

EXCHANGE SYSTEMS IN PREHISTORY

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Chapter 12

A REAPPRAISAL OF REDISTRIBUTION: COMPLEX HAWAIIAN CHIEFDOMS

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I. Introduction	213
II. Redistribution: An Analysis of Institutional Forms	214
III. Service's Hypothesis	216
IV. The Evidence from Hawaii: A Complex Chiefdom	217
A. The Economy of the Hawaiian Community	218
B. Community Social Organization	222
C. Summary of Community Economy and Social Organization	223
D. Economic Specialization between Districts'	224
E. Economic Functions of the Redistributive Hierarchy	225
V. Summary	227
References	228

I. INTRODUCTION

Redistribution, a term familiar to most anthropologists, is still not well understood. Although it is commonly used in economic and evolutionary studies, its meaning remains imprecise. This chapter seeks to untangle the definition of redistribution and then to test selected propositions concerning its evolutionary significance. Two related issues are addressed: (1) redistribution as a typological category of primitive economies, and (2) redistribution as a causal factor in the evolution of social stratification.

Since Polanyi (1944, 1957) defined "redistribution," researchers have sought to characterize economic institutions or economies as "redistribu-

tional" and have sought an understanding of the functional and evolutionary importance of redistributive organization. The writings of Elman Service (1962, 1975) stand out as a principal interpretation of redistribution's import. In his evolutionary scheme, redistribution is postulated as a central factor in the development of chiefdoms. Service views chiefdoms as redistributive societies based on a permanent centralized agency for coordination. To paraphrase Service's evolutionary argument, this centralized agency (the redistributive hierarchy of chiefdoms) developed in response to ecologically determined specialization and its requirements for economic coordination. However, Service's proposition concerning redistribution is flawed by definitional and evidential problems. After examining the forms of redistribution and singling out mobilization as associated with chiefly redistributive hierarchies, this paper will test Service's hypothesis with data on the economic organization of the precontact Hawaiian chiefdoms.

II. REDISTRIBUTION: AN ANALYSIS OF INSTITUTIONAL FORMS

In his seminal article in *Trade and Markets in the Early Empires*, Karl Polanyi (1957) presented a three-part typology for the institutional forms of economic organization—"reciprocity," "redistribution," and market "exchange." His article was a reaction to what he saw as a trend in economic anthropology to apply inaccurately the "formal" concepts of Western economics to non-Western societies. Thus, his typology was aimed at recognizing the empirical forms of non-Western economic institutions and at showing their distinctiveness from Western economic modes.

According to Polanyi's definition, the primary defining characteristic of redistribution is its centrality of organization: "redistribution designates appropriational movements towards a center and out of it again . . ." (1957:250). To Polanyi (1957:254), redistribution describes a wide range of activities including the massive collecting and storage of goods in the archaic states of Egypt and Babylonia, the householding activities of a medieval manor and African *kraal*, and distribution of meat in a band society. Following Polanyi's lead, many authors have applied the term "redistribution" to everything from forceful seizures (Pospisil 1968 [1963]), to obligating marriage payments (Forde and Douglas 1967), to potlatching (Schneider 1974), to first-fruit ceremonies in chiefdoms (Sahlins 1958, 1972), to tribute/taxation in archaic and feudal states (Dalton 1967[1961]), to charity and progressive taxation in modern industrial societies (Smelser 1959). While all these activities are similar inasmuch as they involve the concentration and dispersal of goods, it can be asked legitimately whether any economic system does not involve this process in some way.

It is my belief that several separate institutional forms have been lumped together under the single cover term redistribution. Therefore, the goal of this paper is to isolate the separate organizational forms that have been called "redistribution" and to use this refined typology to examine the evolutionary significance of redistribution. The following four-part typology of redistributive institutions has been synthesized from the existing literature.

(1) *Leveling mechanisms* (Nash 1966:35,78-79; Schneider 1974:105,110): any cultural institution the effect of which is to counteract the concentration of wealth by individuals or groups. Examples: ceremonial obligations, potlatching, progressive taxation.

(2) *Householding* (Polanyi 1944, 1957): the pooling and general consumption of goods produced under the division of labor characteristic of a domestic unit. Example: The Domestic Mode of Production (Sahlins 1972).

(3) *Share-out*: the allocation of goods produced by cooperative labor to participants and the owners of the factors of production. Example: distribution of meat resulting from cooperative hunts.

