

diffusion, and onset of food production exerted on the rise of technology became exaggerated, because technology catalyzes itself. Eurasia's considerable initial advantage thereby was translated into a huge lead as of A.D. 1492—for reasons of Eurasia's distinctive geography rather than of distinctive human intellect. The New Guineans whom I know include potential Edisons. But they directed their ingenuity toward technological problems appropriate to their situations: the problems of surviving without any imported items in the New Guinea jungle, rather than the problem of inventing phonographs.

JARED DIAMOND - EXTRACT FROM
GUNS, GERMS, STEEL

CHAPTER 14

FROM EGALITARIANISM TO KLEPTOCRACY

IN 1979, WHILE I WAS FLYING WITH MISSIONARY FRIENDS over a remote swamp-filled basin of New Guinea, I noticed a few huts many miles apart. The pilot explained to me that, somewhere in that muddy expanse below us, a group of Indonesian crocodile hunters had recently come across a group of New Guinea nomads. Both groups had panicked, and the encounter had ended with the Indonesians shooting several of the nomads.

My missionary friends guessed that the nomads belonged to an uncontacted group called the Fayu, known to the outside world only through accounts by their terrified neighbors, a missionized group of erstwhile nomads called the Kirikiri. First contacts between outsiders and New Guinea groups are always potentially dangerous, but this beginning was especially inauspicious. Nevertheless, my friend Doug flew in by helicopter to try to establish friendly relations with the Fayu. He returned, alive but shaken, to tell a remarkable story.

It turned out that the Fayu normally lived as single families, scattered through the swamp and coming together once or twice each year to negotiate exchanges of brides. Doug's visit coincided with such a gathering, of a few dozen Fayu. To us, a few dozen people constitute a small, ordinary gathering, but to the Fayu it was a rare, frightening event. Murderers sud-

denly found themselves face-to-face with their victim's relatives. For example, one Fayu man spotted the man who had killed his father. The son raised his ax and rushed at the murderer but was wrestled to the ground by friends; then the murderer came at the prostrate son with an ax and was also wrestled down. Both men were held, screaming in rage, until they seemed sufficiently exhausted to be released. Other men periodically shouted insults at each other, shook with anger and frustration, and pounded the ground with their axes. That tension continued for the several days of the gathering, while Doug prayed that the visit would not end in violence.

The Fayu consist of about 400 hunter-gatherers, divided into four clans and wandering over a few hundred square miles. According to their own account, they had formerly numbered about 2,000, but their population had been greatly reduced as a result of Fayu killing Fayu. They lacked political and social mechanisms, which we take for granted, to achieve peaceful resolution of serious disputes. Eventually, as a result of Doug's visit, one group of Fayu invited a courageous husband-and-wife missionary couple to live with them. The couple has now resided there for a dozen years and gradually persuaded the Fayu to renounce violence. The Fayu are thereby being brought into the modern world, where they face an uncertain future.

Many other previously uncontacted groups of New Guineans and Amazonian Indians have similarly owed to missionaries their incorporation into modern society. After the missionaries come teachers and doctors, bureaucrats and soldiers. The spreads of government and of religion have thus been linked to each other throughout recorded history, whether the spread has been peaceful (as eventually with the Fayu) or by force. In the latter case it is often government that organizes the conquest, and religion that justifies it. While nomads and tribespeople occasionally defeat organized governments and religions, the trend over the past 13,000 years has been for the nomads and tribespeople to lose.

At the end of the last Ice Age, much of the world's population lived in societies similar to that of the Fayu today, and no people then lived in a much more complex society. As recently as A.D. 1500, less than 20 percent of the world's land area was marked off by boundaries into states run by bureaucrats and governed by laws. Today, all land except Antarctica's is so divided. Descendants of those societies that achieved centralized government and organized religion earliest ended up dominating the modern

world. The combination of government and religion has thus functioned, together with germs, writing, and technology, as one of the four main sets of proximate agents leading to history's broadest pattern. How did government and religion arise?

