Chapter 26. THE ORIGIN OF STRATIFICATION AND STATES

> "Every state is a community of some kind, and every community is established with a view to some good: for mankind always act in order to obtain that which they think is good." (*Politics*, Book. I, Ch. 1.)
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> "For that some should rule, and others should be ruled is a thing not only necessary but expedient: from the hour of their birth, some are marked for subjection, others for rule." (*Politics*, Book. I, Ch. 5.)
>
> Aristotle

I. Introduction

Complex societies are always stratified. The development of complex societies follows a few thousand years after the development of plant and animal cultivation. By "complex societies" anthropologists mean those with many full-time specialized roles. In hunting and gathering and simpler horticultural societies, recall that everyone engages in primary food gathering activities and related tasks. Typically the most significant division of labor was by sex, and almost all adults of the same sex had the same day-to-day tasks. In complex societies, the division of labor includes many full-time specialists, for example potters, weavers, traders, merchants, blacksmiths and so forth, in addition to farmers. This social complexity is universally accompanied by political specialization, such that formal leaders and their full time agents—soldiers, bureaucrats and (typically) priests—manage the collective affairs of the society. States are thus accompanied by a tremendous increase in the division of labor, by the suppression of small-scale violence, provision of public facilities such as roads, and by expanded redistributive functions to move products from the farm to the full-time specialists, and to move (some of) the products of the specialists to the farmers.

Complex societies are an ethical dilemma. In complex societies, there is usually a system of formal, ascribed (assignment by birth) ranks, and sharply differing access to prestige and prestige goods. Even subsistence goods are typically maldistributed. Even in more open societies such as our own with lots of achieved roles, some roles are accompanied by far greater rewards than others. And birth still counts for a lot. Greater rewards are usually associated with roles in governance and high state officials are typically an elite, though there may be other elites as well.

There are no complex societies that are egalitarian or anarchic; a complex division of labor seems to require government, and government always seems to allow some to be

better off than others. Thus, complex societies are always more or less strongly stratified, just as simpler societies are egalitarian or based upon achieved roles. This is the great moral dilemma of complex societies. On the one hand, cooperation and division of labor bring huge benefits, but on the other some people benefit much more than others from the collective production of complex systems.

As we saw in an earlier chapter, the basic agrarian state was characterized by a narrow hereditary elite with substantial privileges resting on the labor of a moderately large artisan and commercial class, and a very large peasant class. ***This is the problem we want to understand:*** *How could stratification and the state arise in the first instance from more egalitarian societies, and subsequently grow to such great extremes?*

Explanations for the state are of two types, coercive and integrative. Coercive theories suppose that states arose by conquest or the indigenous evolution of a coercive elite class. States are maintained by elites by force for the purpose of exploiting the mass of peasants and artisans. *Integrative* explanations are also termed "voluntaristic" or "functional." Integrative theorist suppose that states arise to meet the needs of society as a whole for protection from violence, redistribution in time of need, etc. In the terms we have used in this course, the key question is whether or not stratification and state institutions are group-functional and at what level. Further, if state institutions are functional, are they functional for certain classes, or for society at large? Did formal leadership, and stratification arise because it made possible complex societies with a productive division of labor? Or is the state a tool for the diversion of the fruits of peasant and artisan labor to parasitical bands who monopolize the means of control of violence (more or less thinly disguised behind some mystical claptrap)? Or is some mixture of both explanations necessary?

As the epigraph from Aristotle shows, this twin character of states has preoccupied political theorists since there has been political theory. The advantages of large-scale political organization seem clear, but elite or another has almost always found the means to take disproportionate advantage of the common production of complex societies. An elaborate rationale for so doing has always come ready to hand. Some are always "marked for subjection" one way or another. How states can arise and persist despite this yin-yang prop-

erty is perhaps the most interesting question of all.

It will not surprise you to learn that scholarship is badly contaminated by mythologizing in this field. Note the strong parallel between the moral dilemma posed by states and the two kinds of theories used to explain them. Marx was a pioneering conflict theorist, and American political ideology is strongly informed by the voluntarism of the Mayflower Compact and Constitutional Convention stories from our past. To assume a disinterested stance towards the state and stratification takes a serious effort of scholarly will-power! The history and anthropology of states are often used to try to make ethical/political points. Almost every undergraduate who has ever argued politics with his/her roommates has engaged in this sort of thing. If our aim is really to explain how states arose and how archaic states worked, we have to be careful not to get carried away in this regard. Today, let us not wring our hands over the inequities of states nor bemoan the life under Hobbesian anarchy. Let us try merely to understand L. F. Richardson's advice (see epigraph to Chapter 18).

II. Macro-Evolutionary Data

A. The Basic Historical Pattern[1]

By about 5500 years ago the first conspicuous city-states arose in Mesopotamia, such as Sumer, from which they spread over large parts of the Old World. In the Americas, the Far East, and Africa, as we have come to expect, these developments were later. The Shang Dynasty was the first well developed state in China (3500BP), Chavin, in Peru, was the first in South America (ca. 3,000BP), Meso-America had states by ca. 2,000BP, and Sub-Sahara Africa by ca 1,000BP.

The development of states in antiquity was long the most fascinating problem for historians and archaeologists. They were interested in the development of writing, literature, the arts, and the like, and saw the emergence of humans from savagery and barbarism to civilization as our great evolutionary triumph. Modern scholars, with a wealth of information about simpler societies and about the deeper human past have not given the development of civilization quite so central a place; now we know of *other* revolutions in human societies that are quite as startling as the development of states.

Still, the development of states is quite an important evolutionary/ecological problem. Even quite archaic states left much more massive remains than any earlier types of societies. There was a revolution in the human ability to organize large scale collective projects, usually including religious and governmental architecture and fortifications. Most

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1. Much general information in this chapter is from Service (1975).

of you will have visited or at least seen pictures of these. The administrative complexity of states usually gave rise to writing, arithmetic, and calendars. Religion, art, politics, and eventually philosophy, science, and history became much more sophisticated that in simpler societies. Population densities often rose as redistribution and trade increased economic efficiency, and domestic peace reduced violence. However, developments in subsistence technology were rather modest; most of it was developed by the village-scale farmers who developed agricultural and horticultural techniques before the emergence of states.