(4) *Mobilization* (Smelser 1959): the recruitment of goods and services for the benefit of a group not coterminous with the contributing members. Examples: tribute, taxation, and corvée labor.

Among the four parts of this typology, two levels of distinguishing features are relevant (Figure 1). First, leveling mechanisms are distinguished from the three other types on structural criteria. A *leveling mechanism* has no single institutionalized structure; rather, it is distinguished by its *effect*—the counteraction of wealth concentration. In contrast, the other three are all specific social institutions characterized by centralized leadership that manages the production and distribution of goods within a group. Second, the three institutional forms of householding, share-out, and mobilization are distinguished by the *size* of groups that they organize. *Householding* organizes domestic production; *share-out*, interhousehold production usually within a single community; and *mobilization*, intercommunity production as

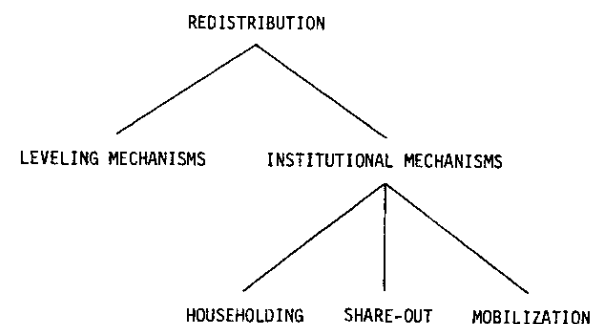


Figure 1 Typology of redistribution.

associated with "public economies." These typological distinctions imply that, since the organizational structures are diverse both in function and in size, explanations for the evolution of redistribution are equally varied.

Attempts to understand the evolution of redistribution have been limited by a failure to examine separately these diverse institutional forms. Therefore, many authors (cf. Polanyi 1957; Sahlins 1972) have concluded that redistributions (in the forms of leveling mechanisms, householding, and share-out) are widely represented at all levels of social complexity. This should not be surprising as these forms of redistribution execute general organizational functions found nearly universally in societies, and thus redistribution as a cover term has not been diacritical in the definition of evolutionary forms of social organization.

On the other hand, mobilization is more limited in its function and in its distribution. Redistribution in the form of mobilization is basic to ranked and stratified societies (cf. Service 1962; Sahlins 1972):

... the channeling upwards [mobilization] of goods or services to socially determined allocative centers (usually king, chief, or priest), who then redistribute to either their subordinates at large by providing community services, or in specific allotments to individuals in accordance with their political, religious, or military status [Dalton 1967 [1961]:153].

In chiefdoms and primitive states, there is an elite stratum physically removed from most production such that these elites depend on goods and service mobilized from the commoner population to finance their public and private activities. The elites are both a hereditary aristocracy with an imposing life-style and a sociopolitical leadership group responsible for the general well-being of their dependents (cf. Goldman 1970). Elites are organized as a regionally centralized hierarchy, important for both mobilization and decision making. Goods are collected and orders are promulgated. As recognized by Service (1962), centralized hierarchical organization marks the evolution of chiefdoms, and this organization depends on mobilization for its existence.

III. SERVICE'S HYPOTHESIS

"Chiefdoms are *redistributional societies* with a permanent agency for coordination" (Service 1962:144). In line with Service's logic, this *redistributive hierarchy*, as I refer to it, evolved in response to economic specialization requiring central coordination. This specialization is a result of one or both of the following economic conditions: (1) "the pooling of individual skills in large-scale cooperative production," and (2) "the regional, or ecological, specialization of different local residential units" (Service 1962:145). In the first instance, the centralized organization of chiefdoms is seen as a conse-

quence of the managerial requirements of cooperative labor activities (cf. Wittfogel 1957). Service believed, however, that the primary factor in the evolution of chiefdoms is the second condition, environmental diversity. His argument goes as follows: For a sedentary society, environmental diversity results in economic specialization; the centralized redistributive hierarchy of a chiefdom then evolves as an efficient means to distribute goods among the locally specialized communities.

Most chiefdoms seem to have risen where important regional exchange and a consequent increase in local specialization came about because ecological differentiation was combined with considerable sedentariness [Service 1962:146].

In brief, this hypothesis seeks to explain the evolution of chiefdoms as the social consequence of developing Durkheimian "organic solidarity."

