, could have produced them without great effort.

The mounds, however, transformed the landscape into cultural zones demarcated and probably owned by local chiefs (Earle 1991a). An earlier interpretation of Neolithic monuments emphasized how the construction of the monuments defined territories that were created by intergroup competition (Renfrew 1976). I would tend to shift emphasis away from the monuments' role in resource defense, as part of the subsistence economy, and toward the definition of owned space, controlled by emerging leaders in the political economy. The barrows materialized a social hierarchy and the religious sanctity by which it was legitimized. In the Neolithic, the countryside was changed from an open rolling grassland to a landscape marked by the monuments of dead chiefs. The dead had been planted in the soil, and their places of interment remain marked to the present day. This socially transformed landscape was no longer a natural world; it was a world owned and controlled by the chiefs, whose right to leadership was rooted in their living dead ancestors.

The monuments alone, however, were ineffective as a means to control ideology centrally. Because their scale was modest, burial mounds *could* have been constructed by simpler social groups such as those of the Funnel Beaker Culture. In fact the form of materialization in the monuments had changed little since that time, and the change, emphasizing the individual rather than the community, had taken place earlier with the beginnings of the Single Grave Culture.

What did change was the technological character of the objects used to symbolize individual status. In the Early Bronze Age, objects of local manufacture all but ceased to define status. In TAP excavations, ceramics became simplified, with only minimal decorative elaboration. No flint daggers or arrowheads were found. Amber, although found on all sites, was in raw form, probably having been collected for export. The symbolic objects were now almost exclusively of bronze, made from tin and copper, neither of which was available in Denmark, and they emphasized male, rather than female, status.

Male chiefs were buried with bronze weapons differentiated markedly by quality. Chiefly status was indicated by beautifully crafted swords in the Nordic style (see Fig. 4.3), distinct from the working swords of associated warriors. Their styles correspond to patterns of manufacture and decoration that spread throughout Denmark and Germany. Most swords were locally manufactured, but chiefly swords required lost-wax molding, a sophisticated and difficult production process. The artisans able to produce such items would have been few, and their activities could quite easily have been controlled by the chiefs (Kristiansen 1987, 1991).

Thus the key to understanding chiefly status in Denmark during the Early Bronze Age may have been the changing technology of the symbolic objects. With a shift from flint to bronze, the weapons and symbols of the warrior chiefs became the product of a sophisticated manufacturing process. The artisans could then be controlled as attached specialists (Brumfiel and Earle 1987). The absence of manufacturing debris for swords found on Early Bronze Age sites demonstrates how spatially restricted their production must have been. Domination over herding would have given chiefs an export product with which to obtain foreign metal that could then be transformed into the symbolically charged objects that defined rank in the society (see Chapter 3). The metal goods provided a means to invest the surplus product in a material form that was both controllable by and representative of the emerging elites. The chiefs solidified their domination of both subsistence production and exchange through the direct supervision of sword production.

In contrast to the sword industry was the manufacture of bronze jewelry. Female status continued to be identified with jewelry that signaled personal distinctiveness and attractiveness. During the Early Bronze Age, particularly Montelius II, the majority of metal finds were associated with male status (especially the swords). Female status continued to be defined by objects used for body decoration, but these objects were rare during the emergence of chiefly warriors in the Early Bronze Age (Randsborg 1984). Later, however, jewelry became more common (Levy 1982). Decorative bronze brooches were frequently found in the Thy barrows. In contrast to the swords, these items were manufactured primarily by annealing of traded wire or

bars. Annealing, as opposed to casting, is technically quite simple, requiring only heating and hammering of the metal. Brooch fragments from the settlement at Bjerre demonstrate that local fabrication of jewelry could evidently have existed. Control over the materialization of the ranked ideology would have been possible primarily regarding the technologically more complex swords. Simpler bronze working would, like the earlier flint and amber workings, have been quite difficult to control.

As ranking became increasingly complicated and less hierarchical, the personal decoration of women became elaborate and more distinctive than male dress. Levy (1996) characterizes this development as "heterarchical," meaning that power relationships were increasingly overlapping and diffuse. The simple male warrior hierarchy was complicated by multiple and overlapping identities of power for both men and women.

The symbolic identification with the weapons seems to have been centrally important to the emergence of chiefly warriors in Montelius II. It was the introduction of bronze working, particularly the sophisticated technology required to make swords, that gave chiefs the economic control needed to permit the expansion of political centralization seen in the Early Bronze Age. Chiefs probably controlled long-distance procurement of metal through elite exchange and alliances, and controlled the manufacture of wealth objects from this metal by patronage. The chiefs could thus retain exclusive access to weapons, symbols of military might, and to an ideology of warrior domination. The breakdown of their monopoly probably reflected a transformation in which multiple pathways for exchange and decreasing metal supplies made status distinctions increasingly problematic.

To summarize, the dramatic cultural change associated with the Single Grave Culture introduced a new ideology that would become associated with warrior chiefdoms, but chiefdoms did *not* arise for a thousand years. The messages of personal distinctiveness and lineage were in themselves insufficient for the beginnings of chiefdoms. Rather, chiefdoms arose only in the Early Bronze Age when the symbols of male chiefly hierarchy were materialized in metal weapons of war—swords and daggers. Ultimately, the message of the ideology was important, but the possibility of controlling that message through specific forms of materialization was essential to the institutionalization of a ranked society in the Early Bronze Age.

Kaua'i, Hawai'i (800–1824 A.D.)

Through a materialized ideology, the Hawaiian chiefs created the institutional order for their paramountcies. Materialization was accomplished through an intersecting set of physical forms—an elaborate ceremonial cycle, symbolic objects of personal display, monumental temple constructions, and most importantly a cultural landscape of intensively farmed and physically marked spaces. The religious cosmology as practiced ceremonially identified the ruling chiefs as gods on earth. Their landscape was marked off into communities for which they held overarching rights of allocation. Here I document the development of the ruling ideology by looking at the evidence of its materialization at historical contact and before. A critical question is how the ideology became linked through its physical forms to the other sources of power and was used to institutionalize the hierarchical basis of the society.

The chiefs, organized hierarchically into ruling lineages from the different islands, orchestrated an elaborate ceremonial cycle that established the cosmic order as related to earthly existence. The political and symbolic character of public ritual is laid out elegantly in the work of Valeri (1985). "Practically every important pragmatic action [was] associated with and regulated by a ritual counterpart" (Valeri 1985: 154). Ritual revolved around significant economic and political activities orchestrated by the ruling chiefs; "the aims of ritual action [were] always very mundane," such that these two separate spheres were united in chiefly practice. Specifically, Valeri argues that a chain of sacrifices constituted the institutional character of the chiefdom and that these relationships were encoded materially in the hierarchy of religious monuments (heiau) where the sacrifices occurred: "Just as the sacrificer is necessary to the sacrifice because he is in constant contact with the god in a permanent manner, so temples and other

sacred places are a condition of the efficacy of sacrifice because the gods are permanently present in them" (1985: 172). Two contrasting ceremonial cycles and ritual monuments went along with the most critical actions of the chiefs, involving the maintenance of peaceful productivity and the waging of political warfare.

Maintenance of peaceful productivity involved an annual cycle of ceremonies aimed at the god Lono, seen especially on the Big Island of Hawai'i. The basis of the staple economy was the chiefs' agricultural systems, and the agricultural cycle depended on chiefly intervention. "Lono is preeminently the god of growth, of horticulture, of rain (he is associated with the clouds) and presides over the life of the people in general. As such he is the nourishing god" (ibid.: 177). Lono returns yearly with the rains and unites with the earth to produce the crops of daily and political life. His temples are built and ritual performed by the chiefs "so that the land might live" (Kamakau 1976: 201). The growth of the crops, the falling of the rains, and the fertility and health of the people were his.

Ceremonies of Lono were part of the life-giving forces that sustained human existence. Annually, the paramount staged the Makahiki ceremony, which involved an elaborate series of rituals, sacrifices, and associated events (Valeri 1985: 200–233). Dramatically the paramount and the main Makahiki god, a representation of Lono, toured Hawai'i along the coastal trail. During this procession, the paramount was an earthly manifestation of Lono. As the procession approached a community's border, a taboo (*kapu*) took effect that prohibited normal activities, and the local people, organized by their konohiki, presented the paramount/god with gifts of fish, fruits, and wild products from the community's territory and labor. Especially important were items of wealth, which included brilliant feathers, pigs, and bark cloth. If the gifts were assessed to be adequate, the procession moved on, the ceremonial kapu was removed from the community, and life returned to normal. If not, the community could be plundered. At one moment, the symbolic nature of earthly production and the institutional order of the political economy came together.

If agricultural production was the first pillar of Hawaiian politics,

warfare was the second (see Chapter 4), and warfare too was intermeshed with ritual action and sacrifice. In preparation for war, the paramount staged a regular series of ceremonial events, focused on the *luakini* heiau. These shrines, belonging to the paramount chiefs, were dedicated to their war god Ku. The priest decided whether a new heiau must be built or whether a renewing of the existing shrine was adequate. Important to the creation of the new shrine was the introduction of Ku himself in his statuary. Here lived the god permanently. Valeri (1985: 234–339) describes precisely how the wildness of political competition was mastered and institutionalized through the ceremonies. The culmination of war was the sacrifice of human victims, the defeated chiefs, to the god and the reestablishment of the ordered political world connecting the paramount to his gods and to his people. Warfare combined the physical force of the military, the institutional order of the chiefs, and the legitimizing role of the ceremonial cycle.

Valeri's argument extends Geertz's analysis of political theater. Political culture, ideology, is staged in the public ceremony of the chiefdoms. The ritual includes an elaborate retelling of the tales of the world, encapsulating the natural order of political life. This narrative contains the proper relationships among people and their gods. But the ceremonies are not simply acted narratives. They are sumptuous events involving ritual specialists, performers, feasts, elaborate regalia, and ceremonial facilities. Putting on these ceremonies was not easy; it could only be done successfully by a great leader.

Essential to any ceremony are the symbolic objects belonging to the people who use them in the ritual. These objects encapsulate key elements of meaning and are a dramatic means for their communication. Their possession and display were ways to distinguish the cultural position of participants.

