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CHIEFDOMS IN ARCHAEOLOGICAL AND ETHNOHISTORICAL PERSPECTIVE

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The term chiefdom is used to characterize social complexity in stateless societies. Despite pointed criticism of evolutionary typologies, the chiefdom and related formulations provide a framework for comparative studies of evolution aimed at understanding the development of central decision-making hierarchies and social inequalities. Over the past 10 years, our understanding of chiefdoms has fundamentally changed as a result of substantial historical and archaeological studies. Research has shifted away from schemes to classify societies as chiefdoms or not, towards considerations of the causes of the observed variability. As the details of analysis have sharpened, the basic concerns with economy and adaptation have broadened to consider political and ideological matters. This review seeks to capture an emerging consensus on the nature of chiefly societies and the causes of their evolution.

CHIEFDOM AS AN EVOLUTIONARY TYPE

Chiefdoms are intermediate-level societies, providing an evolutionary bridge between acephalous societies and bureaucratic states (114). As the term is presently used, most view chiefdoms as political entities that organize regional populations in the thousands or tens of thousands (23). This organization is provided by a centralized hierarchy of leaders set off from the rest of the population. Sociopolitical differentiation creates certain dynamics of competition, management, and control that underlie the eventual evolution of the state (23, 55, 84).

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The original conception of chiefdoms and its historical development are discussed in recent reviews (23, 64, 212). Feinman & Neitzel (64) summarize the different formulations of intermediate-level societies and show how they relate to each other. The chiefdom type is considered quite variable and is subdivided by different schemes—theocratic, militaristic, and tropical forest chiefdoms (221); group oriented and individualizing chiefdoms (179); stratified and ranked societies (82, 196); paramountcies, ranked, and nonranked chieftains (228); and simple and complex chiefdoms (23, 55, 214, 243). Within Polynesia, Sahlins (191) recognized four levels of stratification, and Goldman (90) associated similar groupings with structural changes in status rivalry. The plethora of schemes would appear to confuse our present understanding (64).

Devastating criticism of the original formulation of chiefdom has made it something of a "dirty word" (71, 212). Part of the dissatisfaction stems from its place in the evolutionary typologies of the 1960s. Now many scholars assert that such typologies obscure both the variation within the types and the evolutionary changes between them; instead of classification we are exhorted to study process by investigating the relationships between variables broken down into specific dimensions of variability (9, 34, 51, 64, 133, 137, 141, 163, 164, 208, 234). Attempts to classify societies into the evolutionary types based on the diagnostic traits of the 1960s, sometimes called "check-list archaeology" (126), is seen as unproductive.

Along similar lines, the implied notion of progress through a unilinear sequence of stages is criticized as an outmoded version of 19th century evolutionism, without an adequate selective mechanism for change (51, 185, 238). The need is rather for specific studies of culture change and adaptive radiation (71, 121).

One would seem ready to conclude that the chiefdom and all evolutionary typologies have outlived their usefulness and should be jettisoned. But though the term chiefdom has lost favor, the concept is often retained with little more than a change of names (212). An evolutionary typology appears necessary to control for cross-cultural comparisons, and the type chiefdom is useful to define societies of generally similar scale and organization. Because societies at different scales confront different organizational problems and possess different properties and dynamics, such typologies are fundamental to selecting appropriate cases for comparison (244). Similarly, analogies used in archaeological interpretation must be evaluated for fit along several dimensions of similarities; comparability in evolutionary level would certainly be one of these dimensions.

In defense of the chiefdom, typology can be seen as fundamental to scientific inquiry; appropriateness of a typology can only be measured by the precision required in a particular study (212). In an early cross-cultural study

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of stateless societies, Cohen & Schlegel (32) differentiated chiefdom-level societies on the basis of various traits. Within chiefdoms significant patterning is evident in the cross-cultural work (47, 64, 234).

A final point of concern on the utility of the chiefdom concept centers on the relative importance of qualitative vs quantitative change. The original chiefdom type as conceived by Service was certainly qualitatively different from tribes and states in its institutions and structuring principles. Much of the attack on chiefdoms, however, stresses the need for continuous scales, as discussed above. The most recent cross-cultural synthesis argues for continuous change (114).

Others instead see major qualitative change with the creation of new levels of decision-making (69). Within an organizational system, stresses build up quantitatively until they overwhelm the decision-making apparatus; at this point the system may collapse or develop a new decision-making level. This position of quantitative into qualitative change is now broadly accepted (21, 34, 115, 212, 242). This implies a punctuated rather than a gradualist conception of cultural evolution.

The very nature of selection may change with the evolution of chiefdoms. In egalitarian societies, selection takes place at the individual and community level (162); in chiefdoms, since a broad intervillage political system has been created, selection may shift to this new level of integration (51, 212). The new scale of integration effected the competitive exclusion of simpler societies; chiefdoms may thus be rapidly selected for as they expand by exclusion and incorporation (22).

IMPORTANT AREA STUDIES FOR CHIEFDOMS

Service (199, 200) describes the world-wide distribution of chiefdoms. Areas that dominated discussions include Polynesia, circum-Caribbean, American Southeast, and Europe.

Oceania

The concept of chiefdom originally relied substantially on Polynesia (191, 192, 199). Polynesia with its rich historical and archaeological materials has continued its importance with recent syntheses (35, 90, 113, 121) and case studies (34, 55, 92, 108, 109, 113, 123, 124, 224). This work has been influential in our reinterpretation of the role of demography (33, 34, 35, 121), intensification with irrigation (56, 119, 121), redistribution (54), status rivalry (55, 90, 121), prestige goods exchange (83, 122), and ideology (58, 160). The work in Polynesia still leads our understanding of chiefdoms, although increasingly the uniqueness of the Polynesian material is mentioned. Recently Polynesian studies use archaeology to investigate long-term culture change (34, 121, 219).

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In Micronesia, comparable work includes cross-cultural comparisons of the relationships between population, polity size, and social complexity (35, 36), and studies of competition (94, 140) and exchange as a response to high risk in the subsistence economy (1, 111).