Despite the logical elegance of this ecological theory, it does *not* agree well with the ethnographic and ethnohistorical evidence of chiefly organization. Central to Service's argument is that the redistributive hierarchy acts to integrate locally specialized, community-based economies. As I will show for the specific case of Hawaiian chiefdoms, the local communities were organized as generalized subsistence units. The redistributive hierarchy functioned primarily in the special context of financing the elite stratum and its political activities.

IV. THE EVIDENCE FROM HAWAII: A COMPLEX CHIEFDOM

Perhaps nowhere in the world are chiefdoms so well represented and documented as they are in Polynesia (cf. Sahlins 1958; Goldman 1970). Within Polynesia, the Hawaiian Islands (Figure 2) offer an ideal opportunity to examine the relationship between environmental diversity and chiefly organization as postulated by Service. Initially, the islands are characterized by high environmental diversity. Within a single chiefdom's territory, the environment includes pelagic, coastal, riverine, upland, and mountain ecozones. The vegetation ranges from xerophytic communities receiving less than 500 mm rainfall a year to tropical forests receiving greater than 5000 mm a year. As would be predicted by Service's hypothesis, the social organization of the Hawaiian Islands was based aboriginally on a regional redistributive hierarchy involved in mobilization of goods and services from the commoner population. Hawaiian chiefs were a hereditary aristocracy removed from production activities but leaders in all economic, political, and religious affairs. The basic conditions of Service's argument are thus met—a regionally centralized chiefdom is found directly associated with high environmental diversity.

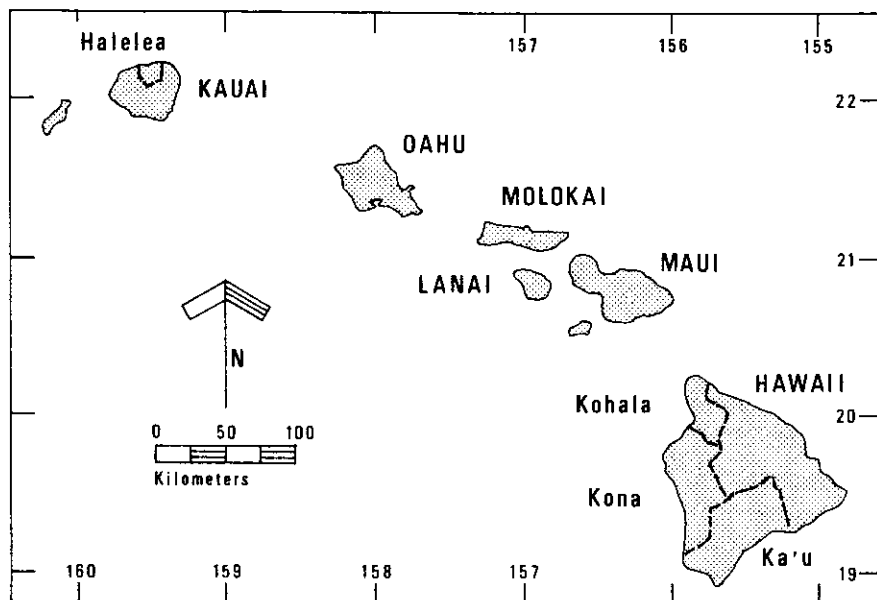


Figure 2 The Hawaiian Islands, indicating the aboriginal districts described in the text.

Although this association is evident, the exact nature of the relationship warrants closer scrutiny. Service suggests that the redistributive hierarchies of chiefdoms should be based on the centralized coordination of locally specialized communities. Such local specialization would correspond to environmentally diverse zones, and the resulting community economic interdependence would select for the evolution of a regional sociopolitical organization. However, in the following sections, the economy and social organization of the local Hawaiian community will be shown, in direct contradiction to Service's hypothesis, to have been economically generalized.

A. The Economy of the Hawaiian Community

Aboriginally, the local Hawaiian community was defined by its attachment to an administrative unit called the *ahupua'a*. In accordance with Service's hypothesis, it is this unit that should show economic specialization. The *ahupua'a* population was socially circumscribed by high endogamy and low emigration (Sahlins 1973). Economically, it formed the basis for many suprafamily cooperative labor activities like net-fishing and the construction of irrigation systems. *Ahupua'a* may be classified into two general types corresponding to contrasting geographic conditions. In geologically old areas, the local land division, called the *valley ahupua'a*, encompassed a full