Conspicuous, formal stratification developed first in tribal scale societies that preceded states. The classic chiefdom occupies an intermediate position between simple and complex societies, as we have observed before. A chiefdom has some degree of division of labor by ascriptive category, but the idiom of kinship is still strong; in theory at least, a chief is just the eldest male in the most senior lineage. His duties may be as much ritual as governance, and in the simpler cases he will still work his own fields. But from the principle of hereditary access to political, economic and ritual power that is the basis of chiefdom, states with a complex division of labor and elaborate stratification later arose. As states developed, the clan of the chieftain reduced emphasis on kinship linkages to the society at large and set itself up as a noble lineage qualitatively distinct from some commoner class. Then this class typically hired specialists such as scribes, priests, and soldiers to help in governing. A *chief* has to draw upon a network of kin obligations to enforce his authority. A *king* can issue orders to paid staff who carry them out. Western Europe crossed this frontier in the transition from the Dark Ages to the Medieval Period.

Note that political power and the ritual/religious function grew up together. The religious dimension of the most noble lineages was often emphasized as the kinship element declined. Temples were usually the first massive examples of large-scale coordinated effort, and the first rulers were often priest-kings derived directly from tribal chieftains whose roles often mixed sacred and economic/political leadership. Early kings usually claimed to rule to rule by sacred right, and often to be gods themselves. Monumental religious architecture develops to impressive heights as advanced chiefdoms evolve into states. Generally, the most impressive constructions are from the early state period. The Egyptian Pyramids are an example of this, as are the late Medieval cathedrals of Europe.

The first states are not clearly distinguishable from advanced chiefdoms; any sharp criterion would be arbitrary. In the course of the trajectory sketched above, the population under the control of the chief/king/high priest would rise to the order of 100,000 people or so. Protostates of this size often show signs of conspicuous urbanization, although the proportion of the population actually living in cities varies substantially. In the Mayan area,

cities were temple complexes, and the great bulk of the population was dispersed. On the other hand Teotihuacan in the Valley of Mexico was a walled fortress city that could probably house the entire society in an emergency. All such early urban centers served ritual functions, and massive temple architecture is the rule.

Subsequent increases in size took place through amalgamation of city-state sized units into empires. Military conquest of one city-state by another was almost always involved, and there seems commonly to have been a long period of cyclical conquests and revolts before large imperial agrarian states became firmly established rule.

B. Political Evolution in Polynesia[2]

Polynesia is an excellent example of the earliest steps of state formation. Polynesian society evolved its basic features in the region of Tonga ca 3,000BP, after which Polynesian peoples dispersed at various times to a large number of Pacific Islands, mostly in the triangle marked by New Zealand, Easter Island, and Hawaii. (See figure 26-1.) Ecologically, these islands differ substantially in size, isolation, and climate (See table 26-1.) At the same time, other Pacific island areas were settled by other ethnic groups, mostly related Austronesian language[3] speakers. The Pacific formed a vast laboratory for replicated natural experiments in cultural evolution, an advantage anthropologists like Kirch mean to take advantage of for theoretical purposes. For our interest here, Polynesia is particularly important because it represents the most recent case of the formation of "pristine" states—those whose evolution was uninfluenced by the ideas from and political pressure exerted by other states. We suppose that events in Mesopotamia 5,500BP or Mesoamerica 2,000BP were similar. Indeed, the archaeology and history indicate considerable commonality in the way states evolved, although, as usual, variation is quite demonstrable.

Ethnographically, the Pacific is fairly well known. Many islands had minimal contact with continental outsiders until quite late. Much classic work was done in Polynesia and Melanesia by Bronislaw Malinowski, Raymond Firth, Marshal Sahlins, Margaret Mead, and a host of others. Archeologically, the region is becoming much better known, through the work of Kirch among others. The macroevolutionary patterns in Polynesia can now be investigated by two classic methods, ethnographic comparisons of living people at (presumably) different stages of a common evolutionary sequence, and by direct tracing of patterns in the archaeological record. According to Kirch, these two methods tell a

2. Taken from Kirch, 1984.
3. a family of agglutinative languages spoken in the area extending from Madagascar eastward through the Malay peninsula and archipelago to Hawaii and Easter Island and including practically all the native languages of the Pacific Islands with the exception of the Australian, Papuan, and Negrito languages

Figure 26-1. **a)** The Polynesian Triangle, Outliers, and the major islands and archipelagos of Oceania. **b)** Polynesian dispersal patterns as indicated by current archeological and linguistic evidence. (From Kirch 1984:18 & 78.)
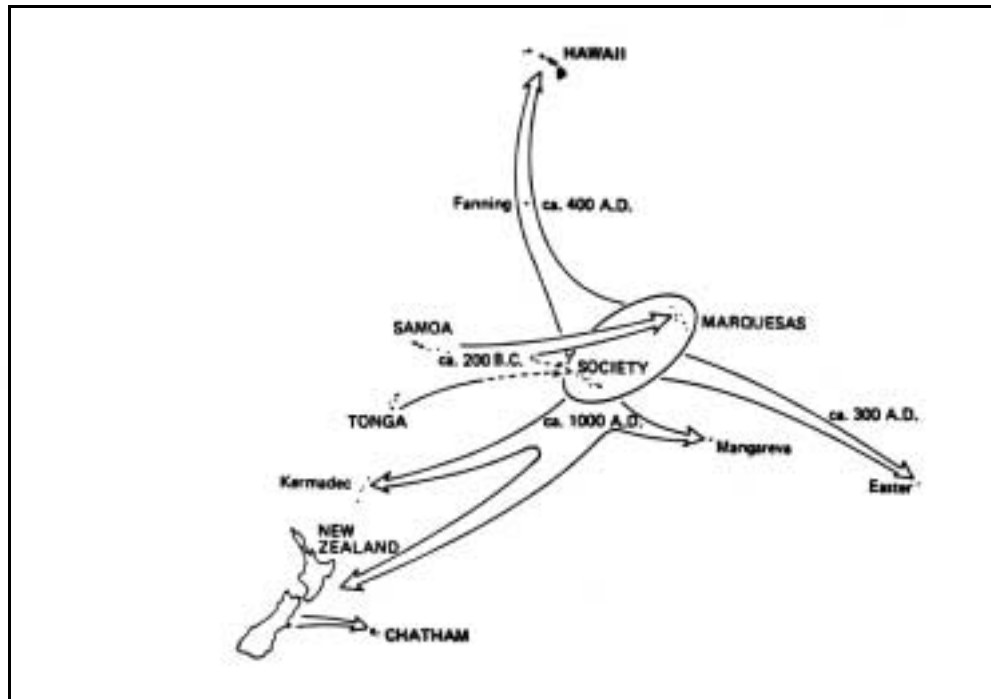
Table 26-1. Principal islands and archipelagos of Polynesia. (From Kirch 1984:19.)