FAYU BANDS AND modern states represent opposite extremes along the spectrum of human societies. Modern American society and the Fayu differ in the presence or absence of a professional police force, cities, money, distinctions between rich and poor, and many other political, economic, and social institutions. Did all of those institutions arise together, or did some arise before others? We can infer the answer to this question by comparing modern societies at different levels of organization, by examining written accounts or archaeological evidence about past societies, and by observing how a society's institutions change over time.

Cultural anthropologists attempting to describe the diversity of human societies often divide them into as many as half a dozen categories. Any such attempt to define stages of any evolutionary or developmental continuum—whether of musical styles, human life stages, or human societies—is doubly doomed to imperfection. First, because each stage grows out of some previous stage, the lines of demarcation are inevitably arbitrary. (For example, is a 19-year-old person an adolescent or a young adult?) Second, developmental sequences are not invariant, so examples pigeonholed under the same stage are inevitably heterogeneous. (Brahms and Liszt would turn in their graves to know that they are now grouped together as composers of the romantic period.) Nevertheless, arbitrarily delineated stages provide a useful shorthand for discussing the diversity of music and of human societies, provided one bears in mind the above caveats. In that spirit, we shall use a simple classification based on just four categories—band, tribe, chiefdom, and state (see Table 14.1)—to understand societies.

Bands are the tiniest societies, consisting typically of 5 to 80 people, most or all of them close relatives by birth or by marriage. In effect, a band is an extended family or several related extended families. Today, bands still living autonomously are almost confined to the most remote parts of New Guinea and Amazonia, but within modern times there were many others that have only recently fallen under state control or been assimilated or exterminated. They include many or most African Pygmies, southern African San hunter-gatherers (so-called Bushmen), Aboriginal

TABLE 14.1 Types of Societies

	<i>Band</i>	<i>Tribe</i>	<i>Chiefdom</i>	<i>State</i>
Membership				
Number of people	dozens	hundreds	thousands	over 50,000
Settlement pattern	nomadic	fixed: 1 village	fixed: 1 or more villages	fixed: many villages and cities
Basis of relationships	kin	kin-based clans	class and residence	class and residence
Ethnicities and languages	1	1	1	1 or more
Government				
Decision making, leadership	"egalitarian"	"egalitarian" or big-man	centralized, hereditary	centralized
Bureaucracy	none	none	none, or 1 or 2 levels	many levels
Monopoly of force and information	no	no	yes	yes
Conflict resolution	informal	informal	centralized	laws, judges
Hierarchy of settlement	no	no	no → paramount village	capital

Australians, Eskimos (Inuit), and Indians of some resource-poor areas of the Americas such as Tierra del Fuego and the northern boreal forests. All those modern bands are or were nomadic hunter-gatherers rather than settled food producers. Probably all humans lived in bands until at least 40,000 years ago, and most still did as recently as 11,000 years ago.

Bands lack many institutions that we take for granted in our own society. They have no permanent single base of residence. The band's land is used jointly by the whole group, instead of being partitioned among subgroups or individuals. There is no regular economic specialization, except by age and sex: all able-bodied individuals forage for food. There are no formal institutions, such as laws, police, and treaties, to resolve conflicts within and between bands. Band organization is often described as

	<i>Band</i>	<i>Tribe</i>	<i>Chiefdom</i>	<i>State</i>
Religion				
Justifies kleptocracy?	no	no	yes	yes → no
Economy				
Food production	no	no → yes	yes → intensive	intensive
Division of labor	no	no	no → yes	yes
Exchanges	reciprocal	reciprocal	redistributive ("tribute")	redistributive ("taxes")
Control of land	band	clan	chief	various
Society				
Stratified	no	no	yes, by kin	yes, not by kin
Slavery	no	no	small-scale	large-scale
Luxury goods for elite	no	no	yes	yes
Public architecture	no	no	no → yes	yes
Indigenous literacy	no	no	no	often

A horizontal arrow indicates that the attribute varies between less and more complex societies of that type.

"egalitarian": there is no formalized social stratification into upper and lower classes, no formalized or hereditary leadership, and no formalized monopolies of information and decision making. However, the term "egalitarian" should not be taken to mean that all band members are equal in prestige and contribute equally to decisions. Rather, the term merely means that any band "leadership" is informal and acquired through qualities such as personality, strength, intelligence, and fighting skills.