catchment area for a major stream; the agriculture of these valley *ahupua'a* was based on pondfield irrigation. This pattern, in which each major valley was a separate *ahupua'a*, was characteristic of Kaua'i, Oahu, Molokai, Maui, and parts of Hawaii. In contrast, in geologically young areas where major streams have not developed, the local land divisions, called *upland ahupua'a*, were arbitrary territorial strips that ran from the mountains to the sea. Because of the lack of a permanent water source, upland *ahupua'a* relied on rainfall agriculture. This upland pattern was typical of Hawaii and eastern Maui and the driest sections of the other islands. The relationship between resource ownership and the subsistence economy of the *ahupua'a* community is examined for the Halelelea district, Kaua'i, typifying the valley *ahupua'a*, and the leeward districts of Hawaii, typifying the upland *ahupua'a* (Figures 2 and 3).

(1) *The Valley Ahupua'a of Halelelea District, Kaua'i.* The economic organization of the valley *ahupua'a* is well illustrated by the land divisions of the Halelelea district on the windward, northern coast of Kaua'i. The following description is a summary of an ethnohistoric and archaeological research project focused on the economic and social organization of a traditional district (Earle 1973, 1977). Nine *ahupua'a* have been identified for Halelelea in 1850. Seven of these encompassed an entire drainage basin for each of the major streams, which have their headwaters in the high central mountains and flow to the Pacific. *Ahupua'a* boundaries ran along the dramatic knife-edge ridges dividing the valleys from each other; thus, each valley was a separate *ahupua'a*.

Aboriginally, the three major subsistence resource zones in Halelelea (Figure 3) were the alluvial bottomlands, the shallow inshore waters, and the uplands. The alluvial bottomlands were intensively farmed by both irrigation and dry land agriculture. The primary crops included taro, sweet potato, and banana. The resources of the sea were of almost equal significance as fish provided the primary protein of the diet. Fishing in the shallow waters of the coral reefs and bays was most productive, and this zone was carefully divided among *ahupua'a* as "owned" territory. The less heavily utilized zone of the uplands and valley interiors was important for extensive hunting and collecting of feral and wild species such as pig, chicken, banana, and various fiber and wood producing plants. These resources were an important source of variety in the diet, of famine foods, and of numerous raw materials.

From Service's hypothesis, one might predict that these subsistence resource zones would have been subdivided such that communities would have tended to specialize in subsistence activities. However, the *ahupua'a* boundaries were laid out so as to include all necessary resources within a single *ahupua'a* territory, thus creating economically self-sufficient communities. By controlling a full valley catchment, an *ahupua'a* population was guaranteed areas of productive alluvial lands and, equally important, it held