In Melanesia, studies of leadership and incipient chiefdoms provide critical evidence for the continuity between Big-Man systems and chiefdoms (43, 136). Sahlins (192) used Melanesian ethnography in contrast to Polynesia to create his ideal types. Big-Man systems were said to be highly competitive; charismatic leaders achieve leadership through calculated manipulation of interpersonal relationships, thus creating a highly dynamic political landscape. In contrast, chiefdoms were said to be structured political systems in which an individual's rank is ascribed by his genealogical position. A person comes to power by ascending to the proper office accorded his rank. As has been shown for both Polynesia and Melanesia, ascribed and achieved statuses are never alternatives (43). Rather in Melanesia, rules of succession clearly exist (43), and in Polynesia competition for office was characteristic of many cases (90, 224). Terrell's (229) analysis of the spatial organization of Big-Man systems shows a definite settlement pattern hierarchy, a pattern generally thought to indicate political centrality.

Work on exchange in Melanesia also has been extensive. The tie between exchange and emerging inequality is discussed for the Trobriands (19, 57); equally important are the conditions under which extensive exchange does not result in inequality (2, 112). Spriggs (213) discusses Friedman's (83) model of prestige goods exchanges as it relates to island chiefdoms in Melanesia.

Circum-Caribbean and Lowland Amazonia

The circum-Caribbean chiefdoms provide case material of extensive interpolity contacts that existed over a broad arena. Work includes historical (41, 99, 100, 102) and archaeological studies (37, 46, 137, 210).

The work of Helms (99) on Panamanian chiefdoms has been particularly influential. Noting that many chiefdoms were involved in long-distance exchange of special objects, she argues that chiefs competed for esoteric knowledge derived from afar. Access to such special goods documents foreign relations that search out this knowledge of supernatural powers.

Using historical material from Colombia, Carneiro (24) has elaborated his earlier argument with respect to the role of warfare in the evolution of chiefdoms (21, 22). Evidence for warfare is well documented (46, 137, 186).

Another question of considerable interest is whether the poverty of tropical forest soils limits the development of complex society (143). Along the Amazon and Orinoco rivers, the chiefdoms were originally thought to result from immigration into the region by already complex societies; however, chiefdoms apparently developed here following the introduction of maize agriculture and a shift to intensive farming of the alluvial soils (186).

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Within Central America considerable variation exists in the level of sociopolitical development. Several studies evaluate the evolutionary status of these societies. For the Miskito, kingship is said to result from the middleman role played for the British by existing chiefs (41). These chiefs ("kings") were hereditary, a major criterion of Sahlins's chiefdom, and adopted the term king from the British. These "kings" can perhaps better be seen as a political myth used to legitimize weak leadership (102); no evidence for offices with real power exists to substantiate the titles. The Miskito were more likely organized by rivalrous Big Men, a conclusion that fits well with the small scale of their polities. The role of borrowed terminology to legitimize political position is critical to recognize in historical studies.

Archaeologically, a recent, sophisticated trait list is used to differentiate chiefdoms and tribal systems in two regions—Central Panama and the Gulf of Nicoya (37).

North America

Historic and prehistoric cultures of North America provide a wide range in social complexity which is ideal for studies of chiefdoms. Both historical and ethnographic materials have been used in recent cross-cultural work (64, 234).

The main work on chiefdoms has focused on the archaeological evidence of Mississippian societies, recently reviewed (209, 217). Little doubt exists that these are chiefdoms, although they exhibit important variability in time and space. Most relevant work has dealt with settlement pattern and burial information. The settlement data from several large projects are rich for studying variation in population density, settlement hierarchy, and population aggregation (4, 129, 147, 149, 207). The settlement hierarchy is clearly distinguished by one to three levels of central places recognized by size, population, and investment in monumental construction. At times of maximal regional integration, much of the population resided in scattered hamlets (151, 158); with a breakdown in the integration, population aggregated into defensive settlements (149). Steponaitis (214) analyzed the distribution of settlements around the impressive center of Moundville to illustrate how settlement placement may be a response to the energetics of tribute collection.

Burial pattern data have also been used to study status differentiation in Mississippian Society. Ranking at Moundville was based on the differential distribution of special objects; high-status burials were restricted to the immediate vicinity of the site's mounds (157, 159). Brown (16) contrasts the rigid status system seen in the burial practice of Spiro-Phase Caddon with the more open systems of the Harland-Phase Caddon.

Stylistically, Mississippian Culture is associated with the Southern Cult, a unifying elite iconography manipulated by a emerging ruling sector (15). Over considerable distances, similar styles link up the status-defining artifacts

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of interacting polities, although considerable variability exists locally in the expression of this set of special artifacts (153). Chiefly polities appear to have created broad provinces of peer-polity interaction (42).

An analogous pan-regional pattern of interaction existed earlier during the Hopewellian period. Struever & Houart (222) analyze the Hopewellian interaction sphere as involving "regional transaction centers" with substantial mound groups. Elites at these centers are seen as acting as redistributors of prestige goods that included objects of native copper, galena, meteoric iron, obsidian, and mica. Although the settlement hierarchy, planned layout of centers, and the central flow of prestige objects would seem to suggest a chiefdom organization, Ford (76) argues for a lineage-based society with Big Men "manipulating nonessential economic resources for influence and power in keeping with their kinship responsibilities." Thus ended serious consideration of Hopewell as comprising chiefdoms (see 209). I feel that this assessment deserves reconsideration. However, a recent analysis of Hopewellian interaction spheres interprets the society as basically egalitarian; increased subsistence risk made broad-scale interaction necessary to buffer the population (14). Following a revised adaptationist stance, "the stylistic standardization [of Hopewell] and imitations arose as part of the development of structure and symbolic redundancy in exchange relationships" (14). Burial data indicate a status gradient related to dynamic access to status positions (16).

Evidence from the site of Poverty Point might push the beginnings of chiefdoms in the Southeast back to 1500 BC (86), although this conclusion is not generally accepted (116). Evidence includes a settlement hierarchy, organized labor in mound construction, and specialization and exchange in special objects.