My own experience with bands comes from the swampy lowland area of New Guinea where the Fayu live, a region known as the Lakes Plains. There, I still encounter extended families of a few adults with their dependent children and elderly, living in crude temporary shelters along streams and traveling by canoe and on foot. Why do peoples of the Lakes Plains

and almost all other peoples elsewhere in the world, now live in settled larger groups? The explanation is that the region lacks dense local concentrations of resources that would permit many people to live together, and that (until the arrival of missionaries bringing crop plants) it also lacked native plants that could have permitted productive farming. The bands' food staple is the sago palm tree, whose core yields a starchy pith when the palm reaches maturity. The bands are nomadic, because they must move when they have cut the mature sago trees in an area. Band numbers are kept low by diseases (especially malaria), by the lack of raw materials in the swamp (even stone for tools must be obtained by trade), and by the limited amount of food that the swamp yields for humans. Similar limitations on the resources accessible to existing human technology prevail in the regions of the world recently occupied by other bands.

Our closest animal relatives, the gorillas and chimpanzees and bonobos of Africa, also live in bands. All humans presumably did so too, until improved technology for extracting food allowed some hunter-gatherers to settle in permanent dwellings in some resource-rich areas. The band is the political, economic, and social organization that we inherited from our millions of years of evolutionary history. Our developments beyond it all took place within the last few tens of thousands of years.

THE FIRST OF those stages beyond the band is termed the tribe, which differs in being larger (typically comprising hundreds rather than dozens of people) and usually having fixed settlements. However, some tribes and even chiefdoms consist of herders who move seasonally.

Tribal organization is exemplified by New Guinea highlanders, whose political unit before the arrival of colonial government was a village or else a close-knit cluster of villages. This political definition of "tribe" is thus often much smaller than what linguists and cultural anthropologists would define as a tribe—namely, a group that shares language and culture. For example, in 1964 I began to work among a group of highlanders known as the Foré. By linguistic and cultural standards, there were then 12,000 Foré, speaking two mutually intelligible dialects and living in 65 villages of several hundred people each. But there was no political unity whatsoever among villages of the Foré language group. Each hamlet was involved in a kaleidoscopically changing pattern of war and shifting alli-

were Foré or speakers of a different language.

Tribes, recently independent and now variously subordinated to national states, still occupy much of New Guinea, Melanesia, and Amazonia. Similar tribal organization in the past is inferred from archaeological evidence of settlements that were substantial but lacked the archaeological hallmarks of chiefdoms that I shall explain below. That evidence suggests that tribal organization began to emerge around 13,000 years ago in the Fertile Crescent and later in some other areas. A prerequisite for living in settlements is either food production or else a productive environment with especially concentrated resources that can be hunted and gathered within a small area. That's why settlements, and by inference tribes, began to proliferate in the Fertile Crescent at that time, when climate changes and improved technology combined to permit abundant harvests of wild cereals.

Besides differing from a band by virtue of its settled residence and its larger numbers, a tribe also differs in that it consists of more than one formally recognized kinship group, termed clans, which exchange marriage partners. Land belongs to a particular clan, not to the whole tribe. However, the number of people in a tribe is still low enough that everyone knows everyone else by name and relationships.

For other types of human groups as well, "a few hundred" seems to be an upper limit for group size compatible with everyone's knowing everybody. In our state society, for instance, school principals are likely to know all their students by name if the school contains a few hundred children, but not if it contains a few thousand children. One reason why the organization of human government tends to change from that of a tribe to that of a chiefdom in societies with more than a few hundred members is that the difficult issue of conflict resolution between strangers becomes increasingly acute in larger groups. A fact further diffusing potential problems of conflict resolution in tribes is that almost everyone is related to everyone else, by blood or marriage or both. Those ties of relationships binding all tribal members make police, laws, and other conflict-resolving institutions of larger societies unnecessary, since any two villagers getting into an argument will share many kin, who apply pressure on them to keep it from becoming violent. In traditional New Guinea society, if a New Guinean happened to encounter an unfamiliar New Guinean while both were away from their respective villages, the two engaged in a long discussion of their

relatives, in an attempt to establish some relationship and hence some reason why the two should not attempt to kill each other.