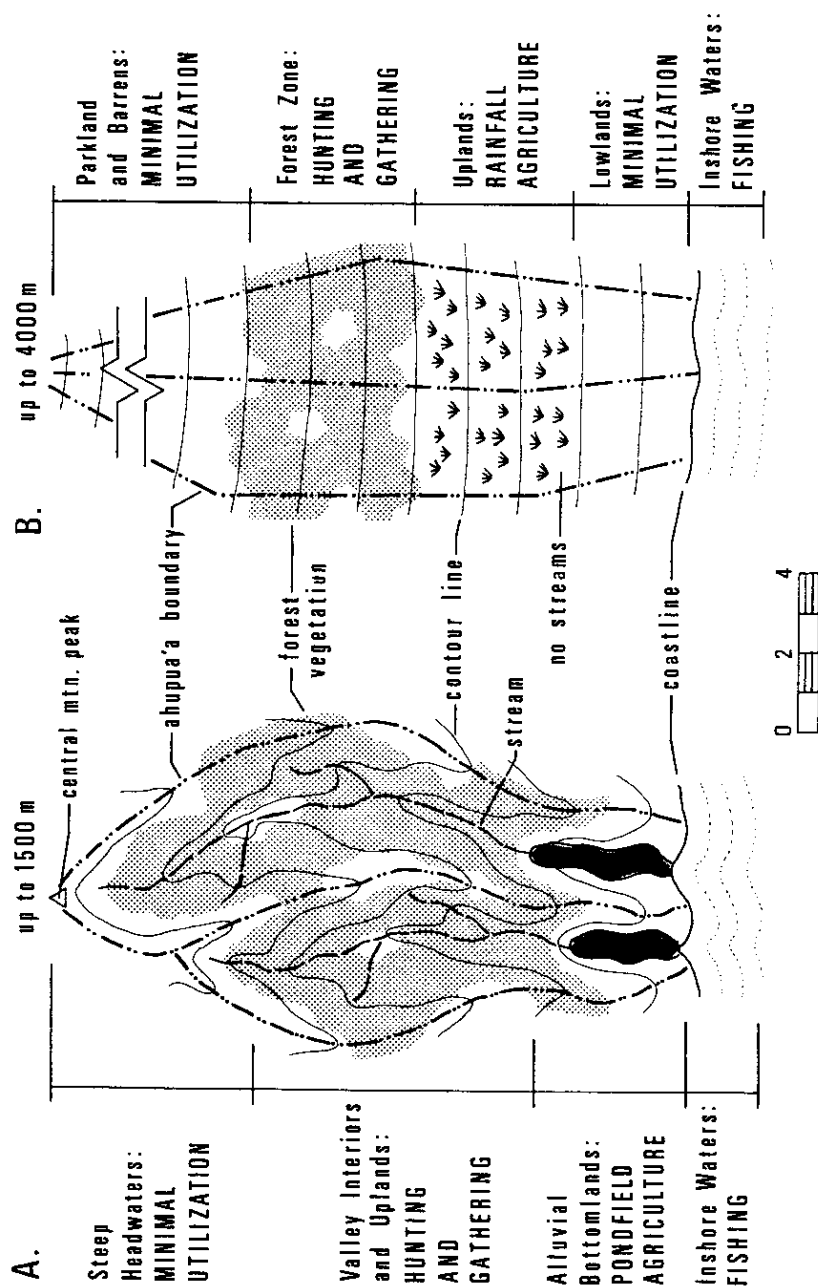


Figure 3 Schematic representation of *ahupua'a* land divisions. (A) Typical valley *ahupua'a*, Halelea district, Kaua'i; (B) typical upland *ahupua'a*, leeward districts, Hawaii. Scale approximate, in kilometers.

exclusive rights to the water necessary for irrigation. As already noted, boundary lines followed natural ridges, but near the sea these lines often deviated from the dominant or natural boundaries so as to divide critically productive sections between *ahupua'a*.

Each *ahupua'a* community maintained territorial control over substantial segments of each of the three subsistence resource zones. Although the sizes of these zones varied from one *ahupua'a* to the next, this variability corresponded closely to the population size of the *ahupua'a* (Earle 1973: Table 9). In other words, *ahupua'a* populations and their associated resource zones were distributed such that each community might be self-sufficient, based on a generalized subsistence economy. This organization of subsistence economies would have minimized interdependence between communities; from a subsistence standpoint, the local Halelean community was structured similarly to a segmental society.

(2) *The Upland Ahupua'a of Leeward Districts, Hawaii.* The economic organization of the upland *ahupua'a* is best illustrated by the leeward districts of Hawaii. On the island of Hawaii, there were traditionally three major leeward districts—Kohala, Kona, and Ka'u. Although a study, comparable to the Halelea project, is unavailable, the general pattern of the upland *ahupua'a* and its relationship to the primary subsistence resource zones have been documented by extensive archaeological and ethnohistorical research.

The environment of leeward Hawaii, in contrast to that of Halelea, is characteristic of a geologically recent region; the land surface slopes uniformly from the central volcanic mountains toward the sea. Vegetation zones correspond to the pattern of orographic rainfall determined by the combined effects of elevation and orientation to the trade winds (Carlquist 1970).

From Newman's (1970) summary monograph, three dominant resource zones may be recognized for the traditional subsistence economy of the leeward districts (Figure 3). First, since there were virtually no suitable water sources for irrigation, agriculture was restricted primarily to the intensive dry land farming of sweet potato and taro. The agricultural zone formed a band of upland soils limited largely by available rainfall (750–2000 mm annually). Second, fishing provided the necessary protein to complement the high caloric yields from root crop agriculture. This fishing was heavily concentrated in the shallow (less than 350 m) water zone immediately offshore (cf. Newman 1970: Map 15). Third, at an elevation immediately above the agricultural zone, there was a forest area used for extensive hunting and gathering and limited agriculture. Products procured in this zone were important for many uses including construction materials, variety foods, and medicines (cf. Handy and Handy 1972).

Evidently these subsistence resource zones were functionally equivalent to those described for Halelea, but their geomorphological location was quite distinct. Since the Halelean pattern was determined by the hydrology of the

central stream, the three resource zones were spatially contiguous and all represented in a compact area near the sea. In contrast, the absence of major stream drainages on leeward Hawaii resulted in a vertical stratification of zones ringing the island at elevations determined by orographic rainfall (cf. Figure 3; Newman 1970:Map 15).