Island or group	Type and number of islands		Area (km²)	Estimated population*
West Polynesia				
Tonga	Raised coral; atoll; high	160	647	40,000
Samoa	High	10	3,134	80,000
Futuna	High	2	65	2,000
'Uvea	High	1	59	4,000
Niue	Raised coral	1	259	4,500
Tokelau	Atoll	4	6	1,200
East Polynesia				
Cook Is.	High; atolls	15	240	15,000
Society Is.	High; atolls	11	1,536	45,000
Marquesas Is.	High	10	1,057	35,000
Hawaiian Is.	High	10	16,692	200,000
Equatorial Is.	Raised coral; atoll	5	702	n.o.**
New Zealand	'Continental'	2	501,776	115,000
Chatham Is.	High	2	713	2,000
Kermadecs	High	1	29	n.o.
Tuamotu Is.	Atolls	76	790	7,000
Austral Is.	High	5	132	5,000
Mangareva	High; atolls	8	15	4,000
Pitcairn	High	1	5	n.o.
Easter	High	1	160	7,000
Henderson	Raised coral	1	30	n.o.
Outliers (Total 18)				
Anuta	High	1	0.4	150
Tikopia	High	1	4.6	1,250
Bellona	Raised coral	1	20	450
Nukuoro	Atoll	1	1.7	150

*Estimate at time of initial European contact.
**n.o. = not occupied at European contact, but with archaeological evidence of former Polynesian inhabitants.

substantially similar tale, and we can feel reasonably confident of the main outlines of Polynesian political evolution.

The first significant development was the evolution of a ranked lineage system in Ancestral Polynesia. Other Pacific island societies lack this innovation, but it was almost certainly present in the root Polynesian society in the Tonga area before dispersal to the other islands because: (a) it is present in one form or another in all Polynesian Societies, and (b) the words that refer to chiefs (*ariki*), and their powers (*tabu*, *mana*) are all cognates[4]. Thus, unlike most other Pacific Islanders, Polynesians evolved a chiefly principle of the inheritance of ritual and political status by the senior male of the senior lineage. This is the ranked lineage system that is often associated with societies organized at the tribal level. Recall that the males of the "senior" lineage (descended through eldest sons from the society's founder) are ascribed the leadership roles. In some circumstances, Polynesians developed

4. related by derivation, borrowing, or descent from the same ancestral language

very elaborate chiefdoms/simple states, using the ranked lineage system as a foundation. It is interesting that only this Pacific group embarked on this trajectory, despite many ecological commonalities between Polynesia, Micronesia, and Melanesia. We have previously mentioned Marshall Sahlins (1963) famous argument about the historical differences between Melanesia and Polynesia. In the smallest scale societies where we assume chiefship evolved, it is just functionally equivalent alternative to the commoner Pacific bigman system.

The degree of elaboration of the chiefly organizational principle in the direction of a state depended upon two important variables, the time since settlement (and its close correlate population density), and island size. A third variable, ecological suitability of Polynesian technology, was important in the special case of dry (Easter) and temperate (New Zealand) islands. The islands were settled by small groups of Polynesian navigators who set themselves up as the senior founding lineage of the new island. Most islands or island groups were rather distant from the ancestral homeland, and there is no evidence that regular contact was maintained. For some generations, junior lineages budded off to pioneer new lands. At some point the island or archipelago became densely enough populated to initiate a series of economic intensification measures. On smaller islands, this stage was reached more quickly than on larger ones.

On all islands, the chiefs played an important ritual and political role. For example, they typically managed food storage and redistribution. These were economically important activities because of the frequency of natural disasters (droughts, typhoons) which frequently struck the islands. However, the explicit rationale for food gifts to the chief had a religious basis. The chief represented the ancestral gods on earth, and through him supernatural power (*mana*) flowed from them. His ability to *tabu*[5] certain activities (e.g., the exploitation of a particular section of reef) allowed him to use his supernatural powers for secular ends, and hence to rule in theory as an agent of the gods. On smallish islands and atoll complexes, there was typically a paramount chief, perhaps with largely ritual functions, and a series of smaller chiefdoms of a few hundred people each. In some cases, for example Easter Island, there is evidence of intense conflict between small chiefdoms for scarce resources in rich environments and perhaps even in those that were degrading. However, even on tiny Easter Island (160 km^2), the amount of collective effort that could be organized by Polynesian chiefs was impressive, as evidenced by the hundreds of giant stone statues.

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5. forbidden to profane use or contact because of supposedly dangerous supernatural powers

A recurrent theme of Polynesian folklore is the flight of lineages that lose conflicts from their home island. Perhaps long-distance voyages of settlement were a result of such conflicts, and there was a tradition of using exile to settle such disputes between lineages[6]. On smaller islands, the equilibrium political level was a simple tribal system based on the classical ranked lineage principle. Polynesia was perhaps a paradise, but it was not an entirely peaceful and egalitarian place, even on the small islands with relatively little development of stratification.

On larger islands, the initial developments did not differ from those on small ones, except that it took longer for higher population densities to be reached. However, the larger islands had much greater potential for the development of larger political units. All of the really large ones, with the exception of New Zealand, developed substantially in the direction of advanced chiefdoms-protostates. Tonga, Samoa, and Hawaii particularly had large, highly organized chiefdoms of a few tens of thousands of people encompassing whole islands or island complexes.