While never explicit, reluctance to accept the complexity of Poverty Point may stem in part from its subsistence base on wild resources, but a reevaluation of complexity among hunter-gatherers is under way (146, 171, 231). For some time the fishers of the northwest coast have been recognized as having a ranked society; however, the lack of regional organization (50) makes many reserved in calling them chiefdoms (114, 218). Within groups, social hierarchies were carefully measured and evaluated according to genealogy, wealth, and prestige. In part the social differentiation depended on control over social exchanges of wealth within and between communities (8). Other elements in social differentiation appear tied to ownership of capital technologies that include fish weirs and drying racks used in the intensive exploitation of anadromous fishes (114), and perhaps to the ownership of slaves obtained in war (190). The potlatch and the associated prestige economy have frequently been linked to management of a risky subsistence economy (3, 114, 156, 223). Other cases of social complexity among hunter-gatherers have been discussed for North America (97, 118).

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The evolution of social complexity has received considerable attention in the American Southwest. Ethnographically these cultures have been viewed as egalitarian; however, recent archaeology disputes this characterization. Between AD 900 and 1200, Chaco Canyon became the center of a complex chiefdom characterized by large multistory pueblos, central ceremonial complexes, irrigation, and an extensive road system (117). In addition to the justly famous roads that document a regional organization, evidence for the complicated problem of labor organization in large pueblo construction has been described; for example, thousands of large trees were felled for beams and moved over 75 km in short-term construction episodes at Chetro Ketl (6). During the 14th century, aggregation of population into large settlements such as in the Chavez Pass appears to be associated with the development of social ranking and regional organization (232, 233). Recently this interpretation of social complexity in the Southwest has been questioned (110).

The chiefdom concept has recently been used to interpret the sociopolitical organization of early 17th century Iroquois (156a).

Europe

From the Neolithic up to the expansion of the Roman Empire, much of Europe was organized at a chiefdom level (177–180, 203). This allows anthropologists to view the dynamics of chiefdoms over several thousand years with different economies, patterns of regional interaction, and ideologies.

Some of the earliest archaeological work on chiefdoms dealt with the megalithic cultures of Europe (177–79). The monuments themselves, such as the British henges (178), indicate considerable central direction of labor. The monuments were often laid out along lunar and solar alignments, representing a symbolic use of the heavens (189). Somewhat unexpectedly, perhaps, these monuments were not associated with social differentiation in wealth in the burials; this has led to the notion of a "group-oriented chiefdom" (179) in which leaders served group rather than individual interests.

The beginnings of social centralization and differentiation would seem to extend back into the Early Neolithic. At this time the marked, although graded, differences in grave goods existed in Denmark (174). In England, causeway camps enclosed by sizeable earthworks served ceremonial functions during the Early Neolithic; impressive earthworks associated with the cursus monuments date to the Middle Neolithic (11, 12). By the Late Neolithic, as indicated by the broad uniformity in style in ceremonial ceramics and the similarities in layout of the henge monuments, regional interaction connected widely separate areas on the British Isles.

During the Copper and Bronze Ages, some dramatic changes in social differentiation took place throughout Europe. Whether in burials or hoards,

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wealth in metal and other special objects became used to distinguish personal status (11, 131, 132, 173), leading to the label "individualized chiefdoms" (179). The cause of this change is under discussion. Minimally it involves a shift in iconography as objects obtained from afar (as bronze and amber) or copied after foreign objects (the bell beakers) became the major status markers (125–127, 188, 204, 205).

During the Iron Age, population aggregated in hill forts, often of considerable size. Evidence for regional organization is based on a settlement hierarchy; considerable storage was also concentrated at these settlements (39). At least some argument can be made for a simplification of society, reflected in a lack of wealth differentiation in the burials; alternatively, a change in the nature of competition resulting from a nonexpanding economy may simply have changed the use of display in the burial ritual (176). The development of social stratification in certain areas of Europe has been linked to economic ties with the complex societies of the Mediterranean world, which may have received both slaves and mercenaries from central Europe at this time (13, 26, 237). The relations with the civilized world have been interpreted from the perspective of world systems theory (79). The chiefdom organization in Celtic Europe has been synthesized from historical accounts (38).

Following the collapse of the Roman Empire and the associated demographic collapse, the European world reverts to a chiefdom level of organization (7, 106). Through the Dark Ages, the evolutionary changes that took place offer a dramatic case of the development of states out of chiefdoms (114, 175). Colonized from Scandinavia at this time, Iceland was a stratified society in which the linkages between status competition, wealth display, and external trade have been clearly described (52).

Precursors to States

The evolutionary conception of chiefdoms is that they precede and presage the evolution of state societies (23, 55). To evaluate this proposition, the prehistory of the core areas of state formation is critically important.

In Mesoamerica, prestate societies have been extensively studied for the Formative period (63, 70, 73, 104, 195). The Olmec culture, often viewed as Mesoamerica's first civilization and the foundation for all later developments, probably comprised complex chiefdoms (53, 58, 195). The settlement pattern is dominated by several independent centers that contain planned mound complexes, monumental art, and elite residences (49, 53, 98). Construction required major expenditures of labor, specialist craftsmen, and central design. The description of the Olmec as a "theocratic state" by some emphasizes the religious basis of central authority (49, 98); however, this assessment really

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emphasizes the general nature of the leadership that characterizes complex chiefdoms (55, 58, 243).

In the Olmec the basis of social differentiation appears to have been control over fertile alluvial land (30), and over long-distance trade in prestige goods that included jade and jet mirrors (44, 58, 67, 70). Elsewhere in Mesoamerica, a variety of chiefdom-level societies developed largely independently of the Olmec, and then became linked up through long-distance exchange involving both material objects and esoteric knowledge represented iconographically (44, 58, 67, 95, 104). The dramatic Olmec style demarcated the local elites (93, 172) and empowered sacred architecture (93).