Duran Bell's (1994) distinction between rights of person and rights of property in the history of human societies is relevant here. In precapitalist societies, rights were vested in the person and his or her known position within society. In small-scale societies, individuals are known face to face. Who a person is and what rights and obligations he or she holds are negotiated daily. Personal status is an outcome

of general understandings based on participation in routine group events and rituals visible to community members. With the evolution of larger-scale chiefdoms and states, the social and political equations include conflicting group interests and masses of people such that some individuals may be unknown to other members of the polity. Who are these people, and what are their rights within the social system? The answer is no longer as evident. It must be found by positioning the person within the social structure or, more precisely, within the social history of the polity.

Rights are based on historical sequences of events (including genealogies) that extend back over generations. These structures of historical knowledge must be remembered and presented convincingly (Sahlins 1985). In our own system, written documentation comprises wills and deeds that define rights in property and other things. But in a nonliterate culture, histories were written in different media that included memory specialists, such as the genealogical historians of Hawai'i; the symbolic objects of display; and the landscapes of ritual and everyday life.

On the Hawaiian Islands, a strong connection existed between objects, persons, and status. The object and the person were one. Most important for chiefs were the elaborate feather cloaks, worn in battle and at special ceremonial occasions (Earle 1990; Kaeppler 1970). Upon first arrival at Waimea, Kaua'i, Captain Cook and his crew were impressed by the quality and value of these brilliant red and yellow objects of chiefly adornment (Cook 1967: 280). The cloaks were made from many thousands of bird feathers tied closely to create dramatic fields of contrasting colors in patterns of broad crescents and other forms. "The largest cloaks required some half-million feathers, and it is no wonder that only the highest chiefs could afford such magnificence" (Kaeppler 1970: 92). Red, a common color on the cloaks, was the color of gods throughout Polynesia, and the crescent across the back of a cloak represented a rainbow that overarched a god when on earth (Cummins 1984).

The gods that accompanied the paramount to war and special occasions were large wicker constructions, covered with the same feathers (Fig. 5.2). Just like the cloaks and helmets, the type and

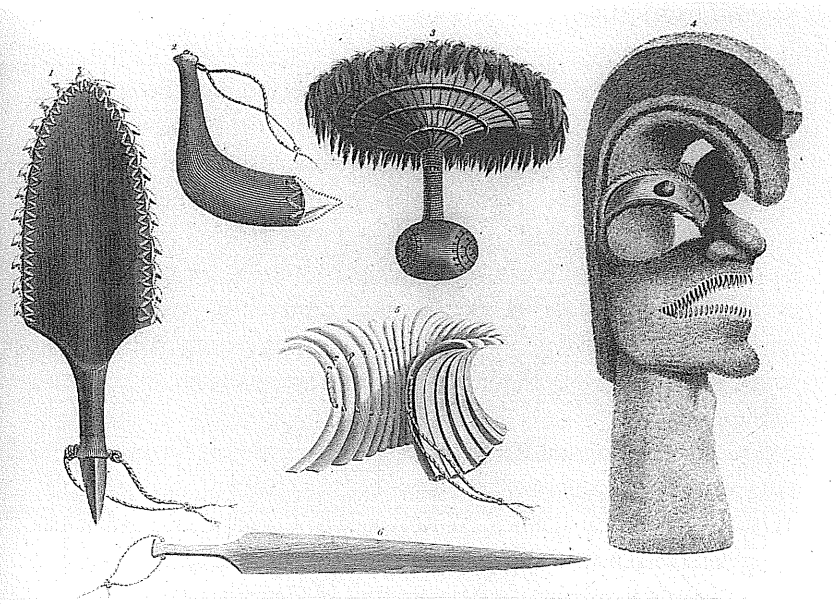

Figure 5.2. Illustration of a Hawaiian wicker god to the right; several prestige objects, including a kahili; and close-contact personal weapons (Cook 1784).

richness of the god's feather coverings signified the amount of mana that the god embodied (Valeri 1985: 264). Weber's etching of the paramount of Hawai'i coming out of Kealakekua Bay vividly illustrates the connection between chiefs and gods (see Fig. 4.5). The lead double-hulled canoe carries Kalani'opu'u and his chiefs, each with his personal feather cloak and helmet. The following canoe carries their feathered wicker gods. The ceremonial regalia of the Hawaiian chiefs matched their gods. The cloak was an ultimate power dress, signifying the sacred and potent persona of its owner.

Obviously the cloak's power made it dangerous. Its manufacture, presentation, and use were carefully controlled. A cloak was manufactured from feathers plucked from thousands of birds taken by bird catchers working in the community's upland forest reserves. The collected feathers were then given to the god/paramount at the Makahiki shrines. The antiquity of this practice is documented by upland camps,

presumably for bird catchers, that date primarily from A.D. 1450 to 1550 (Athens et al. 1991). Apparently the feather regalia of the god-chiefs was developed in conjunction with the elaborated ideology, just at the time when paramounts were fashioning the islandwide chiefdoms. Early historic accounts describe how the feathers were tied onto the mat by specialists, who were attached to the high chief (Malo 1951 [1898]) and presumably supported by staples mobilized through the political economy. The cloaks could be given by the paramount to his supporting chiefs, and they were removed from him when he was defeated in battle. Each cloak had a history of its use and transfer that encapsulated the place of its wearer in the political history of the chiefdom.

During the original dealings between western explorers and the Hawaiians, the paramount chiefs gave many cloaks to the westerners in ritual of political alliance. At Kealakekua, Cook's lieutenant James King described how Captain Cook sat in a heiau enclosure to receive cloaks from Kalani'opu'u, the paramount of Hawai'i: "The King [Kalani'opu'u] got up & threw in a graceful manner over the Captain's Shoulders the Cloak he himself wore, & put a feathered Cap upon his head, & a very handsome fly flap in his hand: besides which he laid down at the Captains feet 5 or 6 Cloaks more, all very beautiful, & to them of the greatest Value" (Cook 1967: 512). These cloaks were given to Captain Cook to recognize him as a high chief, strong ally, and sacred personage. Like land itself, the cloaks were taken in battle and given over to the victorious paramount, who bestowed them politically. Rights within the society were made manifest by the giving, receiving, and wearing of the cloaks. The chiefly institutions were formalized in their symbolic objects.

The ruling ideology was also more permanently written on the landscape by the construction of heiau, trails, walls, and agricultural fields. These constructions of social labor encapsulated the social relations of the chiefdom or, more precisely, the historical events that defined those relations. The Hawaiian Islands have a long history of substantial stone-constructed monuments, the heiau. A typical heiau consisted of a stone platform that was built on a hill slope or natural

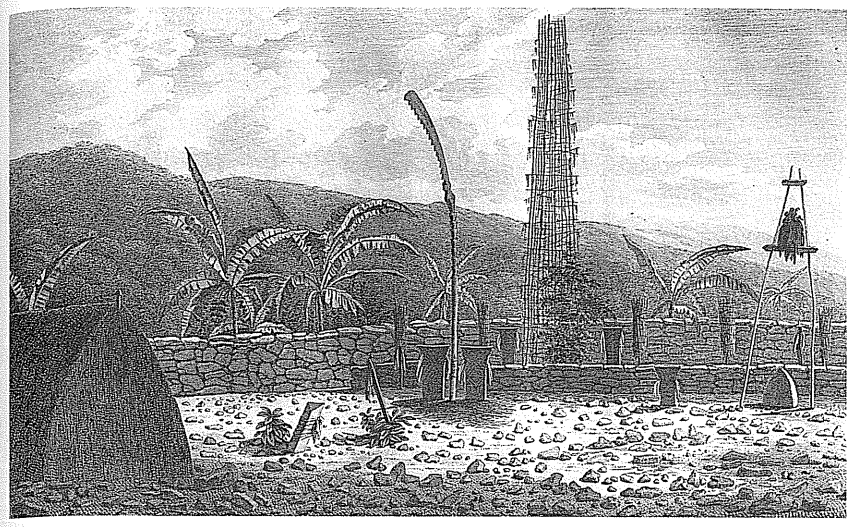

Figure 5.3. A heiau at Waimea, Kaua'i, at first contact with Captain Cook (Cook 1784).

prominence, thus maximizing its dramatic effect while expending the least possible labor. An individual shrine could have multiple terraces and walls that enclosed sacred spaces. The first heiau seen by Cook's party was a luakini heiau at Waimea, Kaua'i (Fig. 5.3). Illustrated by Webber were the tower, the *lele* altar, the pole-shaped main image (Valeri 1985: plate 1), and five slab-type temple images with tapa streamers (Cox and Davenport 1974: 64). Here resided the physical manifestations of the gods on earth. Within these sacred spaces were also various wooden structures, housing sacred objects such as special drums or the bones of god-paramounts, towers shrouded in tapa cloth identifying the kapu space, and carved wooden figures that were the gods. The heiau were the homes of the gods and the setting for the sacred ceremonies.