Hawaii is an example of the scale of political elaboration that could take place given the institution of chieftainship.[7] Hawaii was settled ca 1,500BP, and the period until about 300BP was a pioneering phase. On the evidence of temple architecture, most political power resided in the hands of local chiefs, who supervised the construction of modest local temple complexes. By 300BP, population densities had risen to near the level found at contact 150 years later (200,000 people), and the intensification of agricultural production had begun. The intensification of production included the development of irrigation, terracing, and other permanent field agricultural systems, and advances in animal husbandry and aquaculture. Large-scale temple construction was initiated, indicating a considerable increase in the scale of maximal political organization.

Just after contact, King Kamehameha conquered the whole archipelago and became the whole archipelagoes paramount chief/king. At contact, there was a rich oral history covering the last couple of hundred years of political developments in some detail. Of course ethnographic observations also became possible about that time. The typical chiefdom before Kamehameha's conquest comprised ca 30,000 people. The chiefly lineages had cut themselves off from junior lineages to become a separate ruling class. Commoners lost their corporate kinship system and the land ownership that went with it. This is the only

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6. In Micronesia one of the traditional means for dealing with extreme social conflict, such as can arise on an island due to homicide, is to put the offender on a canoe and banish them.
7. Kirch also treats Tonga and Easter Island in detail, and these cases have interesting similarities to and differences from Hawaii.

case in Polynesia where a class system evolved that replaced the traditional ranked lineage system. The chiefs ruled through a system of special retainers and subchiefs of the elite class which retained the ranked lineage structure. There were religious specialists, soldiers, agricultural overseers, and specialized craftsmen at their command. The hierarchy was five distinct steps deep: Chief, chief's court advisors, subchiefs (typically warrior commanders), stewards (drawn from the most junior lineages of the chiefly caste), and commoners.

Interestingly enough, there was a tendency for the chief himself to specialize in ritual affairs, and delegate secular authority to his in-laws. This tendency to separate religious and secular authority went even further on Tonga. The importance of religious ideology in advanced chiefdoms and early states cannot be underestimated. Indeed, state religion stays with us right into the modern period (did you ever learn what antidisestablishmentarianism *meant*?). One wonders why this separation occurs, and why the *formal, ascribed* paramount chief takes the ceremonial role. This is not unlike constitutional monarchy systems in Britain and Japan. Perhaps the ascribed leaders are often not the most able, and trade their symbolic value to the highest bidder (to put it a bit crassly)? That is, chiefly families that had a great deal of prestige—but lacked much talent—might ally themselves through marriage with the elite lineage that was strongest in terms of talent, wealth, and influence. This would enable them to preserve their prestige at the expense of losing much power.

Much of the direct motivation for chiefly aggrandizement of power was apparently competitive. Chiefly status vis a vis other chiefs depended upon costly and elaborate displays and conspicuous consumption. For this reason, chiefs were keenly interested in the intensification of production within their domains to build their wealth. Another form the same competition took was military conflict between chiefdoms. The object was conquest, and the enlargement of one's dominions and status. However, political developments were apparently not sufficient, at least until Kamehameha, to allow a permanent consolidation of power much beyond the level of 30,000 people. The result was several centuries of cyclical conquests and revolts, as the scale of political consolidation fluctuated.

Despite the severance of a genealogical connection between commoners and chiefs, the ideology of chieftainship enjoined a sort of benevolent paternalism toward the commoners. For example, the chief was still supposed to be responsible for managing resource redistribution so as to provide some relief in times of natural disasters. Chiefs were faced with a difficult political dilemma that gave teeth to this ideal. A chief's junior male relatives and other individuals high in the noble hierarchy could only look forward to a gradual decline in the status of their descendants as they became distanced from the chief's senior offspring each generation. However, if the chief were to require replacement, a usurper could

not only take power himself, but ensure a higher status for his descendants. Thus, unpopular chiefs ran a real risk that their junior relatives would lead a revolt, and the support of commoners was apparently decisive in determining the success of such revolts. Revolts were quite common. Thus a chief was on the horns of a dilemma. Competition with other chiefs led him to drive his commoners ruthlessly to support his ritual and military ambitions; concurrently, fear of revolt caused him to be quite sensitive to being unpopular. The lack of a clear solution to the dilemma made politics very turbulent, but also left room for rapid evolution. Innovations that reduced the dilemma, such as technical innovations in production or political innovations that reduced the risk of revolt, would no doubt have spread quickly.

After contact, access to ships and guns acquired from Europeans allowed Kamehameha to quickly conquer the local chiefdoms/petty states and erect an unambiguous conquest state covering the whole archipelago with himself as King.

The Polynesian case seems to have many parallels with the evolutionary trajectory of early states in Mesopotamia, Egypt, Mexico, China, and Peru. The reemergence of states in North-Western, Central, and Eastern Europe toward the end of the Dark Ages also seems to have followed a similar trajectory as rough, egalitarian war-bands first settled down to become farmers and then divided into a hereditary elite deriving from the most prestigious lineages and a mass of commoners descended from conquered folk and the lesser lineages of the conquerors. The surviving Roman traditions (especially as preserved in the South and East and by the Church) provided a structure for state formation much as did the sacred chieftainship of the Polynesians. The ancient germanic Goths, who caused the Romans so much trouble, apparently independently developed the institution of strong kingship, and temporarily became the strongest pastoral power on the Western Steppe. Conversion of Northern and Western Europeans to Christianity in the Medieval period was accomplished by missionaries who concentrated on elites, particularly petty kings. It is tempting to think that kings converted because of the role of Christian ideology in propping up the state. With the usual caveat that there will be ecological and non-adaptive differences between examples of similar evolutionary trajectories, Polynesia is probably a very useful case to use to supplement archaeology in thinking about ancient state origins.

III. Hypotheses

A. Food Plant Production a Prerequisite

No scholar doubts that the development of agriculture was a precondition for states. Presumably, population densities and per capita production must rise to a certain level before a state elite, or even a tribal chieftain, can be freed from primary production to the de-

gree required for them to have a specialist role. Note how the scale of political organization was closely related to population size and density in Polynesia. Advanced chiefdoms arose only on large islands, and on these only when densities became high. It takes a fairly large, dense population to support a real chief, much less a king. And other occupational specialties are required in order to give them much to organize. As tribal chieftains acquire enough full time specialized retainers to assist them in government, at some point they can style themselves kings and a state is born. As we saw earlier, states are supported by either plow agriculture or advanced horticulture, and the former led more often and sooner to states.