Each district was subdivided into territorial units, the *ahupua'a*, which formed the basis for the local community economy. The primary boundaries of each *ahupua'a* were constructed perpendicular to the slope contours so as to define an arbitrary strip of land running from the central mountains to the sea including sections of each economic zone (cf. Figure 3; Apple 1965: Figure 15). The most thorough archaeological data on an upland *ahupua'a* is available for Lapakahi *ahupua'a*, Kohala district, Hawaii (Newman 1970; Rosendahl 1971). Lapakahi is a narrow (approximately 1 km) territorial strip running about 7 km from the rolling uplands (maximum elevation about 600 m) to the sea. Along the coast, there are scattered archaeological features and one major village site. Moving inland for the next 3 km, the dry slopes above the sea were apparently unused, until, at about 240 m elevation, agricultural features are encountered (Newman 1970:Base Map). These agricultural features (low terraces, enclosures, mounds) extend to the rear of the *ahupua'a* and blanket virtually the entire inland section. This *ahupua'a* would, therefore, not have extended into the forest zone. Although Lapakahi did not control access to forest products, the territorial pattern is still one in which maximum resource diversity is included within the community boundaries.

On leeward Hawaii, the economic resource zones are geomorphically distinct from Halelea, but the traditional pattern of community territorial organization was functionally similar. The boundaries of each community were laid out to create units that were largely replications of each other. For the most part, because communities had access to all basic economic resources (especially farming and fishing areas), each could maintain generalized subsistence production.

B. Community Social Organization

A most provocative aspect of the economic organization of the *ahupua'a* was the apparent variability in household organization. As discussed at length elsewhere (Earle 1977), the social organization of Halelean commoners was founded on ostensive principles of household independence. Because of the compactness of resource zones in Halelea, households were able to establish themselves in locations proximate to the exploitative areas. There was, therefore, little need for household specialization, and evidence indicates that the household economy consisted of a balanced subsistence strategy including farming, fishing, and collecting.

In contrast, the economic zones of the upland *ahupua'a* on leeward Hawaii were spatially separate. In the wetter sections of Hawaii, the subsistence zones were compressed within a few kilometers of the sea. Whereas, in the drier areas like Kohala and Ka'u, the agricultural zone was at higher elevations, not contiguous to the fishing zone along the sea. At Lapakahi, the distance between zones is short enough that a population residing on the coast could farm the interior fields (cf. Rosendahl 1971). However, this was apparently not the case for Ka'u.

According to Handy and Pukui (1972[1958]), the spatial separation of subsistence resource zones in Ka'u resulted in economic specialization whereby inland households principally farmed and coastal households fished. This is clearly the type of situation that Service envisioned—environmental diversity causing economic specialization. In direct contradiction to Service's expectations, however, this economic specialization did not result in community specialization and political centrality. Rather, the response to specialization was an alteration of the local social organization such that the specialized households were integrated into a cognatic social unit, the *'ohana*, which crosscut the economic diversity. Arguing from informant data, Handy and Pukui (1972[1958]) described the *'ohana* as consisting of several related households (*hale*) exchanging specialized products. "Between households within the *'ohana* there was constant sharing and exchange of foods and of utilitarian articles and also of services . . ." (Handy and Pukui 1972[1958]:6). The striking conclusion is that, even in environmental conditions favoring specialization, the response is a change in local kinship organization rather than a political solution. The aim appears always to have been to *minimize* economic interdependence between community units.

C. Summary of Community Economy and Social Organization

For both the valley *ahupua'a* of Halelea and the upland *ahupua'a* of leeward Hawaii, the territorial boundaries of the local community were laid out to minimize differences in the resources available to *ahupua'a* populations. Even in the case where environmental diversity selected for economic specialization, the definition of the community territory and the internal organization of the community permitted a self-sufficient (generalized) community economy. In direct contradiction to Service's hypothesis regarding the integrative function of redistributive hierarchies, the subsistence economies of the Hawaiian chiefdoms were subdivided into repetitious community units. By minimizing the economic interdependence between communities, the structure of the local community largely eliminated the economic justification for a regional sociopolitical organization.