In an influential paper on cultural evolution, Sanders & Webster (196) argue that the chiefdom concept should be kept analytically separate from stratified societies that are the characteristic precursors to state development. The Olmec developed in the tropical forest environment where population density was comparatively low so that large-scale polities were necessarily extensive; this situation contrasts to the Valley of Mexico where a much higher population density dependent on irrigation permitted the same scale of society in a much smaller territory (53). The different environmental conditions, economies, and patterns of regional interaction create divergent opportunities for development.

Following state formation in Mesoamerica, chiefdoms appear to continue at the margins. Linked by trade into the core areas, these cases, such as Kaminaljuyu, offer contrasting patterns of social development (144).

Outside of Mesoamerica, less is known of the development of chiefdoms prior to pristine state formation. In the Andes, the Formative period appears to follow a similar trajectory to Mesoamerica, although rarely discussed in evolutionary terms (128, 138). Local chiefdoms, identified by monumental construction and a settlement hierarchy, developed on the coast and in the highlands, and then became linked together with an iconography commonly described as Chavin. The initial development of chiefdom-like societies took place on the coast in the Late Preceramic period (2500–1800 BC), possibly based on a maritime (non-agricultural) economy (150), or alternatively on floodwater farming with maize (240). The elaboration of monumental architecture and evidence for social differentiation in the burials date to the Initial period when population moved inland and became dependent on irrigated farming (128, 166). The impressive ceremonial complex at Caballo Muerto, with monumental constrution and art, precise architectual symmetry, and restricted access to sacred areas, illustrates these Initial period developments (166).

In Mesopotamia, the 'Ubaid and Uruk can probably be associated with chiefdoms. Wright (243) argues that Susa was a complex chiefdom on the basis that it had monumental construction and a generalized hierarchy of

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decision-makers; Hole (107) notes the emphasis on religion there and the lack of economic differentiation in the burials.

Africa

Despite the potentially useful historical and archaeological data base on stateless society in Africa (77, 142), little work has been done on chiefdoms there because of a long-standing avoidance of evolutionary concepts by British social anthropologists. In their famous review of African political systems, Fortes & Evans-Pritchard (78) dispute potential evolutionary interpretations of political complexity. Stevenson (220), however, shows that their work failed to consider historical changes, and argues for an evolutionary relationship between population density and political complexity. Taylor (228) provides an important comparative study of chiefdoms using African societies. Netting (155) emphasizes the importance of dispute settlement in the development of African chiefs.

DEFINING CHARACTERISTICS OF CHIEFDOMS

The main defining characteristics of chiefdoms are scale of integration, centrality of decision-making, and stratification. Each should not be thought of as a quality that can be said to be present or absent, but as a set of interrelated variables.

Scale of Integration

Chiefdoms are probably best defined as regionally organized societies with a centralized decision-making hierarchy coordinating activities among several village communities (23, 55, 69, 114, 199). Polities vary in size from simple chiefdoms integrating populations of perhaps a thousand to complex chiefdoms with populations in the tens of thousands (214). Many of the societies used by Feinman & Neitzel (64) have been called chiefdoms because of hereditary ranking; however, their small sizes, often below a thousand, would perhaps make it best to consider them as variants on the local-group level (114).

Generally it can be shown that increased polity size correlates with increasing political complexity (20). For Polynesia, Sahlins (191) demonstrated a good relationship between "productivity" and sociopolitical complexity; his measure of productivity was primarily the size of the redistributive network, a good indicator of polity size (80). Subsequent research supports this relationship between polity size and complexity (35, 36, 64, 121, 234). This correlation is said to derive from scale problems in decision-making (115) and the increased energy flow centrally channeled from the larger population (55).

Related factors that intervene are population density and its spatial concen-

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tration. Population density affects the cost of integration and control at any specified scale (234). Therefore the different territorial size for societies at the same scale may result in quite different trajectories (53, 85). Population concentration has been represented as the percentage of an area's population living at the largest settlement (48). Chiefdoms apparently represent a continuum in the concentration of population (195, 207) from dipersed hamlets with centers (55, 151) to concentrated populations in urban-like settlements (38, 39, 149). Drennan (48) compares the different trajectories in three areas of Mesoamerica with different population dispersion patterns.

To estimate polity size requires an estimation of population within a recognized territory. Although measurement of population can be difficult, it has been reviewed elsewhere (197); here I concentrate on determining territorial extent of polities. The simplest procedure is to divide up space around central places using Thiessen polygons (178, 180). Lower-ranked settlements are assigned to centers on the basis of proximity; and boundaries are often visible as buffer zones of low settlement density (34, 53, 178). For purposes of administration, tribute collection, and control, settlements can be expected to cluster towards the centers (214). Political boundaries were sometimes marked by physical features such as the earthen reaves of Dartmoor (74, 75).

Centrality of Decision-Making and Coordination

As introduced above, the number of levels in the decision-making hierarchy is strongly correlated with the polity size and its spatial distribution. Most simply stated, as polity scale increases, the number of decisions required by any node increases until it exceeds an individual's personal capacity to make decisions and requires an expansion in the hierarchy of decision-makers (69, 115, 160, 212, 242). In chiefdoms the number of levels in the hierarchy corresponds with the scale of the polity, although the exact relationship is affected by intervening variables (34–36). The chiefly hierarchy is set apart as specialized leadership but internally it is undifferentiated as to function. Chiefdoms thus are highly generalized leadership systems in which the different levels have similar duties, such that they are potentially independent (5, 55, 212, 242). As a result, any delegation of authority is potentially complete, effectively setting an upper limit on the physical size of chiefdoms. The regional organization would seem to be highly unstable.

By whatever means, the chiefs are central directors, and centrality is the clearest indicator of chiefdoms (178, 181, 183). A settlement hierarchy is perhaps the most frequently used indicator of chiefdoms (37, 86, 97, 135, 160). Because of the intense competition that characterizes prestate societies, in order to be politically viable, smaller settlements within a region must be subservient to larger settlements; for any region the central settlements of competing polities should be of approximately similar sizes.