The monuments were constructed by social labor, mobilized and overseen by the chiefs. The size and ceremonial uses of the heiau varied considerably, ranging from small *hale mua* built by community groups to the large luakini heiau of Ku built under orders of the

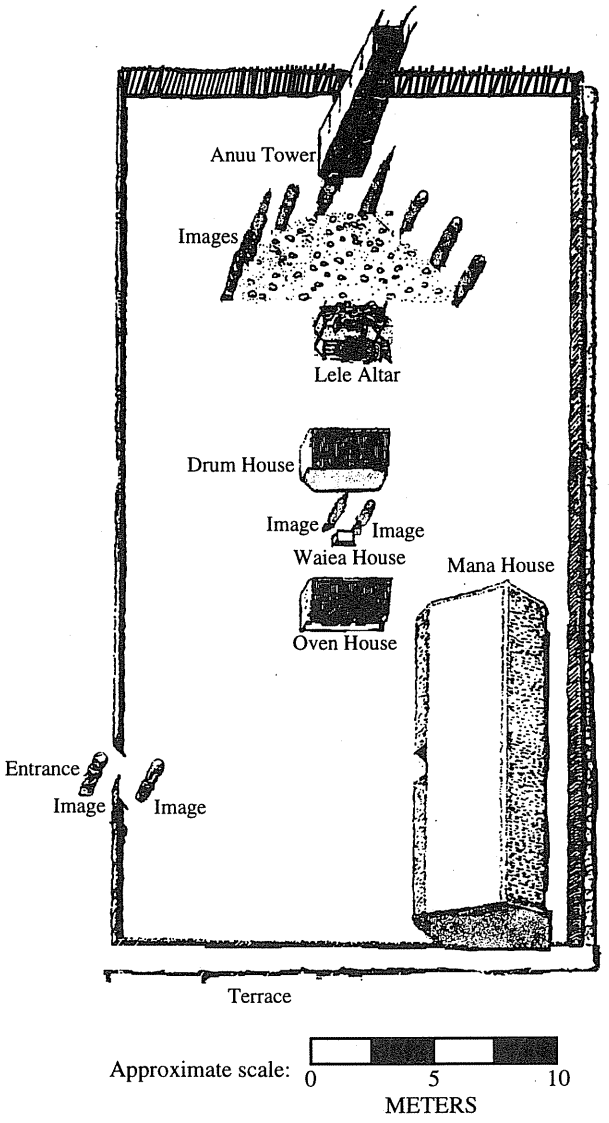

Figure 5.4. Reconstructed plan view of a large luakini heiau (I'i 1959; reprinted courtesy of the Bernice P. Bishop Museum Press, Honolulu).

paramount chief. The layout of a luakini heiau is reconstructed in Figure 5.4. It was quite large (perhaps 34 by 18 meters) and surrounded by an enclosing wall. Within were the images that housed the god's manifestation, and here took place the human sacrifice that ensured success in battle. Most impressive were substantial stone platforms on which the structures stood and the surrounding walls that separated the sacred spaces from the everyday world of the commoners.

The heiau were permanent monuments. Hawaiian religious beliefs conceive divine forces everywhere, living, for example, in the large boulders strewn through the valleys. But the emerging chiefs created cultural homes for their gods, directly associated with (owned by, if you will) the chiefs through their rights over the products of social labor. A natural and open sacred landscape was progressively transformed into a built and owned landscape in which powers were set off and inherited through contested ruling chiefly lines.

As seen on Maui, heiau construction was quite impressive. Kolb (1991: 160–65) estimates that Pi'ihanahale heiau, probably the largest monument on the islands, was over 4,000 square meters in area and required 26,000 labor-days for construction during ten separate occasions. Smaller heiau were quite common, with at least one heiau, and often two or more, built in each ahupua'a. In his doctoral dissertation, Wendell Bennett (1931) surveyed the heiau of Kaua'i, describing nearly one hundred distributed in many of the ahupua'a across the island. In the politically important communities were the largest heiau; the paramount's primary community at Wailua contained six or more heiau with different ceremonial associations. The heiau are the surviving materialized ideology of a complex religious world.

On the island of Maui, the history of monumental construction documents how the organization of labor changed systematically through time. Excavating eight heiau (of 108 surviving on Maui), Michael Kolb (1991) documented and dated their construction stages. This permitted him to estimate the total amount and timing of social labor encased within the monuments through time.

Most dramatically, Kolb (1994: fig. 3) documents distinctive shifts in the total amount of ceremonial construction by time period

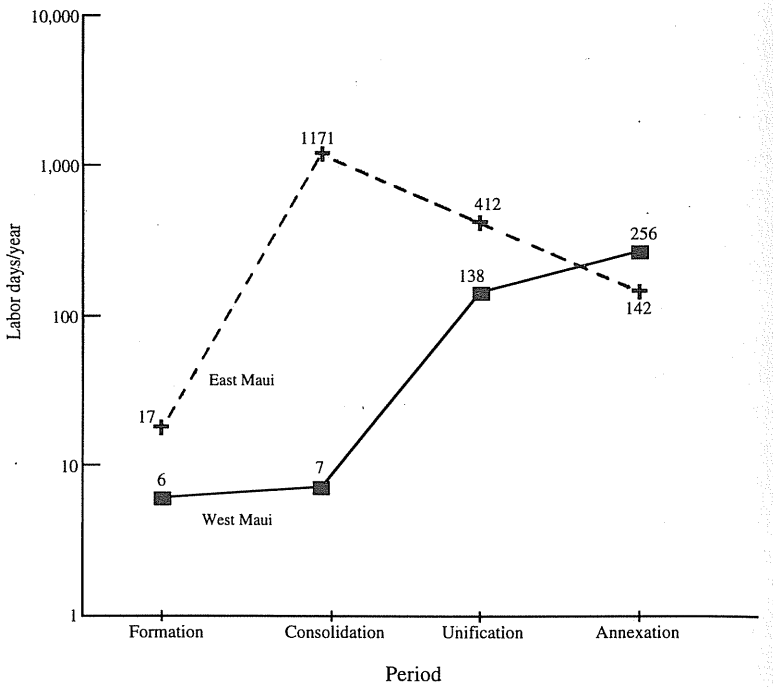

Figure 5.5. Estimate of total annual labor required to build the heiau of Maui (Kolb 1994; reprinted courtesy of University of Chicago Press).

(Fig. 5.5). Notably, the total human labor per year required to build the heiau of Maui did not increase gradually. The first, fairly limited construction phase (seventeen labor days per year) was documented for the period A.D. 1200–1400, when the hierarchical chiefdoms of Maui were beginning to be instituted. Construction then soared upward to 1,171 labor days per year during the Consolidation Period (A.D. 1400–1500), when major wars of political competition raged for control over the island. Then, in subsequent periods, when the islandwide chiefdoms were solidified, labor invested in the monuments declined substantially to 412 and then to 142 days per year.

Construction phases of the monuments thus peaked early in the formation of the large-scale chiefdoms. But why? asks Barbara Price (1994). Despite increased population and apparently more available

social labor, Hawaiian chiefdoms turned away from monumental construction (Kolb 1994). That construction, I think, was significant at the *emergence* of complex chiefdoms as a means to institutionalize power, but after materializing the emergent ideology in the monuments, the Hawaiian chiefs did not need to continue their construction on such a large scale. The sacred landscape was in place, owned by the chiefly overlords. The labor of men and women from the communities could now be directed toward other sources of power, such as community infrastructure.

In addition to houses and field systems, discussed momentarily, that infrastructure included the walls and trails that physically organized the social environment of the chiefdom. Kolb's continuing work on community labor (Kolb and Snead 1994) focuses on the construction of an upland community in Maui's Kula district. Formal trails physically integrated each community, and a circum-island trail unified the communities for daily and ritual relationships. The formal paths and roads of chiefdoms often acted as maps for the social and political world materialized in its physical environment (Earle 1991b).

Arguably the most important element of the materialization of ideology on the Hawaiian Islands was the building of the agricultural facilities on which the political economy was based. Although usually thought of in utilitarian terms as economic capital, the irrigation systems fundamentally altered the landscape and rights within it, vested in its history of use. Construction of the agricultural facilities created a cultural landscape, and the property rights in the lands functioned as income supporting the chiefs in their political endeavors.

The early western explorers of Hawai'i described the island environment as including intense farming of the lush valleys. An artificial and highly productive landscape contained taro pond fields fed by irrigation canals, embankments between the fields planted with coconuts, bananas, and sugarcane; and larger fishponds. This infrastructure was, of course, a cultural artifact, created during the previous 1,400 years. The environment was a product of the long history of social development (see Chapter 2).

Economic power derived from control over these productive agricultural facilities, but to be effective, that control must have been

embedded in an ideology that codified rights of access, allocation, and use; this code was materialized in the physical landscape of Hawai'i. "In the native Hawaiian conception land was inalienable; use right was acquired through a hierarchy of land-giver/tenant relationships, from higher to lesser chiefs to local land supervisors and hence to commoners" (Linnekin 1987: 15). Land-use rights in subsistence plots descended through the male line, reflecting the place that the land held in the system of staple finance; land was given to men, because they were the corvée workers on the chief's land and on projects organized by the konohiki.

The irrigation systems were not an abstract code; essential to their ideological and economic use was their physical nature. The ditches, terraces, fields, and walls marked out discrete, yet interdependent, units. The individual lo'i had been made entities of social production. The field borders, pounded into place by work teams directed by the konohiki, delineated the ordered segments of subsistence production that so appealed to the western explorers (Fig. 5.6). Rights or responsibilities in an irrigated field were made clearly visible through allocations of specific plots, the water to farm them, and the labor organized in their productive cycle. The irrigation systems manifested broad social relationships, lived daily by all working in their fields (see Spriggs and Kirch 1992).

The importance of the physically altered landscape to the political economy of Hawai'i can be extended to understand other facilities on which use rights were structured. During the Great Mahele, the most important land tracts claimed by the commoners of Kaua'i were their taro fields; 96 percent of all claims included lo'i marked by their embankments and retaining walls (Earle 1978). Commoners also usually claimed a house lot (79 percent of claims) and, less commonly, dryland agricultural fields (59 percent of claims). These too were evidently delimited by physical markers. Pahale means literally "fenced house"; the lot was marked by a surrounding stone wall that set off a private space for the family. On Kaua'i, the kula (dryland fields) were in most cases (79 percent of kula claims) directly associated with the marked tracts of pond fields or of the house enclosures.