D. Economic Specialization between Districts

The island territory of a Hawaiian chiefdom was divided into major administrative units, the districts (*okana* or *kalana*), each consisting of a large pie-shaped segment subdivided into *ahupua'a* (nine *ahupua'a* in Haleleia district, 47 in Ka'u). As shown in the previous sections, *within* a district the *ahupua'a* were not specialized since territorial divisions were structured to create economically repetitious units. *Between* districts there were indeed marked environmental differences, but the local subsistence economies remained generalized and largely independent because alternative strategies were available.

The trade wind and orographic rainfall pattern creates a most pronounced environmental contrast between the leeward (dry) side of an island and the windward (wet) side. Although this is an environmental situation where economic specialization might be expected, there is little evidence for such a response. Aboriginally, the effects of this environmental variability were mitigated by two aspects of the subsistence economy: (1) irrigation practices, and (2) a variety of primary subsistence crops. First, taro was grown as the dominant crop on both the windward and leeward sides where water was available for irrigation. Although the permanent streams used for irrigation are most common to windward, runoff from the heavy mountain rainfall feeds many permanent streams to leeward as well. Some of the most extensive irrigation complexes were actually in leeward areas, such as Waimea, Kaua'i, and Waikiki, Oahu (cf. Handy 1940). Second, because taro and sweet potato were interchangeable staple crops in the Hawaiian diet, there was considerable flexibility in the dry land farming methods used in areas without permanent streams. The shorter growing season and reduced water requirements (minimum 750 mm) of sweet potato made it well suited to the restricted, seasonal rainfall of the leeward coasts. Whereas taro, with higher water requirements (minimum about 1500 mm), was ideal for the windward districts. Thus, farming was viable in both high and low rainfall areas because of both irrigation and a flexible dry land agriculture. Additionally, although there was some variability in fishing potential between districts (cf. Newman 1970), it is equally clear that fishing was practiced effectively in all areas. In sum, despite environmental contrasts, the districts were able to retain generalized economies based on a balance between agriculture and fishing, and this condition would have greatly reduced requirements for interdistrict trade. Again the expectations of Service's hypothesis are contrary to the minimal specialization observed in the Hawaiian case.

This is not to say that interdistrict trade did not exist. Specialized products such as tapa cloth and various woods were often localized and were exchanged between districts (Handy and Handy 1972:314-315). For example, Ellis (1963[1827]:229-230) described a traditional Hawaiian trade "fair" at which people from the southern districts of Puna and Ka'u exchanged dried

fish, mats, and a particular tapa for pigs, dried taro, other tapas and mats, and tobacco from the northern district of Hamakua. The significant point of this exchange is not its simple presence; extensive intergroup exchange exists in all societies. Rather, this exchange was *not* channeled through the redistributive hierarchy. Exchange was direct barter between primary participants. Representatives of the chiefs were present, but they acted only as arbitrators and tax collectors.

In sum, the major environmental differences among the districts of a Hawaiian chiefdom were largely overcome by different options in the subsistence economies. The districts retained their primary self-sufficiency by stressing a balanced farming-fishing subsistence economy, and interdistrict trade was relatively rare. Exchange in specialized products that did take place between districts was handled by a direct barter system. As is shown in the following section, the channeling of goods through the redistributive hierarchy fulfilled a very different function from the integration of specialized economic units.

E. Economic Functions of the Redistributive Hierarchy

Redistribution in Hawaii involved the massive mobilization of goods at periodic ceremonial collections directed by the elite hierarchy. The most striking collections were associated with the annual *makahiki* ceremonies (cf. Malo 1951[1898]:141-159; Ii 1959: 70-77; Beckwith 1932). During this ceremonial period, the god Lono, represented as a stick figure, was sent on a tour around the islands. At each *ahupua'a*, the god would halt and receive the obligatory offerings from the local population. The size of this offering was carefully examined, and a niggardly *ahupua'a* was first asked to fulfill its total responsibility and then, if it failed to meet this obligation, it could be plundered. The goods collected during the *makahiki* were mainly raw materials and commodities used by the elites and their households; the perishable food collected was used to feed the chiefs and those directly involved in the collection (Malo 1951[1898]:143,145). The commodities (tapa clothing, fishing gear, etc.) and preservable food (hard *po'i* and dried fish) were then deposited in a central storehouse for the personal and political uses of the paramount chief (Ii 1959:121; Malo 1951[1898]:195).