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The labor invested in the monumental construction at the centers is used as a measure of the group size that is organized centrally (98, 160, 166, 178); it measures the surplus mobilized (170). Some, however, dispute the significance of such calculations because comparatively simple organizations are thought able to build substantial monuments by small labor expenditures over long time frames (62, 76, 154). The time span of construction is important because small groups over long times can produce the same total investment as large crews over short periods. The number of building episodes of a monument helps estimate the size of the labor crews used (166).

Perhaps equally important to the labor invested in construction is the degree of planning evidenced. At centers such as the Olmec site of La Venta, an overall plan for the central monuments is unambiguous evidence of both the continuity and centrality in labor organization (49). Related analysis at centers can also include studies of the functional differentiation and restricted access in public buildings (45, 72, 166).

Stratification

Attempts to separate ranking (structural differentiation) from stratification (economic differentiation) are common (82); however, many now argue that these are best conceived of as a continuum. Political differentiation cannot be strictly symbolic but must derive from economic control (235). It is hard to imagine chiefs as the centers of redistributional systems without this being reflected in real economic advantage (170). Political and economic differentiation must thus be linked to economic differentiation. Chiefs are an incipient aristocracy with advantages in wealth and lifestyle (90). The notion of chiefdoms as highly structured status systems unrelated to competition for economically based power appears to be unfounded.

Stratification can be thought of in qualitative terms, in which a segment of society is distinguished by rank and status. Using historical material Sahlins (191) and Cordy (34, 36) identify what they see as discrete levels in social hierarchy. To some measure this may be possible archaeologically by identifying specific symbols of status that cross-cut other dimensions of achieved status (160). The elaboration of clear status markers correlates well with other measures of social complexity (64).

Alternatively, stratification can be measured in terms of differential access to goods indicative of differential control over the economy. Burials have been used frequently to measure social and economic differentiation (29, 173, 174, 202, 203, 225–227, 239). Analyses of wealth distribution in burials typically make least-effort assumptions about human ritual behavior (16); the energy invested in the burials is thus thought to reflect fairly closely the economic position of the dead individuals.

Problems with such assumptions have often been noted. It is now generally accepted that no isomorphic relationship exists between interred wealth and

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socioeconomic status. "The trap lies in identifying and correlating directly the actors' concept of these groups, the distinctions and associations made in the emic system, with the interest groups identified by analysis of the political and economic structures" (10). A dialectic exists between social status and economic position with "the misrepresentation of power in rank . . ." (10). In essence, an ideology of hierarchy as represented in distinguished burials may derive from economic relationships but comes to take on a dynamic of its own not necessarily related to immediate economic relations (120). Two periods of similar social differentiation can thus have different burial practices: With expanding economies and flexible social hierarchies in northern Europe, active competition for advantage was manifest in large offerings in burials; however, during periods of economic contraction, competition was less manifest and burials were not as differentiated in wealth (176). The simple expectations of contrast between egalitarian and hierarchical societies mask the variability seen archaeologically (187). An obvious problem is that only single ritual events, or at least related events, are represented, and competition through wealth display and consumption need not necessarily be concerned.

A more reasonable differentiation of wealth and social inequality can be made with an analysis of energy invested in residential housing (141, 164, 169). Chiefs can be differentiated cross-culturally by the size, construction, and location of their houses (64). "Architecture is built by social groups. . . . it can be expected to reflect the number, type, and interconnection between such groups as well as their wealth" (34). In essence, housing involves a daily use and display function much more likely to represent economic and political relationships than burials. Measurement of size and energy invested in housing has been used to delimit the development of social stratification in Hawaii (34). Elite housing can also be identified by the concentration of special goods including foreign objects (61, 70).

Health status also measures differential access to economic resources that translates into differential survival and reproductive success (170). Preliminary osteological work (96, 159, 161) indicates differences in diet and health between elites and commoners in chiefdoms. Surprisingly perhaps in one comparative study the differences between elites and commoners was greatest in simpler chiefdoms in which the scale of integration is less; the established regional peace of complex chiefdoms appears to benefit the health of all (96).

THE ECONOMIC BASES OF CHIEFDOMS

Virtually all those attempting to understand the evolution of chiefdoms stress the importance of the society's economic foundations. The chiefdom was viewed originally as an economically centralized organization, a "redistribu-

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tional society" in fact (199). The precise linkages between economic and political centralization are debated. The first debate has been over the relative importance of management and control as the economic foundation for chiefly societies (201). Of those emphasizing control, the presently favored position, a second debate is over whether control derives primarily from staple production or wealth distribution.

Management

In his influential definition of chiefdoms, Service (199) argued that the regional organization and central management of chiefdoms resulted from sedentarization in ecologically diverse regions that caused local community specialization, exchange in staple products, regional intradependency, and the development of regional chiefs to coordinate the central exchange (redistribution) of the local specialities and to maintain the regional peace on which the economy and society depended. This model of chiefdoms was apparently based on Polynesia where high environmental diversity and redistribution were found together (191). Service's elegant argument was a mainstay for the ecological functionalism of the 1960s, and it was frequently cited as a basic trait of chiefdoms (86, 178, 195).

On close examination, however, the systems of redistribution were shown not to handle staple distribution between communities, because the communities themselves were highly generalized and largely self-sufficient in staple goods (54, 55, 66). In retrospect this finding should not perhaps have been surprising. Initially the notion of redistribution was put forward by substantivists (165) to show that the same economic activity (staple exchange) could be handled by various mechanisms according to the institutional framework of the society. Redistribution is, however, an unlikely candidate for staple exchange. Given logistical problems, it is unlikely that chiefs could ever have acted to organize staple production and distribute local products. Redistributional ceremonies take place too infrequently, only a few times a year, to handle the daily consumption needs of households. Rather, in those chiefdoms with redistribution, it served as a system of finance, a means to mobilize staple goods to provide for public feasts and to feed chiefs' attendants (54). The notion of chiefdoms as an interpendendent set of specialized communities has been dismissed (54, 64, 160); Peebles & Kus (160) even suggest that generalized community economies characterize chiefdoms.