The commoners, living in the constructed environments, were set

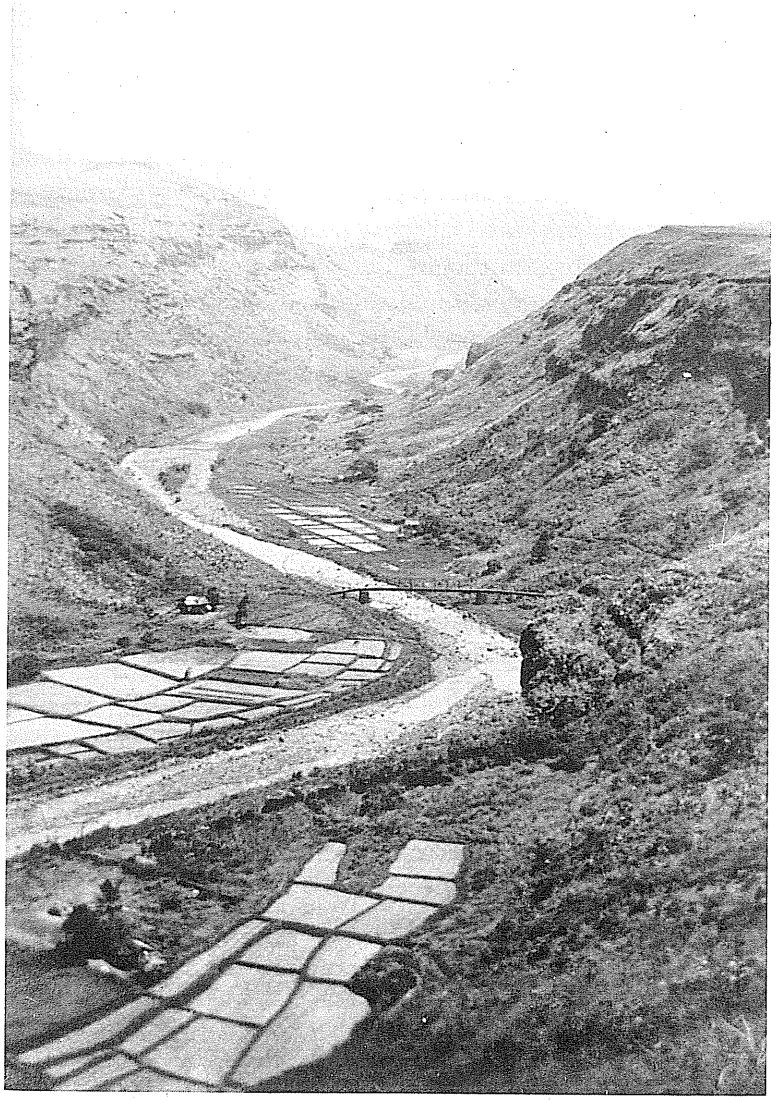

Figure 5.6. Modern irrigation system in Hanapepe Valley, Kaua'i, about 1920. Shown is the constructed landscape of fields as owned and farmed by Hawaiians (author's collection; photographer unknown).

within the structure of the political economy to which they owed their labor in return for use of the facilities. But these commoners should not be thought of as mindless pawns in the system of expropriation by the ruling chiefs. Commoners tried to resist the lengthy arms of their konohiki by escaping the systems that the chiefs created and owned. Evidently they succeeded at times. The majority of irrigation systems were in the lower valleys at or near the coast, in localities easily monitored by the konohiki. But higher up in the valleys, in the narrowest crevices and on side streams, are found minor irrigation systems as well. In his survey of the archaeological sites on Kaua'i, Bennett (1931: sites 37 and 38) describes irrigated terraces located more than fifteen kilometers inland in the very upper reaches of the Waimea River canyon. The upper sections of all larger valleys, and the small valleys along the Napali coast and elsewhere, were developed for very small irrigation systems, often of only a few hundred square meters. The impression is that these irrigation systems, for which no claims were made in the Great Mahele, were developed by individual families who may well have lived impoverished lives, but who remained relatively independent of their chiefs.

In a traditional folktale from Kaua'i, Ko'olau the leper escaped deep into Kalalau Valley on the rugged Napali coast of Kaua'i. Here he and his band of lepers held off capture by the sheriff and an army of *haole* (Anglo) soldiers. In Jack London's version, Ko'olau laments the power of the westerners:

> And who are these white men? We know. We have it from our fathers and our fathers' fathers. They came as lambs, speaking softly. . . . To-day all the islands are theirs, all the land, all the cattle—everything is theirs. . . . They . . . have forgathered and become great chiefs. They live like kings in houses of many rooms, with multitudes of servants to care for them. They who had nothing have everything, and if you, or I, or any Kanaka be hungry, they sneer and say, "Well, why don't you work? There are the plantations." (1989 [1912]: 135)

Ko'olau the leper rebukes the economic domination by western plantation owners of the nineteenth century, but, perhaps ironically, his complaint could also have been voiced by his ancestors against the ruling chiefs of the islands. Chiefs had owned all the lands, the pigs, the fishing grounds, and the irrigation systems, and to use these the commoners had to work on the chiefs' ko'ele and other projects or to escape into the deep valleys.

The complex chiefdoms of the Hawaiian Islands were based upon the foundation of irrigation systems and comparable intensive dryland complexes (Earle 1994d; Kirch 1994; Rosendahl 1972). The history of these systems illustrates the formalization of the economic chains of the emerging chiefdoms (see Chapter 2). Prior to A.D. 1400, rapid population growth and expansion of populations into the interior involved forest clearance and perhaps temporary fencing, but agricultural facilities were probably quite small. Between A.D. 1400 and 1650, intensification of agriculture was linked to the expanded construction of irrigation systems and field complexes, and, during the protohistoric period, when monumental construction declined, the development of irrigation and other agricultural facilities continued to be important. Intensification, caused by growth of population and of the political economy, caused the manufacture of the physical landscape of walls and paths that neatly divided units of subsistence and residence, given by the konohiki in return for work by the community's men and women.

The evolution of the complex chiefdoms of Hawai'i created island-wide and interisland polities with tens of thousands of people brought together under a sovereign. Such a large polity would have contained within it many histories and interests that set people off against each other. Part of the evolution of these formidable political institutions involved the formalization of rights and obligations. But such rights could not be simply known and recognized throughout the polity. The institutions must have been materialized and presented in readily recognizable forms that themselves are difficult to fake.

Within the cultural landscape, monuments represented the chiefs' divine power and access to the high gods of fertility and destruction. Property rights became formalized, given permanency, in the constructed, productive facilities—the irrigation systems, the fishponds, and the fenced house lots. Who a person was, how he supported his family, and how he sustained his chiefs were written in the landscape by the construction of the community's facilities. The symbolic order

was thus grounded and subsumed within the everyday practice of ritual and subsistence labor in the monuments and fields of the chiefs.

The Upper Mantaro Valley, Peru (A.D. 500–1534)

A considerable number of modern ethnographies document the traditional cosmology of Andean societies. Like all human societies, they are deeply involved with complicated systems of beliefs that relate humans, their communities, and their leaders to a cosmological order (Bastien 1978; Isbell 1978; Mitchell 1973, 1991; Zuidema 1977). A strong tie exists between land and community. People are born from the soil and return to it at death, after which they belong to the local mountain deity (*wamani*). The community, its history, and its future are bound to a sense of place. Springs and streams are places where spirits live and must be venerated. Irrigation systems, in particular, unite land, water, and the social labor of the community; these agricultural facilities focus ritual as a metaphor that organizes the community and positions it within the cosmic order. Leaders are certainly involved in organizing labor on the symbolically charged irrigation ceremonies and derive power from their social role.

What is clear from the archaeological record, however, is that the cosmology of the Andean world received little dramatic materialization within Wanka society. Without materialization as dramatic symbolic objects or impressive monuments, I would argue that the systems of cultural meaning could not have been used by leaders with the same effect as the ideologies of the Hawaiian and Danish chiefdoms. The historical documents, summarized in Chapter 4, emphasize that the authority of the cinchekona rested on their military role defending the community. Unlike other chiefdoms, the settlements of the Huacrapukio and Wanka periods had no mounds and comparatively few public, symbolic objects.

Ceremonial events were certainly of some importance to Wanka chiefs. Most noticeably at the Wanka II center of Tunánmarca (Fig. 5.7), the settlement was divided in half by a transverse section running roughly east-west. Two "avenues," marked off from the residen-

Figure 5.7. Central ceremonial plazas at Tunánmarca with two special rectangular buildings (Earle et al. 1987; reprinted courtesy of the Institute of Archaeology, UCLA).

tial space by converging walls and cleared of buildings, focused attention on two small central plazas (0.17 hectare and 0.05 hectare). It takes little imagination to conceive of this as public ceremonial space, the stage for ritual activities orchestrated by Wanka chiefs. The small scale and lack of major monumental constructions are quite evident, however; no mounds dominated the centers or made visual foci for the polities, and two associated "public" buildings were modest rectangular structures (each 38 square meters) that might well have been elite residences.

From our analysis of Wanka II elite and commoner patio groups, it appears as if the elite residential areas were used for ritual occasions, probably associated with defining household status (Costin and Earle 1989). By and large, elite patio groups were similar in layout to, and had archaeological assemblages much like those of, commoner households. But elite household spaces were bigger, and the diet of elites contained special foods, namely maize and camelid, that were likely consumed at feasts. Status was also marked by symbolic objects that would have served for display at ritual occasions.

Among the local symbolic objects were large jars decorated in a style called Base Roja (Lumbreras 1957). The paste and temper of Base Roja are distinctive, what we have called an Andesite ware (Costin 1986). It was apparently produced in the Mantaro Valley to the south of our research area near Huancayo and traded across a broad region (Earle 1985). These jars were highly decorated with modeling and three-color painting. The effort put into their manufacture suggests that they encoded significant cultural meaning with public symbols. The most distinctive jars are large female forms: a modeled face (with ears) stares out from the face neck, arms are folded across the swollen body, and swelling breasts are shown. Who is this figure? Although we do not know specifically, the striking image certainly portrayed female power associated with the rituals in which the vessels likely served.

The Wanka mammiform jars probably stored *chicha,* the maize beer served at public feasts hosted by the local leaders. These vessels were concentrated in elite residences; they had to have been procured through regional exchange. One is reminded of the argument presented by Helms (1979) that Panamanian chiefs competed through long-distance exchange relationships for control over special objects associated with the power of esoteric knowledge.