Despite all of these differences between bands and tribes, many similarities remain. Tribes still have an informal, "egalitarian" system of government. Information and decision making are both communal. In the New Guinea highlands, I have watched village meetings where all adults in the village were present, sitting on the ground, and individuals made speeches, without any appearance of one person's "chairing" the discussion. Many highland villages do have someone known as the "big-man," the most influential man of the village. But that position is not a formal office to be filled and carries only limited power. The big-man has no independent decision-making authority, knows no diplomatic secrets, and can do no more than attempt to sway communal decisions. Big-men achieve that status by their own attributes; the position is not inherited.

Tribes also share with bands an "egalitarian" social system, without ranked lineages or classes. Not only is status not inherited; no member of a traditional tribe or band can become disproportionately wealthy by his or her own efforts, because each individual has debts and obligations to many others. It is therefore impossible for an outsider to guess, from appearances, which of all the adult men in a village is the big-man: he lives in the same type of hut, wears the same clothes or ornaments, or is as naked, as everyone else.

Like bands, tribes lack a bureaucracy, police force, and taxes. Their economy is based on reciprocal exchanges between individuals or families, rather than on a redistribution of tribute paid to some central authority. Economic specialization is slight: full-time crafts specialists are lacking, and every able-bodied adult (including the big-man) participates in growing, gathering, or hunting food. I recall one occasion when I was walking past a garden in the Solomon Islands, saw a man digging and waving at me in the distance, and realized to my astonishment that it was a friend of mine named Faletau. He was the most famous wood carver of the Solomons, an artist of great originality—but that did not free him of the necessity to grow his own sweet potatoes. Since tribes thus lack economic specialists, they also lack slaves, because there are no specialized menial jobs for a slave to perform.

Just as musical composers of the classical period range from C. P. E. Bach to Schubert and thereby cover the whole spectrum from baroque composers to romantic composers, tribes also shade into bands at one

extreme and into chiefdoms at the opposite extreme. In particular, a tribal big-man's role in dividing the meat of pigs slaughtered for feasts points to the role of chiefs in collecting and redistributing food and goods—now reconstrued as tribute—in chiefdoms. Similarly, presence or absence of public architecture is supposedly one of the distinctions between tribes and chiefdoms, but large New Guinea villages often have cult houses (known as *haus tamburan*, on the Sepik River) that presage the temples of chiefdoms.

ALTHOUGH A FEW bands and tribes survive today on remote and ecologically marginal lands outside state control, fully independent chiefdoms had disappeared by the early twentieth century, because they tended to occupy prime land coveted by states. However, as of A.D. 1492, chiefdoms were still widespread over much of the eastern United States, in productive areas of South and Central America and sub-Saharan Africa that had not yet been subsumed under native states, and in all of Polynesia. The archaeological evidence discussed below suggests that chiefdoms arose by around 5500 B.C. in the Fertile Crescent and by around 1000 B.C. in Mesoamerica and the Andes. Let us consider the distinctive features of chiefdoms, very different from modern European and American states and, at the same time, from bands and simple tribal societies.

As regards population size, chiefdoms were considerably larger than tribes, ranging from several thousand to several tens of thousands of people. That size created serious potential for internal conflict because, for any person living in a chiefdom, the vast majority of other people in the chiefdom were neither closely related by blood or marriage nor known by name. With the rise of chiefdoms around 7,500 years ago, people had to learn, for the first time in history, how to encounter strangers regularly without attempting to kill them.

Part of the solution to that problem was for one person, the chief, to exercise a monopoly on the right to use force. In contrast to a tribe's big-man, a chief held a recognized office, filled by hereditary right. Instead of the decentralized anarchy of a village meeting, the chief was a permanent centralized authority, made all significant decisions, and had a monopoly on critical information (such as what a neighboring chief was privately threatening, or what harvest the gods had supposedly promised). Unlike big-men, chiefs could be recognized from afar by visible distinguishing

features, such as a large fan worn over the back on Rennell Island in the Southwest Pacific. A commoner encountering a chief was obliged to perform ritual marks of respect, such as (on Hawaii) prostrating oneself. The chief's orders might be transmitted through one or two levels of bureaucrats, many of whom were themselves low-ranked chiefs. However, in contrast to state bureaucrats, chiefdom bureaucrats had generalized rather than specialized roles. In Polynesian Hawaii the same bureaucrats (termed *konohiki*) extracted tribute *and* oversaw irrigation *and* organized labor *corvées* for the chief, whereas state societies have separate tax collectors, water district managers, and draft boards.