An alternative managerial theory for the evolution of chiefdoms emphasizes the role of chiefs in the construction and repair of irrigation complexes (82, 199). Wittfogel (241) used Hawaii as a central case in his theory on the hydraulic basis for the evolution of the state. As used in the 1960s, the hydraulic theory presented a simple adaptational linkage—in dry environments, agricultural intensification caused by population growth necessitated

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the development of irrigation, which in turn required central management by chiefs (55).

The link between irrigation and chiefdoms was never emphasized because most historic chiefdoms did not use irrigation. Reanalysis of the Hawaiian case reaffirmed the linkage of irrigation to chiefly development but largely dismissed the managerial aspect of the theory (55, 56, 92, 119). Few now favor a managerial theory of irrigation, although occasional reference is made to the managerial needs of intensive agriculture (186, 233); Spriggs (213) notes that the larger irrigation systems once in place required a regional polity to maintain the peace necessary for their operation.

Warfare is an additional problem identified as requiring the central management of chiefs. Warfare is certainly a general characteristic of chiefdoms (23, 24). As discussed by Carneiro (21), competition over land caused by population growth would put a premium on centrality—i.e. only the strong (the centrally organized) survive (22). Intense warfare characterizing stateless societies may favor regional chiefdoms, which make the warfare more predictable and less devastating to local populations (216). Alternatively, since labor (not land) is the limiting factor to production in early hierarchical societies (65), warfare may switch from confrontations aimed at grasping new lands to wars of conquest geared to capture new populations (55).

The only managerial theory to retain broad support has been the suggestion that chiefs handle risks caused by intensification. Malinowski (139) referred to chiefs as tribal bankers, who handle risks for their supporters. In the American Bottoms, a shift to maize agriculture on the alluvial soils probably increased productivity at the same time that it increased the vulnerability of fields to flood damage. Chiefs may have then provided critical storage and distribution functions to support periodically disrupted populations (154, 160, 216). Similar arguments have been proposed for the inter-island exchange in Micronesia (111), for Hopewellian exchange (14), for Hawaiian irrigation (55), and for intensive agriculture, aggregated settlement, and regional exchange in the American Southwest (134, 232, 233). Although logically attractive, the failure of other managerial theories makes me doubtful of the value of risk as a causal factor. Although storage, for example, may serve to buffer households against risks, its centralization by chiefs serves little clear advantage to households and would seem rather to show a co-option by the chiefs as part of a developing system of finance (40).

This point about storage suggests a more general issue. Intensification and related changes in the subsistence economy do create problems requiring management, but low-level management would seem in most instances best for the local population. Such management can be expected to be responsive to the needs of the population in contrast to a distant, regional chiefly

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hierarchy that would be more inaccessible and unaccountable for their actions.

Control

The alternative theories used to explain the evolution of chiefdoms emphasize the way elites emerge by controlling the economy. Control derives from differential access to productive resources (82) and/or to exchanged wealth, both of which permit the channeling of energy flows (170) and control over labor (84, 188). In this light, the evolution of social complexity is seen as dependent on the mobilization and use of surpluses to finance the emerging elites and their associated institutions. The process underlying the progressive centralization of energy flows would appear linked inexorably to the competitive dynamics of chiefdoms (55, 84). Emerging leadership, limited to a small fraction of the population, carries advantages of respect, reproductive success, and increased living standards. Competition for the positions of leadership requires a maximizing economic ethic; the coming to and retention of leadership require the careful marshalling of support derived from prestige and the implied differential access on which it is based (55, 114). Arguably, all societies have elements of interpersonal domination (194) such that the key to developing stratification is how such domination can be sustained. The nature of the economy would appear to be the basis of this control, but a debate exists as to its exact nature.

Control over staple production, as the first option, would be based on ownership of and restricted access to productive resources, most importantly land. Such control is manifest as a system of staple finance (40, 60). Food is mobilized from commoner producers as a rent for land made available to them. The Hawaiian "redistributional" economy illustrates well how this was accomplished (55). Land was owned by the paramount chief by right of conquest. The land was then allocated to the high chiefs as their income estates. Commoners received use-rights to small subsistence plots in return for their work on lands producing for the chiefs' incomes. The food thus collected fed the chiefs' households, specialists attached to the chiefs, and all those working for the chiefs. Such mobilization was a simple and direct means to support a nonproducing sector of the society.

But how is the ownership on which this control rests developed? The key would appear to be the productive dominance of limited lands that could be held and defended by an emerging elite (68, 170). This domination would appear to be an outcome of particular environmental conditions and the way they are developed and used. The best examples of how this can happen are those chiefdoms that depend on irrigation. In southeast Spain, the dry environment and its development with irrigation during the Copper and Bronze Ages permitted the growth of social stratification based on the control over the

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highly productive irrigable land (28, 87–89). In Polynesia a general trend exists between intensification and the development of social complexity (121). The prehistory of the Hawaiian islands illustrates clearly how intensification resulted in increasing economic control and social stratification (55, 108, 114, 121). Following initial colonization, population grew and spread through the islands, initially emphasizing marine resources but gradually shifting towards cultivation of the uplands. The farming of the uplands resulted in the degradation of this fragile resource and the alluviation of the valley floors (cf 213). Influenced by these human-induced environmental changes, chiefs promoted a rapid shift to irrigated agriculture on the new alluvial soils as a means to maximize their competitive position (55). The irrigated soils were but a small fraction of the agricultural soils on the island, and their development made ownership feasible.

Economic control through resource ownership may also help explain other examples of chiefly development not based on irrigation. Coe (30) argues that the Olmec chiefdoms depended on ownership of the highly productive natural levee soils, the fertility of which was maintained by annual river flooding. The circum-Caribbean (137) and Amazonian (186) chiefdoms were based on the intensive farming of alluvial bottoms, as were the Mississippian chiefdoms (151). Carneiro's (21) argument that chiefdoms depend on circumscription is an early statement of this principle. The aggregation of population accompanying intensification, and competition for the most productive land, simplify the control of labor on which mobilization can be based.