Other objects defining elite status include metal wealth worn as part of personal decoration. During the Wanka II period, elite households held larger numbers of metal objects of display, especially thin silver disks perforated to be sewn onto clothing and tupu pins used to fasten women's shawls. These objects decorated female, and perhaps male, bodies. In contrast to the Danish case, the metal was not used

for weapons and symbols of destruction and power. In the Andes, metals were associated with the gods. Gold was from the sun god, silver from the moon. Metal was the manifestation on earth of the high gods associated with the most basic cosmic forces, and it was used for special objects worn and displayed publicly. Wearing of special clothing with the metal jewelry identified the elites with the cosmic forces to which the leaders held special access, but the symbolic materialization was not linked to the war powers. If anything, it was linked to alternative sources of power involving females.

Control over the symbolic objects was problematic and may have resulted in a more heterarchical system of power. The clay for ceramics and the ores for the metals were broadly distributed throughout the regions in easily mined surface deposits. The technology of manufacture involved a series of comparatively simple steps that would have been broadly known and easily replicated. Regional exchange, requiring only foot travel or llama caravan, would have been quite dispersed through a network of relationships. Control would have been difficult indeed to exercise, and these forms of ideological materialization would have offered only a partial source of power.

The most dramatic form of materialization among the Wanka was probably the monumental fortifications for community defense. As discussed in Chapter 4, Wanka society was composed of competitive hill-fort chiefdoms in which local polities were balkanized into small regions defended by impregnable fortifications. The legitimation of leadership hinged on community defense. The socially constructed town walls defended the community from attack, certainly, but they would also have formalized to some degree the structure of the community as a social entity dependent on the cinchekona.

The monumental town walls may thus be as much a statement of ideology, defining the group and its charter for survival, as simply a utilitarian facility. Interestingly, in Wessex, the investment of corporate labor in public constructions shifted dramatically: in the Age of Stonehenge, approximately 32,000 labor-days per generation were dedicated to ceremonial monuments; in the Age of Hill Forts, about 21,000 labor-days per generation were dedicated to fortification walls (Earle 1991a). In England, with the beginning of hill-fort society,

ceremonial construction ceased and social labor was directed to enclosing walls. It seems that the ideological basis for society had been transformed from wealth finance, in which control over symbolic objects was the key for materialization, to staple finance, in which military power secured rights to carefully defined lands. Walls identified the town, differentiating its people from the enemy who lived outside the walls. Adams (1966) remarks that Middle Eastern city walls functioned as much to include (to hold a "caged" populace) as to exclude (to defend the populace from attack). Fortification probably served in the Mantaro and elsewhere as materialization of the ideology of group identity in defense against outside threat.

The irrigation and drained fields of the Andean communities, described in Chapter 3, may also have been an important element of the social order. As described in modern peasant communities, agriculture work and especially the annual cleaning of the irrigation ditches were important ceremonially (Mitchell 1991). The name of the five-day, annual irrigation festival (*yarqa aspiy*) combines a dual meaning of "canal cleaning" and "the celebration of the irrigation system" (Mitchell 1991: 144).

> The irrigation festival was one of Quinua's most beautiful fiestas. During the early morning the wives, daughters, and daughter-in-laws of the festival officials set out from their homes for the main canal intakes. . . . They left early to prepare meals at assigned places along the system. The other celebrants set forth a little later, but still in the dark, under a dry-season sky alive with stars, August Perseids occasionally streaking across the horizon. They were greeted at the main intake at dawn by the smoke of the women's fires blending with morning mists. . . . Quinuenos had left their competing [modern] music behind and listened only to the drums and flutes provided by the festival organizers. (Mitchell 1991: 145)

The work and ceremonies of the irrigation canals were orchestrated by the local officials, who were the owners of the systems. An irrigation facility became a communal monument and an enactment of the social order of men and women's work, political leadership, and symbolic sanctity. But in many localities in the Andean highlands, such as the Mantaro, since most agriculture was not irrigation-based, the agricultural facilities were not of central significance as a source of power.

Following the expansion of the Inka empire, local ideological systems were co-opted and transformed to be brought under state control. Although not the subject of the analysis here, a brief summary of the transformations can be given (see Costin and Earle 1989; Costin, Earle, Owen, and Russell 1989; DeMarrais, Castillo, and Earle 1996). In Wanka III, under Inka domination, elite status continued to be defined by symbolic objects, namely, ceramics and metal decorative items. Distinguishing ceramic objects were now Inka vessels, especially the large arybaloid jars used to store chicha. A typical Inka jar might be a meter tall, with a distinctive shape, a knob for holding a tumpline, and geometric decoration. These jars were stylistically similar throughout the empire, and, in the Mantaro, they largely replaced the Base Roja jars in the assemblage of elite households. The metal decorative objects were more frequently made of copper, now uniformly alloyed with tin. The basic forms seem largely to have continued, but with the introduction of a few cast forms, like the llama-headed pin found elsewhere throughout the empire (Costin, Earle, Owen, and Russell 1989).

The change with the Inka invasion was a subtle manipulation of the indigenous ideology (ibid.). Most important was the selective replacement of symbolic objects that were locally procured by objects that the state provided. The Inka ceramics in the Mantaro were quite obviously centrally manufactured under direct state supervision, as shown by the standardization of forms and decorations both locally and across the empire (Hagstrum 1986). For metals, the Inka period is referred to as the "tin bronze horizon" (Lechtman 1977). Throughout the regions of imperial conquest, tin alloying became standard practice. Lechtman (1984) argues that the shift to tin introduced a new symbolic referent into the material culture of the Andes. Tin, unlike the ubiquitous copper, was mined in only limited areas of Bolivia and Chile. The use of tin in the metal recipe thus made the local metallurgical traditions dependent on the long-distance trade that took place along the imperial roads, under tight state supervision. By changing the objects, the symbolic system used locally to materialize elite ideology became partially co-opted by the state as an extension of its political economy.

More dramatic were the elaborate and justifiably world-famous building programs of the Inka empire (DeMarrais, Castillo, and Earle 1996; Hyslop 1984, 1990). Construction involved extensive road systems, peripheral fortifications, storage complexes, agricultural development projects, temples and shrines, and monumental public buildings and state administrative facilities. Large plazas with their central *ushnu* platform mounds were constructed everywhere outside of Cuzco. Here on the ushnu stood the lord Inka when he was on tour, but with the mound's central place he was present symbolically at all ceremonies. Imperial ceremonies had standard formats within space created to emphasize the uniformity of the state's religious practice and meaning. Reaching out from the administrative centers, the roads bound the different regions of the empire together and reminded local populations of the army that would march down them to suppress rebellion. But literally above all, prominently placed on the hills over the Mantaro Valley, stood the massive storage complexes of the Inka, signifying the staple base that financed the empire. The cultural landscape of imperial construction projects, built with local corvée labor, placed the local population within the state's ideological structure. The roads in particular connected the local society to the interregional state symbolically and militarily. Down those roads came the Inka administrators, messengers, and armies.

The important role of ideology and its materialization within the newly institutionalized Inka empire stands in stark contrast to the earlier hill-fort chiefdoms of the Mantaro. Among the Wanka, a ruling ideology with its materialization was minimally elaborated. Monumental construction focused on community defense, carrying the simple legitimation of cinche leadership, and the religious basis of political rule was not evidently closely controlled. The heterarchical character of the Mantaro society emphasizes the difficulties of creating a strategic culture to institutionalize political relationships.

The three examples of chiefdoms discussed above suggest that ideology was an important source of power, but one that was difficult to monopolize. The messages of ideology linked the chiefs to positions in society that legitimized their superordinate positions. They were

destined to rule; others, conversely, were destined to follow. The Danish chiefs were warriors, whose ancestral lines were of the soil of Thy. The Hawaiian ali'i were gods responsible for productivity and warfare; the land and its people were theirs. The Wanka cinchekona were military leaders defending the community and its lands against attack. But these messages, the meanings of the ideologies, were potentially changeable and interpretable by others according to different interests.

In the three cases, the use of ideology was inherently problematic. In Denmark, an evident disjuncture existed between materialized ideology and centralized power. The early construction of megalithic tombs, prior to the elaboration of chiefdoms, represented a significant use of labor to define community, not individual status. When individual status became pronounced, monumental size declined such that the labor required to construct a burial monument actually decreased. During the Late Neolithic, when the society of Thy was actively involved in an ideology represented in prestige goods, no central leadership emerged. The difficulty of controlling the exchange apparently reflected the fact that the prestige objects (amber, battle-axes, and daggers) were manufactured from local materials and required only basic technologies for their production. Controlled access to prestige goods became possible only in the Early Bronze Age, when metal objects became the primary symbols of rank. Then the foreign origin of the material and, more importantly, the complicated technology required to produce the objects permitted some measure of control over the symbolic system.

In the Mantaro Valley, the Wanka chiefs retained power as war leaders, and this position was materialized in the town walls that defined community clearly, but leadership only indirectly. The symbols of power were weakly linked to the role of leaders as warriors. The leaders did not hold special metal weapons, for example. In fact, the distinctive pre-Inka symbols, the mammiform jars and the silver tupus, appear to link as much to female powers as to male leadership. The sources of power were evidently multifaceted, and leadership was only weakly institutionalized.

Only on the Hawaiian Islands was the materialization of the ideol-

ogy closely linked to the other bases of power. The cultural and economic landscape was transformed to create a new physical world in which the chiefs existed as owners of the productive facilities and the earthly manifestations of the gods. The materialization of ideology transformed the legitimizing beliefs of the ruling elite into concrete, cultural things that could be controlled through the labor process within the local community. The chief's manager thus organized construction projects on the irrigation systems, the community's walls and paths, and its religious platforms. Ceremonies, conducted within the monuments, dramatized chiefs' sanctity. The whole landscape and its daily use came to represent the structured hierarchical relationships of the chiefdom.

The effectiveness of ideology ultimately rests on its relationship to the other sources of power. Where multiple sources of power exist and are not bound together effectively, ideologies may proliferate, but they are unlikely to offer a means by which a central authority can arise in opposition to competing segments and interests. As argued in the next chapter, each source of power offers quite distinct properties. A strong central political institution depends less on any one source of power than on the interrelationship among the power sources and on its ultimate grounding in the political economy.