The development of stratification and states is far from perfectly correlated with subsistence technology. On the other hand, this cannot be the whole story. For example, North-Western Europe was agricultural for perhaps 5,000 years, but remained at a tribal level of political organization until quite late; real states began to arise in the medieval period from petty kingdoms/glorified chiefdoms (areas of Roman conquest aside). In Africa, politically unorganized societies coexisted for long periods with chiefdoms and small states. In India, the state was historically a fairly marginal institution, perhaps because caste regulates the division of labor, elsewhere an important state function.

Furthermore, the scale of political organization has fluctuated substantially over time in the same place. Small states have collapsed (e.g., in the Mayan area), and great empires have grown and vanished, such as Rome, leaving petty states and even tribal societies in their wake. Large-scale political organization is clearly somewhat fragile. Renfrew (cited in Chapter 6) has made quite a point of the instability of states among societies in the lower ranges of agricultural productivity. Yoffee and Cowgill (1988) give examples of collapses of ancient states and discussions of some of the reasons for them. The potential for excessive demands of chiefs to lead to revolt, as illustrated in the case of Hawaii, could clearly limit the scale of integration, and explain how cycles of consolidation and collapse could occur. The long-run trend to consolidation of large states in some areas but not others is likely to depend upon a number of factors, including ecology, technical changes in transport, statecraft, and military organization and hardware. The integrative and coercive hypotheses (see Service, 1978, for a convenient summary) give us some clues as to how these factors might work. We will return to these ideas in the next section.

It is worth noting that tribal (and similar) institutions generally remain important in states, rather than disappearing. Ancient states attempted to enforce monolithic ideologies on the entire populace, and modern nationalism is in this tradition. People should have their main political loyalty to the state. However, this ideal is seldom achieved in practice; states must reach accommodation tribal institutions of one kind or another. In agrarian states, trib-

al institutions lived in a partly symbiotic, partly competitive relationship with the state. For example, the Ottoman Empire, which disappeared at the end of World War I, had Orthodox Greeks, Orthodox Slavs, Orthodox Armenians, Moslem Arabs, and Moslem Kurds among its citizens, all dominated by Moslem Turks. The tribes were responsible for much of the on-the-ground maintenance of order and provision of services to the population. Agrarian states had rather small bureaucracies by modern standards and left much to the tribes out of necessity. The tribes were themselves very complex, with many variations at the local level, linked mainly by segmentary principles of loyalty, though in some cases at least a religious hierarchy maintained a degree of formal organization at the tribal level. Groups like the Kurds have ancient roots, and have been members of many empires, but have never had a state of their own nor any other form of formal organization at the whole-tribe level. The spread of nationalism in the late 19th and early 20th Centuries tore apart the Ottoman and Austro-Hungarian multi-ethnic Empires, even as the Soviets were successful in maintaining the Russian Empire.

At this moment the Russian Empire is apparently dissolving. It is striking how strong tribal loyalties remained after 70 years of relentless propaganda and repression by the Soviets, and how rapidly tribal organizations could arise to seek independence. The Caucasus region is an especially interesting laboratory, because historically many small tribal groups of agrarian mountaineers asserted their independence against all comers, until the Russian conquest in the 19th Century. As the Soviet Empire has weakened they've seized the chance to aggressively declare their independence. States are always the result of a dynamic equilibrium between larger and smaller scale institutions, and the organizations based on the larger can collapse quite suddenly if the smaller scale ones win out in the ongoing competition.

B. A Role for Non-adaptive Variation

The Pacific case suggests that non-adaptive variation, specifically the evolution of the hereditary chief ideology, may be important. Sahlins (1963) wrote a classic paper contrasting the Polynesians and the Melanesians. Despite many ecological and subsistence similarities, Polynesians developed elaborate chiefdoms and states on large islands, as we have seen, whereas the Melanesians classically lack ranked lineage systems and chiefs, even on the largest islands they inhabit, such as New Guinea and the Bismarcks. Sahlins attributed the difference to the traditional hereditary lineage-ascribed status ideology of the Polynesians. Even on small islands like Tikopia, and on large islands during the colonization phase while population was small, the ranked lineage/*mana*/*tabu* system was maintained. Thus the germ of a social framework for state formation in appropriate

circumstances was always present in Polynesian but not Melanesian societies. There does not seem to be anything special about the environment of ancestral Western Polynesia that stimulated the development of ranked lineages. Thus, historical happenstance may well play a big role in this and other cases of state formation.

There seem to be no externalist hypotheses to explain state formation beyond the requirement for a reasonably productive farming system. Everyone invokes internal hypotheses. States are one of the ultimate consequence of cultivation, even though they took varying periods of time to arise.

C. Integrative (Functional, Voluntaristic) Theories

The basic argument for the origin of states because of its functions to society as a whole is: (1) there are gains to be made from organized human cooperation and coordination; (2) advanced societies are organized to exploit these opportunities; and (3) these opportunities are the reason why states evolved.

Thomas Hobbes advanced an early, hardheaded, argument of this sort. For him a state, the Leviathan, was necessary to ensure public peace, otherwise there would exist a state of "war of all against all". People would voluntarily give over their freedoms even to the most dictatorial government because anarchy was worse. (Hobbes was politically active during the period of the English Revolution (1640s) and knew his anarchy first hand.) This is not too farfetched. As we have seen, some simple societies approximate this state. It is said that many New Guinea highlanders welcomed the White Australians, because they brought police who suppressed warfare. Much as Hobbes and the deterrence theory would lead us to expect, people often have to fight when they would rather not, and states can "secure domestic tranquility;"as the United States Constitution says.

Advanced chiefdoms and states do suppress internal violence, although formal legal codes tend to arise fairly late. Chiefs seem reluctant to risk their authority by taking too much responsibility for administering justice. Rather, they seem to offer a sort of mediation service, with self-help violence remaining the ultimate recourse in disputes.[8] States typically have some sort of court system, but often it is far short of a comprehensive legal/penal system as we know it. Chiefdoms and states do regularly provide for defense against foreign enemies and major internal revolt. Chiefs and kings obviously are interested in these activities, but the interest of governor and governed perhaps largely coincide here. At least,

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8. This contrasts with contemporary Western legal systems where those behaviors that are most deleterious to society are identified as *crimes*. When a criminal act is committed, it is by law a crime against the state rather than against an individual victim. In this fashion, the state interposes itself between disputants so as to nip cycles of vendetta in the bud.

population densities seem to rise as states suppress small-scale violence and prevent constant predatory raiding. Recall the tendency of the population of China to fall in times of political trouble; this seems to be a common pattern. The same territory can support a considerably higher population, perhaps twice or more as high, if states suppress local violence.