The payment of staples into the chiefs as part of mobilization is frequently mentioned in historical and ethnographic accounts, which permits some estimation of the rent charged in chiefdoms (55, 215). Archaeologically, evidence of mobilization is most frequently the distribution of central stores (60); generally it can be argued that above-ground (visible) storage was associated with the political economy in contrast to the hidden household stores of the subsistence economy (114). Steponaitis (214, 215) presents creative ways to investigate the mobilization of staple goods by examining the distribution of settlements and their relationships to productive resources.

An alternative means to control staple production may involve elites in the manufacture of productive technology. Trobriand chiefs supported the importation of stone and its manufacture into working axes needed for land clearance (114). During the Iron Age, the intensification of agriculture in Europe involved the use of a new iron technology, the manufacture and distribution of which may have offered opportunities for elite control (247). Although we do not know their use, the production of obsidian tools was concentrated in elite households at Kaminaljuyu (144). Specialized ceramic production could also be controlled by ownership of limited clay resources (184). Evidence from elsewhere, however, would tend to suggest that

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specialization of productive tools was not a standard correlate of chiefdoms or even early states (18, 154).

Control over the distribution of prestige goods is the second option as a means for centralizing power in chiefdoms. Such objects of wealth and prestige are found in acephalous societies as well as chiefdoms and states (40, 57). They act in social exchanges (such as bride wealth and death payments), as stores of value convertible into food, and as symbols of prestige and authority. Friedman & Rowlands (84) develop a clear model of the role that wealth distribution plays in the political centralization of chiefdom-level societies. Through the distribution of wealth, labor becomes controlled by creating relationships of marriage, friendship, and alliance. This model has been applied to the European chiefdoms of the Iron Age (79) and the Bronze Age (125–127); Rowlands (188) sets it up as an alternative to Gilman's (87) model emphasizing direct control over production. Vivid examples of the use of wealth in chiefdoms include the gold adornment of Panamanian chiefs (101) and the competitive display and gifting of European objects in Iceland (52).

The reasons for developing systems of wealth exchanges in the first place may be several. The role of wealth as a store of value and the significance of regional exchange webs as a buffer against unstable food production have been mentioned. Alternatively such broad-scale exchanges involving wealth may be seen as part of broad network of interaction among elites involved in status rivalry, alliance formation, and exchanges of esoteric knowledge (58, 67, 99, 182). Where chiefdoms develop on the margins of more complex societies, the role of wealth in core-periphery relationships of domination and extraction has been discussed (79, 188, 232).

The simple existence of valuable exchanges does not in itself result in social complexity. The key is how control over wealth distribution is exercised. Since exchanges are largely external to the community and thus beyond normal social networks, participation is effectively limited to lineage heads or chiefs (67, 84). The creation of spheres of exchange can be seen in this light as an attempt to exclude others from direct participation (57, 84). The technology of the trade can also limit the possible participation; chiefs existed on the Trobriand Islands because of their marginal position in the Kula exchange, which made large trading canoes a necessity (19). Because construction of such canoes required large expenditures of labor, they were owned only by the chiefs. "Gateway communities" situated astride constricted exchange paths provide other opportunities for elite control of long-distance trade (103).

A further and perhaps surer means of control of wealth involves the support and management of its manufacture. Specialist craftsmen, attached directly to elite patrons, can be involved in the manufacture of wealth used in social

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exchanges and political payments (18, 59). The presence of craft specialists for elites has been noted historically and archaeologically (18, 25, 55, 127, 152, 154, 245, 246). However, the role of craft specialization in economic control probably provided only limited opportunities in chiefdoms. In the Iberian and Mississippian chiefdoms, for example, specialization was only weakly developed and was not under close elite control except as it involved production of special and rare objects (88, 152, 154, 167, 168, 245, 246).

Since the basis of control in wealth distribution lay largely outside the chiefdom economy, it must be understood in the broader regional context of peer-polity interaction (182) and core-periphery relations (84). This means that the chiefdoms constructed on wealth-flows were inherently unstable, and the relatively dramatic cycles of growth and decline of European chiefdoms may reflect this pattern. The chiefdoms of southeast Spain, which were based on control of staple production, contrast with the chiefdoms of Portugal, which were based on the distribution of wealth (88). Based on these alternative means of control it may be possible to conceive two developmental lines for chiefdoms with quite different dynamics, although actual cases combine both mechanisms of finance to some degree (40).

A third mechanism of control in chiefdoms is the force of a strong warrior elite. The role of warfare in the evoluton of chiefdoms seems undeniable (22, 23, 94, 235). Feinman & Neitzel (64) found that leadership in war was a common function of chiefs. Historically chiefs derive power from their leadership—conquered lands, plunder, and captives were theirs to use and distribute (130, 147, 198). In fact, conquest warfare can be viewed as one option in a chief's strategy to extend his income base (55). Archaeologically the tie between warfare and chiefdoms is often apparent in defensive settlements (39, 61, 129, 130, 148), weapons of war (11, 127, 137), and in an iconography of war (49, 137). Control over trade and manufacture of weapons can offer a basis of power (91), and the power of the warrior elite is likely to extend into general leadership (130, 198).

A Synthesis of the Economic Bases

The two materialist perspectives on the evolution of chiefdoms emphasize different driving forces—the managerial theories stress the system-serving functions of the chiefs; the control theories stress the exploitative capabilities of chiefs. A recent blending of the two perspectives shows how problems of survival create needs for leadership and, at the same time, opportunities for control (114). To understand the evolution of chiefdoms is thus to understand a balancing of interests between a dependent population and an emerging aristocracy. As systems of stratification evolved, the aristocracy manipulated the economic and political relationships so as to increase dependency and balance the favor of the interests towards the elites. However, it is essential to

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recognize that up to the industrial revolution the primary limit to production appears to have been labor, and control over this labor required the ruling elites to retain consensus through respectability. As I describe below, this was accomplished in part by an elaborate ideology to justify rule; however, it was also accomplished by the paternalism of the chiefs, which bound a population to them.