CHAPTER SIX

Chiefly Power Strategies and the Emergence of Complex Political Institutions

To build political institutions, chiefs shape their positions from three primary power media—economy, military, and ideology. In the historical and archaeological cases considered here, chiefs used all three media to fashion strategic domination. The uses of the alternative sources of social power are quite general within chiefdoms, and these generic sources of power may in fact be universal to the political process in human society, but the outcomes are highly variable. While complex governing institutions of state societies were created in certain circumstances, in others power relationships remained decentralized, unstable, and atomistic. What determines the consolidation and institutionalization of power in some circumstances and successful local resistance to centralization in others?

The consolidation and institutionalization of power depend on the systematization of power strategies. *Power strategies are the means by which ruling segments combine the sources of social power to pursue their political goals* (DeMarrais, Castillo, and Earle 1996; Mann 1986). Power strategies vary in terms of which sources are pivotal and how they articulate with each other. The strategic uses of each power source depend on historical circumstances and immediate political objectives. The selection of one strategy over alternatives involves comparing the effectiveness and costs of implementation and the

length of time that each must be sustained. In the cases considered, *the primary determinant appears to have been the nature of the developing political economy*. The operationalization of one power strategy versus another rested on the ability to intensify and control aspects of the political economy and to use the mobilized surplus to develop central power sources.

The nature of the power strategies (how finance is handled, the nature of control, and the potential for institutionalization) has profound implications for the long-term processes of social evolution (Earle 1987, 1994a; Johnson and Earle 1987). Alternative power strategies are illustrated by Peru, Denmark, and the Hawaiian Islands. The most important source of power is quite variable among these cases, and these different sources can be seen as possessing quite dissimilar internal dynamics for change. More important are the varying ways that these sources of power link to the other sources in the creation of the power strategies and the implications that the dynamics of these linkages have for long-term social evolution. If various power strategies have different outcomes, social scientists must attempt to identify the conditions causing one strategy to be utilized by an emerging elite rather than the alternatives. The distinctive power strategies represent different routes to (and from) social complexity, divergent means to extend or to resist centralizing authority. These routes are governed by contrasting dynamics resulting in changed rates of growth in polity size and stability for hierarchical institutions.

The Upper Mantaro Valley, Peru (A.D. 500–1534)

During the thousand years that immediately preceded Spanish conquest, power strategies of the Mantaro Wanka showed a long period of cycling as polities rose and fell. Among these chiefdoms, military might was the primary source of social power (see Chapter 4), as economic and ideological powers were more limited or less centralized. The Wanka political system was comparatively static, with polities constrained to small regions, only perhaps ten to twenty kilometers

across; this constrained pattern was broken only by the cataclysmic invasions by the Inka and, later, Spanish empires.

Among the late prehistoric Wanka, the cinchekona were warrior chiefs defending their communities. Warfare was the primary arena where chiefs rose to power. Archaeology documents nearly continuous warfare, in which community fortifications offered defenses that became monuments to chiefly authority and community structure.

Warfare as a primary source of social power proved to be limited, however. Although it would seem that conquest warfare would provide an effective vehicle for political expansion, it did not. Military might in fact proved impossible to control centrally. Each community developed its own defenses that were virtually impregnable to attack. Power was fragmented, creating small polities independent of their neighbors, protected and incarcerated within their fortifications. Warfare, although an elemental source of power politics, proved limited by its fractured articulation with the other sources of power.

The secondary source of power was the economy. The growth of local populations corresponded with an intensification of farming. There was certainly no direct correlation between population density and warfare, but increasing populations, especially during the Wanka period, required intensification that was facilitated by agricultural improvements. The development of drained fields, terraces, and irrigated lands created the facilities that would have been the targets for conquest and the heart of defenses. The cinchekona as war leaders could quite easily have controlled access to improved lands; lands seized in battle were the chief's to hold or distribute. The members of a community were obliged to work the lands of the cinche for his support. The surpluses from these lands should have provided the staples to finance an expanding base for the chiefly power strategy. But the polities did not expand laterally.

The Mantaro Valley is high, at the very margins of maize and even potato farming. Subsequent to the breeding of frost-resistant strains, maize and potato farming became feasible but were always limited in their potential for intensification and surplus production. Irrigation and terraces increased productivity and lowered risks to some degree, but the environmental hazards constrained intensification. The fairly

marginal and extensive subsistence base restricted the growth potential in the political economy and its use by chiefs to control both military and ideological power.

A ruling ideology was little elaborated among the Wanka. No major monuments, temple mounds, or prominent burials existed here, unlike in the many chiefdoms that created ideological landscapes of power. Elite status was marked by special ceremonial ceramics as well as by metal and shell objects of personal decoration. But the sumptuary goods were modest, and their manufacture and distribution would have been difficult to control given the nature of the regional economy at that time in the Andes. The ideology was not materialized in ways that allowed control through a linkage with the political economy. Rather, ethnographies tell of a natural world inhabited by powers accessible to communities within their daily lives and not contained within the monuments and objects of the chiefs.

Perhaps the simplest and most straightforward message of the ruling elite was their legitimacy based on warrior might. Thus the monuments of the Wanka were the community fortifications that both defended and bounded the group. The communal construction of the fortifications, organized and overseen by the cinchekona, excluded raiding foes and included loyal community followers.

As I have argued in Chapter 4, the Wanka represent a hill-fort chiefdom. Locally strong community chiefs emerged to organize defense of territory. They dominated local politics by control over the defense of the community and through the recognition among community members that their lives depended on this defense. But the development of larger-scale polities that centrally integrated broader regions was truncated by the extensive nature of the economy and the problems that this created for sustained central control.

The political standoff was "resolved" when the Inka imperial armies defeated the divided local Wanka chiefdoms. The political revolution of the Inka was based on an original and highly structured political economy (D'Altroy and Earle 1985). Traditional principles of reciprocity and redistribution were adopted for a massive system of staple finance using local corvée labor to construct new agricultural facilities with irrigation, terracing, and drainage. Quite simply, the

Inka were able to overcome the limitations imposed by the highland environment by creating a massive staple-finance economy. The centralized regional storage of crops buffered the state operation against environmental and political disasters that would have plagued smaller chiefdoms. The storehouses of mobilized staples then allowed the Inka to invest heavily in state farms on scales rarely equaled in Peru, even in the modern day. The massive reorganized economic base provided the reliable financial infrastructure to support adventures of the state military and the calendrical cycle of state ceremonies.

Thy, Denmark (2300–1300 B.C.)

During the thousand years that spanned the Neolithic and Early Bronze Ages of northwestern Denmark, the polities of the Thy chieftains showed an erratic cycling as they rose and quickly collapsed. Among these chiefdoms, a ruling ideology linked elites across broad regions of Europe in a prestige-goods exchange and ceremonial display of power (see Chapter 5). An export economy and warfare were firmly linked to this ideology, but the power strategy proved ultimately vulnerable.

Among the Late Neolithic and Early Bronze Age societies, leaders were marked and legitimized by an elaborate ideology that must have served as a basic source of social power. This ideology was materialized in burial monuments, round barrows that stood upon the hills of Thy as elsewhere in Europe. The ruling chieftains constructed a cultural landscape in which genealogical lines were planted in the soil, creating a right of ownership and allocation of the surrounding pasturelands. At this time of strongly marked political figures, mainly men were buried in these monuments; later, as a more heterarchical society emerged, female burials became more elaborated and male burials became less differentiated. In Thy, many of these monuments were apparently constructed during brief periods, each lasting perhaps only a hundred years—shirtsleeves to shirtsleeves in three generations.

Within the barrows that typified the chiefdoms of Montelius II,

individual males were buried with their swords, daggers, and items of personal display. The types and styles of objects identifying chiefly status were similar across broad regions of Europe and were reinforced by the exchange of actual objects and the raw material for their manufacture. An international class of leaders was created with status and identity derived from external connections and identifications. This was the world of intense peer-polity interaction, as described by Renfrew (1982).

Chiefly identity and the elite ideology were materialized in objects that were moved through prestige-goods exchanges that linked the ruling lines of individual localities to the broad class of chieftains. One can imagine that the wearing of these objects in public ceremonies during life and at death carried a clear message of the special international connections that identified chiefs as possessing special powers and positions. The exchange of objects and all events and activities involved in their production, distribution, and public use were part of a political economy based on the distribution of wealth. The power strategies of chieftains became oriented toward controlling the prestige-goods exchange. This was not easy during the Neolithic, with its fairly simple technologies of production and exchange; on the edge of the European world, everyone in Neolithic Thy could hold the objects of status that connected them with international ideologies. The use of bronze for prestige objects changed the status rivalry and allowed some control over exchanged wealth. Bronze came from distant places through many hands, and the more far-flung relations of established chiefs would have secured differential access to the metal by controlling the export products of cattle. More importantly, however, control became feasible over the manufacturing process itself (Kristiansen 1987). The ideology that identified chiefs with an international class thus became controllable through its materialization.

Control over prestige goods and the ruling ideology that they materialized was initially financed through the local subsistence economy. From the Late Neolithic to the Early Bronze Ages, the focus on herding apparently increased. The soils of Thy were known into the medieval period as particularly suitable for livestock, and the emphasis on cattle there would have been sensible given local conditions.

But a herding economy is inherently inefficient—rich in the output of proteins but poor in that of calories. A subsistence economy based more on herding would have been more work and would have sustained a smaller local population. However, livestock, in addition to calories and protein, provided secondary products in high demand—milk, cheese, hides, and draft animals used in plowing (Sherratt 1981). The shift to herding may thus have been geared toward production of export goods for an international trade. Although the subsistence economy would have remained in the hands of local producers, the shift to livestock would have made it easier for emergent chiefs to control that sector of the economy. Livestock are more easily moved and concentrated within a region than grains are. The construction of the barrow monuments throughout the landscape can be interpreted as a direct means to materialize ownership over the pasturelands (Earle 1991a). The high lands on which the barrows stood were especially good pastures, transformed in the Bronze Age from farmland into permanent grasslands.