Of course, states themselves are responsible for much large-scale violence. International anarchy still prevails, and states have fought wars between themselves with a fair frequency. There is undoubtedly an arms race built into the evolution of states that can run as fast as technical and institutional innovations permitting the increase in scale of political organization can occur. Presumably, the last 5,000 years have been spent on this escalatory spiral. Perhaps the best times in this regard were the periods of unchallenged hegemony by large empires, such as the Chinese, Roman, and British. In such cases, international and domestic peace prevailed over large areas for significant periods of time. Unfortunately, statesmen have not discovered how to make such structures popular, stable, and competent in the long run. The former Yugoslavia's recent troubles are dramatic but not so exceptional, as we saw in Chapter 18.

Clearly, everyone can be better off if large-scale public works like irrigation facilities can be organized, and if specialization and trade among specialists are possible under the protection of a political authority (recall the protection rents argument from Chapter 21). Other integrative suggestions are Karl Wittfogel's hydraulic hypothesis that the earliest states were based upon the organization of irrigation schemes, and Elman Service's idea that political authority arose to supervise trade and redistribution. Given the strong religious ideology in states, even temples can be interpreted as a kind of public works for collective benefit. Both chiefs and commoners apparently believe that intercession with the gods is absolutely necessary for society to function. As we saw in the Hawaiian case, chiefs were interested in public works and the management of redistribution. A strong chiefdom was a rich and happy one, so one might argue that chiefs were motivated to keep at least one eye on the common welfare.

D. Coercive Theories

The governing elite of a state society often arises by conquest. Carniero (1970) developed a classic argument that coercion is basic to state formation, and gives an account of its long history. Military victory of one society over another is common. If the winner of a military conflict can permanently control the defeated, they can set themselves up as an hereditary, exploitative elite. Carneiro imagines that no independent community would willingly place itself under an overlord, especially one that claimed an right to rule by su-

periority of birth. Even when defeated in war, people will ordinarily seek to escape their conquerors by movement to new lands. Indeed history is full of population movements motivated by an effort to escape more powerful groups. Most of the present European ethnic groups were once refugees from the pastoral warfare of Central Eurasia, for example. Carneiro thinks that these efforts will fail when agricultural or horticultural populations are "circumscribed", when they cannot escape conquest for one reason or another. His examples include irrigation farmers, who, once densities were more than moderate, face starvation if they tried to escape into the desert after loss of a war. The farmers of a Peruvian Coastal Valley, for example, cannot realistically hope to flee into the rainless waste to escape conquest. However, forest horticulturalists in Amazonia could easily flee to new, similar, relatively empty territory if defeated. Similarly, the buildup of population density can hem people in with other people. In the circumscribed cases, the vanquished have to submit to whatever their conquerors desire to impose. What the conquerors desire is to live as kings and lords at the expense of the defeated.

History and archaeology give ample evidence that this process has been important. For example, the early Mesopotamian city-states based apparently on a religious elite rather soon gave way to ones dominated by military aristocrats, although, of course, the religious center of power remained, as it does to this day. Cities became fortified, and strong cities began to attempt multi-city empires. Very commonly, barbarian warlords either created states of their own or inserted themselves as the elite of existing ones, especially after the rise of pastoral societies. Saddam Hussein draws on a deep, if rather dark, tradition of statecraft, whose development began in his own Mesopotamia, modern Iraq.

Another coercive theory of Marxist inspiration imagines that states grow up to protect class interests. Essentially, the idea is that some people tend to become more prosperous than others because of economics, ecology, or chance. The lucky ones then develop state institutions, including a mystifying state religion in order to protect and enlarge the economic or prestige advantages of their class. The rise of the *nomenklatura* (members of the Communist Party recruited as government bureaucrats) in the former USSR to the status of aristocrats during this century might be considered an example of this—although probably not the example most marxists would prefer to use!

E. Hypotheses Not Mutually Exclusive

The Polynesian case illustrates phenomena explicable by both variants of conflict hypotheses. Chiefdoms certainly did not enlarge until population grew to the point that some groups could not escape conquest by migration. Moreover, chiefly conquests were an important means of increasing the scale of political organization. Further, the exaltation of

chiefly lineages, and the subdivision of Hawaiian society into two class-like strata does have a marxist flavor. Those lineages endowed with higher status by the ancestral Polynesian ideology certainly did manage to greatly exalt that status in the course of political evolution on the larger islands. On the integrative side, chiefs did organize great collective enterprises, use their resources to help everyone in times of disaster, and suppress local feud and murder. The coercive and integrative hypotheses are usually debated as if we must choose one or the other. It would seem, however, that we can mix or match them.

IV. Experimental Tests

A. Introduction to the Experiments of Insko et al. (1980, 1983)

Social psychologists have developed a nice experimental system for testing such hypotheses using artificial societies in the laboratory. The hypotheses discussed in the foregoing section have been developed from the historical, archaeological and ethnographic record. At first glance, an *experimental* test of these ideas seems absurd. Not so. These experiments are very interesting despite their artificiality. Remember, any experimental system is highly artificial. But what we sacrifice in artificiality we get back to some extent in terms of an ability to control variables, and at least understand the experimental system in some detail. Experiments thus often give us insights obtainable in no other way. The first of these experiments was done by Donald Campbell (Jacobs and Campbell, 1961), whose ideas on cultural evolution we have met before.

Insko et al. set out to test the coercive theory of Carneiro and the voluntaristic theory developed by Service. Service (1975) figured that stratification would have emerged first in the context of trade or redistribution. For example, in a collection of agricultural villages, some village would have a central location or a geographic advantage that would naturally make it richer as trade developed. Other societies would then come to recognize them as the natural social leaders. Stratification of the tribe type would emerge first from this natural trade-derived leadership. State type stratification would emerge later. After testing Service's voluntaristic theory, Insko et al. went on to compare this sort of explanation of the origin of stratification with one derived from conquest.