IDEOLOGICAL BASES OF CHIEFDOMS

Chiefdoms are early stages of civilizations, and they are states of mind that create justifications for their existence (cf 81). Symbolism, cognition, and ideology have become of increasing interest within political anthropology and related studies in archaeology (31, 105, 145, 206). This trend is sensible and a necessary extension of the evolutionary theories elaborated since the 1950s. The original adaptationist theories of cultural evolution had little need for ideological concerns because it was generally assumed that cultures were integrated wholes in which evolving leadership served broader systemic needs. The generation of processualists coming of age in the 1970s, however, recognized the internal conflicts and exploitative aspects of society (17, 55, 148). The new view of chiefdoms emphasizes internal conflicts between communities, elite factions, and emergent classes. Stability of such systems derives from a balance of interests (114), a monopoly of power (88), and a new ideology.

Abner Cohen's (31) work on the symbols of power relations provides a starting point for this analysis. As he saw it, economic and political power were intimately bound, and symbols functioned to articulate groups with conflicting interests. Symbols, deeply rooted in the culture's conception of reality, served to naturalize the political relationships.

A pervasive image is of the chiefdom's "theocratic" nature, an ideological conception of the societies themselves. But "theocracy" refers to religious sanctions of leadership and not leadership by priests (236). In complex chiefdoms like Hawaii (55) and the Olmec (58), the chiefs were gods whose rule was part of a natural order. Helms (100) describes chiefs as "sacred intermediaries between the ordered ('civilized, moral') human society under their charge and the equally ordered cosmos." Many of the ceremonies of chiefdoms, such as the ritual astronomy of the British henges (189), extend the ritual actions of the leaders to the orders of the universe. The careful order of the ritual landscape that characterizes chiefdoms held a clear message—chiefs rule not because of their power but because of their place in a sacredly chartered world order (58).

In my review of the chiefdom literature, the ideological elements (as seen in the iconography and the architectural planning of sacred spaces) were clear.

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The specific content of chiefly ideology was variable both from place to place and from time to time. For example, S. J. Shennan (204) emphasizes how the change in chiefly order from the Megalithic to the Bell Beaker cultures represented a significant ideological change tied to a change in the social order. Although any attempt to synthesize ideology in chiefdoms is premature, I would like to suggest three themes tied perhaps to different bases of control.

First are the ceremonies of place associated with the creation of a sacred landscape with monumental constructions such as the henges and cursus monuments of Neolithic Britain (11, 178), the mound groups of the Mississippian (159), and the heiau temples of Hawaii (160). These are created sacred spaces in which chiefs acted as gods on earth connected to cosmic forces. In Hawaii, the paramount chief portrayed the god Lono during the Makahiki ceremonies; as such he was responsible for the fertility of the lands and people under his direction (160). The created sacred landscape was the property of its creators, the chiefs. Monumental construction thus probably asserts ownership, a point made for the European megaliths (12, 27, 180); in essence the monuments create a focus for a space that is bounded, a product of human action, and owned by the group's earthly gods, the chiefs (see 230). Perhaps not by chance, the corvée labor organized to construct the monuments is exactly what would be the due of the chiefs as owners of the group's resources.

Second are the symbols of individual position within a society as seen most vividly in the burials. For the assemblages of both the Bell Beaker and Bronze Age burials in Britain and Scandinavia, objects were identified with the outside in terms either of style or of foreign material (125–127, 204). These chiefdoms and those among the Olmec, Chavin, and Mississippian were associated with the broad interaction spheres. In these situations, it may be suggested that power derives from the outside and involves the exchange of prestige goods. Ultimately, however, not the objects themselves were important but the esoteric knowledge and power they embodied (99). The dichotomy observed in Bronze Age objects (male-female; individualized-standardized; foreign-local) (211) may reflect the competitive public arena of males vying for external power in contrast to the private arena of females. Chiefs often emphasize their foreign origins (193), an assertion that serves to legitimize rule by a group set off and connected to a universal (rather than a local) order. The broad searching out of marriages, although also serving an alliance function (67), served to establish ties to chiefly lines of divine power. In Hawaii, the ruling families of the different island chiefdoms were interconnected by a "cosmopolitan outlook" (109).

Third are the symbols of warrior might represented in the burial assemblages of many chiefdoms (11, 137). These symbols of might, such as the

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Bronze Age swords (127), tell of a military superiority that need not be used if it is acknowledged. The Panamanian chiefdoms associated with the Cocle style illustrate well the use of warrior symbolism (137). Burials are accompanied by instruments of war and by elaborately decorated ceramics that emphasize animal depictions selected for their warlike characteristics of attack, ferocity, poisonousness, or protective hardness. Rather than simply mirroring a warrior society, such symbols intimidate and thus smooth succession to power as a continuity of the natural world order of domination by the forceful (137).

It is important to emphasize that the three ideologial motifs recognized for chiefdoms are in no sense alternatives. In the Wessex chiefdoms, for example, the new ideology associated with personal burials gained local legitimacy by placing the burials in direct association with the earlier henge monuments (11). I only wish to suggest that the elaboration and emphasis of one theme over an other may reflect the different sources of power.

This discussion leads naturally to a consideration of the primacy of variables in the explanation of chiefdoms. Most dealing with ideology would still consider it as epiphenominal to the underlying economic forces, created to legitimize systems of domination (44, 58). But there is an alternative strain, especially tied to the cognitive archaeology of Hodder (105), that would suggest that ideology can take on a guiding role (145, 204). Logically it is possible to argue the primacy of either, and it would seem preferable to see the economic and ideological bases of chiefdoms as intertwined and developing together.

CONCLUSIONS

The notion of an intermediate-level society as captured in chiefdoms has a continuing role in our studies of cultural evolution. Our conception of chiefdoms from Service (199) has been transformed by a recognition of political and ideological bases that replace an earlier determinism with a new dynamism. The variation in chiefdoms is considerable and the causes of their evolution are complicated, but the chiefdom represents a reasonable demarcation of variation for use in comparative studies.

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