Additional collections preceded the large feasts associated with special occasions, such as life-crisis ceremonies and temple constructions associated with the paramount chief. During these feasts, a significant portion of the amassed food, which was difficult to store in any case, was distributed directly to the commoner population. However, it seems highly unlikely that the *makahiki* or other regional collections could have served to integrate a regionally specialized economy. Economic specialization of local communities would have required a frequent and regular exchange between

them. (Typically such exchanges take the form of a regional market or monthly fairs as in modern peasant economies.) Neither in Hawaii nor in the other Polynesian societies is there evidence for such regularity or predictability in the feasting. Sahlins (1958) lists only three general, chiefdom-wide collections a year; in reviewing the traditional histories (e.g., Malo 1952 [1898]; Li 1959; Beckwith 1932), only two regular collections a year were noted and both of these took place in a single month. Additional feasts were probably irregular and relatively infrequent. In short, the evidence would strongly indicate that the collections and related feasts were not a viable means to organize locally specialized subsistence economies. A reexamination of mobilization associated with other chiefdoms would most probably yield similar conclusions. Redistribution is not adequate for the integrative economic function proposed by Service.

The question remains as to what were the economic functions of redistributive mobilization in Hawaii? The three primary applications for goods mobilized during the collections were (1) support of the elite population; (2) establishment and maintenance of political relationships required by intensive intra- and intergroup competition; and (3) capital investment through the management of local economic strategies, like irrigation and aquaculture, used to maximize income flow to the elites (Earle 1977). The redistributive hierarchy of the Hawaiian chiefdom functioned to mobilize goods to support the operation of the political superstructure; in short, redistributive mobilization was a form of taxation.

This is not to gainsay the important benefits to the local subsistence economy. First, as is argued clearly by Gall and Saxe (Chapter 14), increased production intensity results in an increased economic insecurity. This was clearly the case for Hawaii where the irrigation systems were subjected to periodic destructions from stream flooding and tidal waves. Since such stochastic events occurred usually less than once every 20 years for a specific community, a purely local adaptation to such disasters was simply inefficient (Earle 1977). Rather, the Hawaiian elites were under obligations of generosity that required them to support a destitute population and aid in reconstruction. Second, capital investment in irrigation systems and fishponds appears to have significantly increased the efficiency of agricultural production in Hawaii. Irrigated taro was the strategy selected for wherever environmental conditions were favorable (Earle 1973:63-67). Such benefits are, however, hardly sufficient cause for the evolution of redistributive hierarchies. Indeed, arrangements like the regional reciprocal networks of acephalous societies (Dalton, Chapter 11) offer alternative mechanisms for both security and capital formation.

It seems plausible that an explanation for the development of redistributive mobilization is linked to a general explanation of social stratification. The increased "surplus" associated with mobilization is used to support an

elite population removed from subsistence activities but performing various control functions. Elsewhere (Earle 1977), I have suggested that social stratification involves a shift from subsistence (minimizing) production strategy to a political (maximizing) strategy. The former is self-dampening and thus inherently stable. In contrast, the latter is self-amplifying as income/revenue is used partially to expand productive capacity. Such a positive feedback system is inherently developmental and will continue to expand until external factors (like island size in Polynesia) inhibit its growth. An explanation for redistributive hierarchies will require (1) an explication of the elaboration and institutionalization of the maximizing political economy and (2) an enumeration of the possible environmental and social conditions inhibiting its growth.

V. SUMMARY

This chapter has examined redistribution and offered a four-part typology (leveling mechanisms, householding, share-out, and mobilization) to characterize the very different economic institutions subsumed by the cover term. Within the typology, redistribution in the form of mobilization is seen as basic to chiefdoms and states.

Service (1962) has offered a hypothesis that would explain the evolution of chiefly redistributive hierarchies as a response to environmental variability. An examination of the aboriginal Hawaiian chiefdoms suggests that this hypothesis should be rejected for the following reasons:

- (1) The definition of the community territory and the internal organization of the community population permitted a self-sufficient (generalized) economy.
- (2) Major environmental diversity among districts was largely resolved by different options in the subsistence economy and not by extensive exchange.
- (3) Exchange in specialized products was handled by kin obligations within a community and by direct barter between districts. Goods channeled through the redistributive hierarchy, in contrast, were used primarily to finance activities directed by the elites.
- (4) The long-term periodicity and irregularity of mobilizations were inadequate to organize locally specialized subsistence economies.

This evidence suggests that redistributive mobilization should be interpreted as an essential mechanism used to finance the political and private activities of an elite population. In sum, an explanation of redistribution/mobilization is inextricably bound to the evolution of sociopolitical systems of stratification.

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