B. Design of the Experiments

Insko et al. set up artificial societies in the lab that lasted for nine "generations". Each society was composed of four people (undergrad Psychology 1 students as usual) of the same sex. Each generation after the first three, the oldest member of the group "died", was debriefed, given tests, and replaced by a naive subject.

Two basic types of societies were set up to mimic three societies living in a common

circumscribed valley. Society B was the central society with the richest resources and was central in the trade network. Societies A & C were peripheral and had less resources. To mimic resource distributions, each society folded origami, paper hats and boats and such. Society B could make two different products, while societies A & C could make only one, but different ones. To mimic the idea that specialization and trade can lead to higher payoffs for everyone, the experimenters bought sets of products from the societies for quarters. The most valuable sets were ones composed of all four types of products. The least valuable were sets composed entirely of the products of groups A and C; the two products of group B were of intermediate value. The payoff ratio was 4 units for A or C products alone, 10 units for B products alone, and 16 units for trading sets. Thus, there was a real advantage to exchange, especially for the A & C groups. However, groups A & C could not control the terms of trade.

To mimic the voluntaristic hypothesis, the groups could trade a total of four times per generation, after a work period in which they folded origami and selected a representative. However, both the A & C groups could only trade with group B's representative, not with each other. Other than that, A & C groups were free to negotiate the best deal they could.

To mimic the coercive hypothesis, the subjects were given an anagram test. The test was a sham, subjects slated at random to be in group B were given an easy test, those in groups A & C a hard one. The experimenters used the test "results" to encourage subjects in Group B to think themselves naturally superior to individuals in groups A & C, and to encourage A & C individuals to believe that they were inferior. To mimic coercion instead of trading, group B representatives collected the production of groups A & C and returned to them whatever group B members thought appropriate. Also, at the end of a trading period, they got all of group A & C's leftover products (those that could not be made into sets).

C. Results

The experimenters tested a number of effects in this series of experiments. We will focus on a few, production and money earned[9], amount of conflict between groups, and perceived leadership within and between groups.

> *Production and money earned: see Tables 1 & 2 from Insko et al. overleaf.*
> There are some quite interesting effects here. Both measures show that coercion reduces total production and income, relative to free trade. Conditions tend to improve over time for all groups, as cultural evolution improves trading and production skills. Group B worked less hard in Carneiro treatment, and so did their exploited A & C groups. However, the B groups tended to earn about the same income in both treatments, although the Carneiro treatment A & C

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9. These were different because of the differential payoff schedule favoring members of group B.

groups did rather poorly. Notice the strong sex effect, A & C females did well in the Service group but quite poorly in the Carneiro treatment.

The amount of conflict between groups. See table 4 from Insko et al. overleaf. Conflict was substantially higher in the Carneiro than in the Service condition, especially for males. Men in Carneiro societies A & C actually did attempt to sabotage, strike, and otherwise influence society B to treat them better—eventually with some success. Women tended to be more acquiescent to exploitation of society B.

Leadership results. Within groups, there was a strong tendency for a seniority rule to evolve over time. Most subjects perceived that group B were the leaders. Most group B members naturally accepted this state of affairs (mean of 6.5 on a 7 point scale). Acceptance by A & C members was lower, especially in the Carneiro condition (Service acceptance was 4.02, under Carneiro it was 3.10).

Informal differences in the results. The experimenters also report strong informal differences between the two treatments. The Service condition subjects had fun, the Carneiro ones did not. Society B, Carneiro treatment, subjects were often quite callous toward society A & C members. As time passed these society B members tended less and less to perceive themselves as being unfair; the ideology of innate superiority encouraged by the experimenters seemed to occur.

This experiment hardly solves all of the problems associated with the origin of states, but it does give us some useful insights. The first is that laboratory microsocieties can be set up, and made to perform in sensible ways. Since actual human behaviors are evolving here, the technique seems to furnish useful experimental models for a number of problems. Second, as far as it goes, the experiment suggests that both trade and warfare could be important in the creation of complex, stratified societies. Especially in the integrative case, this kind of society might make everyone better off, although some relatively better off than others. The coercive state is not so successful here. However, the dominant class is just about as well off as in the volutaristic case, so they have no special motivation to change. On the other hand, there is considerably more social friction in the coercive case, and such societies ought to be less stable. The Carneiro and Service style states might represent coordination or coevolutionarily stable alternative states. The more functional Service state might replace the Carneiro one by group selection.

As judged against the historical record, the most unrealistic prediction one might make from these experiments is that integrative principles should tend to dominate coercive principles. Since the experimental integrative (i.e., Service) groups were wealthier, had more acceptance of B's leadership, and were less plagued by overt conflict, they ought to win the competitions among states in the long run. Historically, coercive states seem to

Table 1
Production

	Service condition			Carneiro condition		
Generation	Groups A and C	Group B	Total	Groups A and C	Group B	Total
1	44.59	56.18	145.36	38.25	54.23	130.73
2	44.34	63.04	151.72	30.08	53.75	113.91
3	49.42	68.25	167.09	32.50	59.93	124.93
4	55.16	80.63	190.95	37.08	69.30	143.46
5	62.84	86.89	212.57	39.16	71.00	149.32
6	68.50	90.50	227.50	39.75	76.65	156.15
7	72.50	91.02	236.02	40.34	77.25	157.93
8	77.25	90.20	244.70	38.50	78.00	155.00
9	70.00	97.96	237.96	41.42	75.80	158.64

Note. The numbers of products for Groups A and C are the means for both groups. The mean number of products for Group B has been transformed by the equation $(.545)$ (number of hats) + (number of boats). The entries in the Total columns are the sums of the means across the three groups.