The close linkage between ideology and the developing international economy would seem to have provided the basis for a power strategy with the potential for growth. But it faltered. Local production of livestock can be controlled over only limited areas. The extensive nature of the grasslands and the mobile nature of the animals must have created nightmarish worries for chiefs. Intensification of livestock production close to the seats of power would have undone itself as the grass pastures were degraded and replaced by heaths. A herding economy is strictly limited by its potential for intensification and sustained growth.

Moreover, broad international dynamics affecting the export economy were beyond the control of local chieftains. Changes in any of a number of factors could have been devastating to the Thy economy. A changing technology of trade may have reoriented movement toward eastern Denmark, or livestock products may have been devaluated as cloth replaced hides, or there may have been a change in the overall availability of bronze that undercut its value in materialization. Whatever the immediate cause, and others are certainly possible, the local lords of Thy would have found themselves dangling on the attenuated

string of international prestige-goods exchange. Trade is always a risky source of economic power, and leaders depending on it find their positions inherently unstable.

Thy chieftains also depended on military might. As part of their power strategies geared to controlling the exchange in prestige goods, the lords must have raided each other's encampments for cattle and tried to disrupt each other's trading ventures. But the use of warfare to extend the economy over any great region was evidently ineffective, except perhaps temporarily. Some control could be exercised over the production and distribution of the bronze swords; attached specialists would have been the producers of the weapons, as of the wealth. This control over specialists provided an elite edge over local opposition, but regionally the highly extensive nature of the economy would have favored local lords over regional overlords such that the chiefdoms remained comparatively small in extent.

Kaua'i, Hawai'i (A.D. 800–1824)

The chiefs of Hawai'i were able to craft a remarkably successful power strategy founded on a highly productive agricultural base. Surpluses in staples, which derived from the irrigation systems, supported artisans, warriors, and priests attached to the ruling line. Control over the intensive and productive agricultural economy was the primary source of power that provided the resources to control the other power media. The thousand-year sequence in Hawai'i witnessed a sustained evolutionary development of complex chiefdoms that verged on state societies.

At contact, the Hawaiian ali'i were owners of major agricultural facilities that included both irrigation complexes carpeting the valley floors and dryland fields that edged up the volcanic slopes. From the improved, highly productive fields, community farmers harvested taro and other crops, which fed a sizable commoner population and financed the chiefly superstructure. The agricultural systems were, in Geertz's (1963) term, capable of considerable "involution." A little more work, perhaps weeding the fields again or reclearing the ditches,

always produced more food. The common farmers' harder work produced the surplus to support the ruling chiefs.

The high productivity and substantial investment of the agricultural facilities held the farmers on their land. Commoners were reluctant to forgo the advantages of those fields that had been built on the islands' best soils. In exchange for those advantages, a community's konohiki put his people to work building new irrigation systems, farming fields set aside for the chiefs, obtaining feathers for the chiefly cloaks, building the temples and roads — generally supplying labor for diverse initiatives of the chiefs.

The irrigation systems and comparable dryland complexes were the physical representation, the very essence, of the ordered political economy. Use rights in a measured and defined parcel in the taro pond fields were exchanged for the labor that produced the surplus to fund the political economy. The origin of the agricultural systems becomes a question of great theoretical significance; they were the ultimate linchpin of the power strategy. The extensive complexes of Hawaiian agriculture were constructed over a relatively brief period. This was not a slow process, gradually solving local problems. It was rapid, a development initiated and overseen by the chiefs and their konohiki in the system of staple finance that sustained the evolution of Hawaiian political institutions.

Although the agricultural systems were ultimately primary, the other sources of social power were certainly critical extensions. Warfare was of special significance early on. Throughout Polynesia, chiefs struggled with each other, attempting to extend their communities' resource base and ultimately their sphere of domination. Warfare among the Hawaiian chiefs and their polities was a leitmotif of the oral histories. First district and then islandwide chiefdoms were fashioned through conquest. Warfare was the crucible for regional polities, the instrument of political expansion.

Ideology linked the chiefs with the gods, representing the chiefs as fundamental to life (fertility) and death (war) (Valeri 1985). Although monument construction continued into the historic time, it peaked relatively early in the sequence, roughly A.D. 1200–1400 (Kolb 1994). Apparently connected to the expansion of the new pol-

ities through conquest, the construction of the temples forged a new cultural landscape. In the regional chiefdoms, the lands structured by the chiefs were now owned by them. Monumental construction then diminished, replaced by elaborated ceremonies on the monumental stages. At this time, the primary effort in constructing the cultural landscape shifted toward the agricultural systems and hierarchical land ownership. In the creation of the Hawaiian chiefdoms, ideology institutionalized and sustained a new social order, but investment in the ideology was periodic and strategic.

The power strategy of the Hawaiian chiefdoms came eventually to rest firmly on the intensive agricultural facilities. Surplus generated by the emerging hierarchical society and its political economy could be directed in a number of ways. Military might expanded the polities, but that expansion made them difficult to control. A chief away on conquest could lose his home base through treachery and rebellion. Ideology legitimized and institutionalized the new political order, but it could always be reinterpreted and co-opted. More resources invested in monuments helped create an owned landscape, but ultimately the splendor of ceremonial events is inflationary. Splendor demands more splendor, higher expenditures that can literally bankrupt the chiefly power strategy. On the Hawaiian Islands, the economic base of social power proved significant, because resources invested in the facilities increased the surplus that the chiefs could mobilize. The system, during the period under consideration, had virtually unlimited potential.

The initial power strategy emphasizing warfare and ideology was thus transformed with the development of the infrastructure for a staple finance system. The potential development in the political economy provided the lifeblood for the reconstructed and centrally controlled power strategy seen at contact. The potential for sustained growth suggests that Hawaiian chiefdoms would, eventually, have reinvented themselves as states. Only relatively small changes in technique were needed to make conquest warfare feasible and effective. The Hawaiian chiefs knew what they needed and were quick to recognize the strategic use of the western weapons of war. Kamehameha aggressively sought new sailing crafts and gunnery to conquer the

islands of Maui, Molokai, and O'ahu and to fashion the first Hawaiian state. But, because the ingredients were already in place, solutions enabling conquest were sure to have been developed whether or not the European explorers had arrived on the scene.

The Nature and Structure of Power Strategies

With power strategies, individuals and social segments strategically use the different sources of power to dominate others. As summarized in Chapters 3, 4, and 5, the three sources each have different internal dynamics that are significant for determining their usefulness. Most important for the construction of alternative power strategies are the means to control and to dominate through linking the power sources together (Fig. 6.1).

The problem of alternative sources of power is simplified by two variable characteristics of power—the ease of its control and the ways it may be extended. The first critical variable appears to be *how power may be restricted to (controlled by) a few hands*.

Economic power is the most easily controlled. The essence of the economy is its material nature: from "natural" resources, humans labor to produce goods that are exchanged hand to hand. Each step in the economic process involves transfer and transformation of matter, and the physical character of the matter means that it can be concentrated and defended against others. To the degree that specific resources, technologies, or objects are needed or desired for subsistence and social action, control over production and exchange yields social power.

The political economy is inherently growth oriented. Surplus generated through selective control is reinvested to expand the technological base and to further increase surplus. The intensification and reorganization of the economy create conditions making control feasible—concentrated (circumscribed) resources, major facilities (such as irrigation), complicated manufacturing procedures, and exchange dependent on transport technologies such as ships. Localized productive resources, complicated manufacturing procedures, and

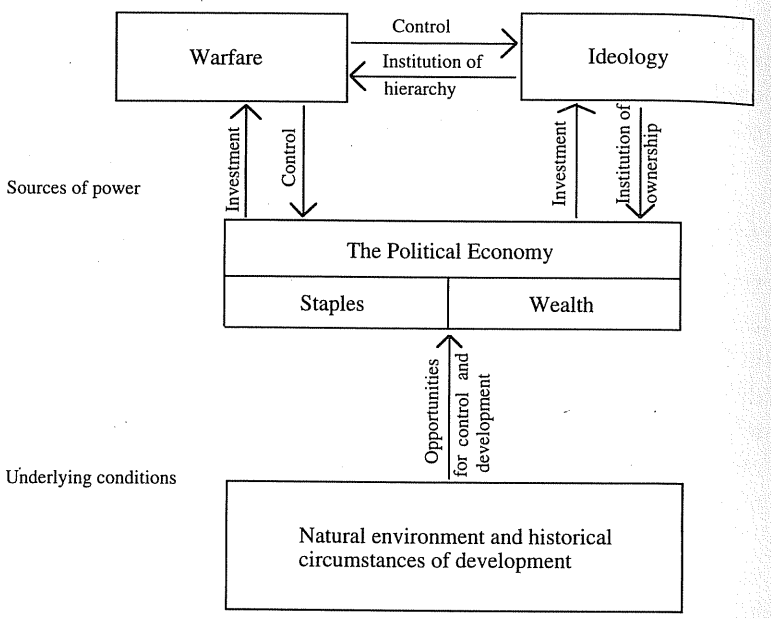

Figure 6.1. Relationships among the different sources of power in chiefly power strategies (Michael Gabriel).

limited channels for distribution offer opportunities to direct access to needed and desired things—things with meaning, but things nonetheless.

The flow of things through the economy is like an irrigation system. Tapped from natural flows, the water is diverted through built channels to water fields of choice. To the degree that the chief builds and controls the flow, he determines what flourishes and what perishes. Chiefly control over critical nodes of distribution in the material flows of the economy translates into control over the many fields of political action.

Military power is the essence of coercive force. It is potent and effective to fashion large-scale polities, but it is difficult to control. The weapon can be a great equalizer, a tool of resistance as well as of domination. The warriors used by chiefs for political conquest and consolidation can easily turn treacherously on their lords to steal part

of their domain or to murder them. Coercion has a high risk based on the difficulties inherent in controlling the ruthless agents of repression. The competitive nature of coercive force is inherently unstable; it is based on fear and mistrust, in which personal interests are always in flux.

Ideological power is the essence of social law. People act in certain ways because it is proper and necessary. But who is to say what is proper? Who controls the production of culture? In one sense, cultural rules are inherently highly personal and fractured, held in each individual's head; each person forms a private vision of the world and his or her place within it. Only through the process of materialization—the performance and representation of ideology, and public participation by a social group—can culture be strategically produced and thus controlled and manipulated by central leaders. The complexity and scale of ceremonies limit who can perform them, and the characteristics of the production and exchange of prestige goods can limit who accesses the esoteric knowledge embodied in the symbolism of objects.

The second critical variable of power appears to be *how the media of power may be used to co-opt and control one another*. Each power source is inherently limited by its capability for being used more intensely. Continued intensification of the economy sharply increases costs. Extension of supply lines weakens the military. Intensification of ideology makes it redundant and ineffective. It is possible, however, to utilize one power source to access the others, and here the interdependence of the three sources is evident.

Surplus derived from the political economy is invested in developing and controlling military and ideological power. As illustrated by the Hawaiian chiefdoms, staples are used to support specialists, who include land managers, warriors, priests, and craftsmen. Military power is developed by using surplus to nurture warriors, who are rewarded for their continuing allegiance by income-producing fiefs. In preparation for the invasion of Kaua'i, Kamehameha pushed the construction of irrigation systems on the newly conquered O'ahu as a means to compensate his warriors. To some degree, warriors may also be controlled through access to the weapons of war. In the Hawaiian

Islands, only the chiefs could afford the construction of the large fighting canoes. In Denmark, the complexity of the metallurgy may have allowed control over the manufacture of swords by attached specialists. Where such controls over the military were infeasible, the society remained highly fragmented into local communities, each with its own leaders.

Economic surplus also supports ideological power, that is, the creation of a political culture. On the Hawaiian Islands, surplus from the fields funded the building of temple monuments, the hosting of religious ceremonies, and the maintenance of an attached priestly hierarchy. The critical props of the ceremonies, such as the feathered power dress of the gods, were produced by the chiefs' own artisans from community tribute collected during the Makahiki ceremony. In the Danish case, craftsmen, attached to chieftains, probably fabricated the special objects of ceremonial display. These objects signaled an international class of people whose identity superseded that of the local communities. The production of staples and of export goods funded both development of the military and a ruling ideology.

Conversely, military power is used to seize and to defend both economic and ideological power. It is the overt means to extend the productive base of the political economy, to monopolize the flow of prestige goods, and to seize the institutions of the ruling ideology. In the Hawaiian Islands, the primary goal of conquest warfare was to seize productive resources and populations. The Wanka chief defended community lands and resources against attack, and his valor and value were measured by his success in seizing land, animals, and women. The goal of chiefdoms involved in prestige-goods exchange is to seize wealth and secure trade routes. The warriors of Thy most probably raided for cattle and stores of wealth, and fought for the exclusive right to trade with external groups for the highly valued wealth. Another goal of warfare was often to seize the ideological apparatus. To capture the temples of Hawai'i, the burial mounds of Thy, and the walled cities of the Wanka yielded access to the legitimacy that their institutions supported. The objective of war was thus to increase a ruler's effectiveness by seizing the alternative bases of power.

Ideological power is used to structure and legitimize other power relationships within society. Ideology constructs principles of authority that establish rights (and obligations) to a structured economy and military order. Rights of land ownership, access, and use are of course ultimately structural principles of an ideology; they are not inherent in the technology itself. The cultural landscape of Hawai'i or Thy encapsulated the society's history and thus embodied the hierarchical relationships among the people. The social group and its territory in chiefdoms become conflated, measures, and divided. The nature of rights to resources within a community is not evident; it is a cultural fact created by social groups to further their own interests.

Often ideology emphasizes the legitimacy of the leaders based on their military might and defense of community. The monuments of the Wanka were not temples but the defensive walls of the community, constructed under chiefly supervision. The community was defined by its common action led by the cinche. Among the chieftains of Thy, the prestige goods marking male elite status were weapons of war. Although it may be debated whether they could all serve as effective weapons in conflict, and although some, such as the more elaborate chiefly swords, rarely were used, the status referred unambiguously to warrior might and prowess. The Hawaiian chiefly feathered cloaks and helmets were worn in battle, serving as emblems of warrior status and position. To defeat a warrior was to strip him of his cloak, which was then redistributed by the victorious paramount chief to reward his own warriors and chiefs.

The sources of power are intertwined and interdependent. Perhaps of greatest importance for the evolution of human political institutions is the way that chiefs strategically use the different capabilities of the power sources to control the others. By controlling the production and distribution of staples and prestige goods, chiefs invest surplus so as to control military might and ideological right. To the degree that leaders control staple production that supports warriors and priests and control the specialized manufacture of their weapons and symbolic objects, military intimidation and religious sanctity belong to the rulers.

The material flows of the political economy provide the wire that

binds the sources of power together. The military is the physical means to seize and defend the productive resources of the economy (its fields and animals) and the symbolic resources of a materialized ideology. The ideology in turn institutionalizes the order of the economy as constituted in ownership rights and social and political hierarchies.

Multilinear Evolution of Chiefdoms

The general political process responsible for social evolution has three universal sources of power, rooted in the nature of human existence. They are used strategically to direct (and resist) the actions of social groups. The effective political use of social power depends on its control, and control rests firmly on the nature of the political economy. The determination of what affects the political economy and its development thus lies at the base of a comprehensive theory of social evolution.

To begin, what measures social evolution? "Complexity" is a problematic concept, but I wish to emphasize one critically important element of complexity, namely, centrality. Within complex societies, centralized systems are conduits, organized around central nodes, through which flow goods, materials, information, decisions, and power (Earle 1994a). The structural relationships enable individuals or groups to exert a degree of power from their centralized positions. Attempts to create and control central systems involve political competition and the continual making and breaking of institutional relations.

What I have attempted to show is that a general theory of social evolution can begin with the study of what factors determine the success (or failure) of leaders attempting to centralize and thus control social systems. Success to a leader means that he or she concentrates power and has an effective organization for social action. This success corresponds directly with the failure of individuals to retain their independence through resistance. Each political system represents a balance between chiefly strategies that seek to bring the population under the sway of a central leader (working for good or evil)

and alternative individuals who seek to develop separate power strategies or simply to pull away from central control (leading to local groups and independent individuals). To see the development of complexity in a good (or bad) light is not the purpose of this book. Personally, I see tremendous losses in centrally directed systems, but I recognize that the evolution of such systems is a reality of the social history of humanity (Sanderson 1995).

The primary lesson that can be learned from the historical cases analyzed in this book is that there are multiple routes to this complexity, the development of centralized political systems. The power strategies adopted by the leaders in these cases varied quite dramatically, and the character of these strategies determined quite different dynamics, scope, and scale of development. The three cases may be used emblematically to represent types of chiefdoms that have distinct evolutionary dynamics and trajectories.

Hill-fort chiefdoms. Among the Wanka, where agricultural intensification was limited, social power rested primarily on military might. These were hill-fort chiefdoms, and they experienced long periods of political stasis. Individual communities, with their own cinchekona, huddled inside the defensive walls that both defended them from attack and incarcerated them within their social group. Population was concentrated in the largest settlements. Such chiefdoms have little ideological elaboration, with little ceremonial architecture and few elaborate individual burials.

Prestige-good chiefdoms. Among the Thy chiefdoms, the impoverished soils supported the development of an export economy that connected the region's elite to a broad international exchange. These societies depended on prestige-goods exchange, the wealth of which materialized a ruling ideology and acted as a political currency to finance the leadership. They fit within Renfrew's (1974) model of individualizing chiefdoms, in which objects signify personal rank at death. Such chiefdoms emphasized individuals and the networks that they developed and tried to control. The objects were the physical medium of those far-flung political networks of peer-polity interactions. Prestige-goods chiefdoms were remarkably dynamic—social hierarchies were quickly built and quickly destroyed (Kristiansen

1991). Reliance on international prestige-goods exchange made local societies vulnerable to forces beyond the influence of local action, and chiefdoms rose and fell rapidly.

Staple-finance chiefdoms. In Hawai'i, chiefs created an intensive production system relying on irrigation, dryland terraces, and fishponds. Owned by the chiefs, these facilities became the basis of a staple-finance economy in which surplus was mobilized and invested strategically in sustained agricultural development and in alternative sources of power. In this case, staple-finance chiefdoms demonstrated sustained development and the strengthening of central institutional control that took them to the very edge of state society. The construction of a cultural landscape encapsulates what Renfrew (1974) meant by a group-oriented chiefdom. The monuments stood for the collaborative effort of the group organized by its leaders, but there was less emphasis on the individual than on the institutions of power that were stable and long-lasting. In these situations, individuals came to power based on established institutional settings.

Different environments, economies, and societies have fundamentally different evolutionary trajectories. In some cases strong central authorities develop, able to control effectively the multiple sources of power. In other cases control is weak and centralization remains unstable or little elaborated. These represent different levels of success for the leaders seeking personal and group power. Conversely, they represent differences in the failure of counterpoising drives to retain local and personal independence.

The concept of heterarchy (Crumley 1987; Ehrenreich, Crumley, and Levy 1995) recognizes that for many intermediate-level societies, power is diffuse, not because leaders do not try to centralize the political institutions, but because the different sources of power are difficult to monopolize and bring together. Separate institutions can coexist and hold different sources of power in partly competing ways. This view parallels Mann's (1986) conception of power as fundamentally interdependent and multicentric. In modern societies, for example, the powers of churches, states, and businesses are partly set against each other and can function in distinct spheres of authority

and action. "Complex" social systems thus begin to grow in many directions, accessing divergent power sources; more complexity is thus often less centralized—but only within limits (see Brumfiel 1995).

Competing social segments try to gain access to and centralize power. Under some situations, as illustrated by the staple-finance chiefdoms of Hawai'i and probably other hydraulic societies, the sources of power are effectively co-opted by using the surplus generated from intensified agriculture to finance control over warriors and police, craft specialists and managers, priests and ceremonies. But if the political economy cannot be centrally controlled, the various sources of power also are difficult to control, and multicentric societies develop. The multiplicity of lines of social evolution should not obscure the common principles and processes of power politics. Attempts to extend and resist central power characterize social evolution, and the means to finance political rivalries in social life profoundly affect long-term evolutionary trajectory.

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