Table 2
Money Earned

	Service condition						Carneiro condition					
	Male groups			Female groups			Male groups			Female groups		
Generation	A & C	B	Total	A & C	B	Total	A & C	B	Total	A & C	B	Total
1	6.67	16.67	30.00	5.00	19.00	29.00	3.33	20.00	26.67	.33	32.00	32.67
2	7.17	17.00	31.33	6.17	18.33	30.67	3.33	12.67	19.33	3.83	31.00	38.67
3	8.17	24.00	40.33	6.50	19.33	32.33	4.17	10.00	18.33	4.33	27.33	36.00
4	7.33	25.67	40.33	8.83	23.00	40.67	5.50	17.00	28.00	4.67	27.00	36.33
5	9.67	30.33	49.67	9.83	21.67	41.37	5.00	16.00	26.00	6.00	30.33	42.33
6	13.00	28.00	54.00	10.50	24.00	45.00	4.50	16.67	25.67	4.50	32.67	41.67
7	9.33	24.33	43.00	12.50	23.00	48.00	8.33	15.00	31.67	5.17	27.67	38.00
8	13.17	26.67	53.00	11.67	25.67	49.00	7.67	19.67	35.00	4.33	27.33	36.00
9	10.17	25.00	45.33	12.33	28.00	52.17	7.50	21.67	36.67	3.83	29.00	36.67

Note. One unit equals one quarter. The mean numbers of quarters for Groups A and C are the means for both groups. The entries in the Total columns are the sums of the means across the three groups.

Table 4
Mean Triple S Rhetoric (Strikes, Slowdowns, Sabotage)

	Service condition				Carneiro condition			
	Male groups		Female groups		Male groups		Female groups	
Generation	A & C	B	A & C	B	A & C	B	A & C	B
1	.17	.33	.83	.00	1.33	.00	1.00	.00
2	.00	.00	.50	.33	2.67	.00	1.17	.00
3	.50	.00	1.17	.00	1.67	.00	1.17	.00
4	.00	.00	1.50	.00	.50	.00	.17	.00
5	.17	.00	.17	.00	1.67	.00	.17	.00
6	.00	.00	.00	.00	2.17	1.33	.83	.00
7	.00	.00	.00	.00	.83	.00	1.17	.00
8	.33	.00	.00	.67	1.67	.00	.83	.00
9	.17	.00	.17	.33	.50	.00	.00	.00

Note. The entries represent the mean number of statements by subjects advocating strikes, slowdowns, or sabotage (of products). The numbers were averaged across the four subjects in each group. For the A & C columns, the entries are means across both groups.

have been at least as common as voluntaristic ones. One possibility is that coercive states may actually tend to become more like integrative ones over time, as we'll see in the conclusions.

There is also another possibility. *Perhaps voluntarism is easier to achieve in small political units, and is more common at the tribal level.* Often, tribesmen were the conquerors of states, so perhaps their organizational superiority expressed itself in conquest. Mancur Olson (1982) suggests that small political units can organize themselves more rapidly and easily for their own self interest. By contrast, large political units, particularly those that are not coercively organized, may often not be able to organize themselves as readily. People interested in the collapse of states have often argued that ancient states tended to become ossified over time. Perhaps the increasingly intricate organization of selfish interest groups within the ruling elites, combined with the disaffection of the peasants and artisans regularly led these states to a regression to the tribal level of political organization. Recall the arguments from the early part of the course on the difficulty of evolving (and maintaining) the altruism necessary to ensure cooperation and produce public goods in large groups.

V. Conclusions

It seems likely that, as the Insko experiments suggest, both coercive and integrative processes can lead to stratification, and that in most cases the two are intertwined in the origin and subsequent evolution of states. At least this would account for the dual nature of stratified societies. Well organized trade and redistribution of goods, public peace, and public works do tend to make most people better off than they otherwise would be (most citizens have some voluntary loyalty to existing political arrangements in most states). However, elites generally find ways to secure more than their "fair" share of the advantages of the state's existence. Most citizens' loyalty is provisional, and this can promote revolution or sedition if the elites are too harsh, if they see any alternative. W. McNeill (1982) suggests that this is the case (see Chapter 21). Conquering warlords often seem to gradually implement administrative reforms that reduce their impact on the peasants.

For example, the Turkish expansion at the expense of the Byzantines around 1,500 was apparently welcomed by Anatolian and Balkan peasants, because the Byzantine elites had grown rather corrupt and exploitative. Even when the coercive power is concentrated in the hands of an elite, "strikes, slowdowns, and sabotage" are a partially effective means of limiting the degree of exploitation. But no state on record has been entirely egalitarian. The Hawaiian case seems to rather strongly suggest this tangling of the coercive and inte-

grative processes to me.

Much work remains to be done on the evolutionary theory of the state. Some sort of game theoretic analysis that yields a mixed strategy of exploitation *and* provision of public goods as the ESS seems required here, but to my knowledge one hasn't been done yet. The analysis would involve asymmetric games. The commoners have some power, but the elites have more. If commoners engage in strikes, slowdowns and sabotage, they can make life fairly miserable for elites, though elites can make like much more miserable for commoners. Thus, internal processes will tend to prevent the worst possible exploitation of the commoners. Also, too-harsh elites may tend to get replaced through a group selection mechanism. Any analysis will have to explain why the political processes in states are so turbulent and why this game does not seem to remain at some stable equilibrium for long. One suggestion, by Jack Goldstone (1986), is that population increases rapidly under benevolent governments, more rapidly than technology can respond. Thus, the prosperity engendered by wise policies evaporates, unrest rises, rebellion and invasion occur, the population falls as a result of war and disease, and the cycle can begin again.

We hope this chapter suggests to you that historical research, field research among contemporary groups, experimental studies, and theory all have contributions to make to understanding the complex problems in human ecology and evolution. It is hard to see how efficient progress can be made by any one in isolation of the others. In our opinion, too many scientists disparage the methodological approaches of others—theorists despise empiricists, psychologists anthropologists, economists psychologists, etc. Classically, the social science disciplines have specialized as much with respect to method as to subject matter. Thus psychologists do experiments, anthropologists do description by participant observation, economists do formal theory and analyze government statistics, and sociologists and political scientists do surveys. Each discipline has a stock defense of its own methods and a ritualistic denigration of those of sister disciplines. However, each discipline's methods only sees a partial and distorted view of the whole. We need each other!

VI. Summary

A. Concepts: states vs. chiefdoms
B. Discovery: covariation of states, stratification, complex society
C. Hypotheses: Coercive vs. voluntaristic role for non-adaptive variation
D. Model: Strategic interaction between elites and commoners (strike, sabotage, slow-downs)

VI. Bibliographic Notes

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