A chiefdom's large population in a small area required plenty of food, obtained by food production in most cases, by hunting-gathering in a few especially rich areas. For example, American Indians of the Pacific Northwest coast, such as the Kwakiutl, Nootka, and Tlingit Indians, lived under chiefs in villages without any agriculture or domestic animals, because the rivers and sea were so rich in salmon and halibut. The food surpluses generated by some people, relegated to the rank of commoners, went to feed the chiefs, their families, bureaucrats, and crafts specialists, who variously made canoes, adzes, or spittoons or worked as bird catchers or tattooers.

Luxury goods, consisting of those specialized crafts products or else rare objects obtained by long-distance trade, were reserved for chiefs. For example, Hawaiian chiefs had feather cloaks, some of them consisting of tens of thousands of feathers and requiring many human generations for their manufacture (by commoner cloak makers, of course). That concentration of luxury goods often makes it possible to recognize chiefdoms archaeologically, by the fact that some graves (those of chiefs) contain much richer goods than other graves (those of commoners), in contrast to the egalitarian burials of earlier human history. Some ancient complex chiefdoms can also be distinguished from tribal villages by the remains of elaborate public architecture (such as temples) and by a regional hierarchy of settlements, with one site (the site of the paramount chief) being obviously larger and having more administrative buildings and artifacts than other sites.

Like tribes, chiefdoms consisted of multiple hereditary lineages living at one site. However, whereas the lineages of tribal villages are equal-ranked clans, in a chiefdom all members of the chief's lineage had hereditary perquisites. In effect, the society was divided into hereditary chief and commoner classes, with Hawaiian chiefs themselves subdivided into eight

hierarchically ranked lineages, each concentrating its marriages within its own lineage. Furthermore, since chiefs required menial servants as well as specialized craftspeople, chiefdoms differed from tribes in having many jobs that could be filled by slaves, typically obtained by capture in raids.

The most distinctive economic feature of chiefdoms was their shift from reliance solely on the reciprocal exchanges characteristic of bands and tribes, by which A gives B a gift while expecting that B at some unspecified future time will give a gift of comparable value to A. We modern state dwellers indulge in such behavior on birthdays and holidays, but most of our flow of goods is achieved instead by buying and selling for money according to the law of supply and demand. While continuing reciprocal exchanges and without marketing or money, chiefdoms developed an additional new system termed a redistributive economy. A simple example would involve a chief receiving wheat at harvest time from every farmer in the chiefdom, then throwing a feast for everybody and serving bread or else storing the wheat and gradually giving it out again in the months between harvests. When a large portion of the goods received from commoners was not redistributed to them but was retained and consumed by the chiefly lineages and craftspeople, the redistribution became tribute, a precursor of taxes that made its first appearance in chiefdoms. From the commoners the chiefs claimed not only goods but also labor for construction of public works, which again might return to benefit the commoners (for example, irrigation systems to help feed everybody) or instead benefited mainly the chiefs (for instance, lavish tombs).

We have been talking about chiefdoms generically, as if they were all the same. In fact, chiefdoms varied considerably. Larger ones tended to have more powerful chiefs, more ranks of chiefly lineages, greater distinctions between chiefs and commoners, more retention of tribute by the chiefs, more layers of bureaucrats, and grander public architecture. For instance, societies on small Polynesian islands were effectively rather similar to tribal societies with a big-man, except that the position of chief was hereditary. The chief's hut looked like any other hut, there were no bureaucrats or public works, the chief redistributed most goods he received back to the commoners, and land was controlled by the community. But on the largest Polynesian islands, such as Hawaii, Tahiti, and Tonga, chiefs were recognizable at a glance by their ornaments, public works were erected by large labor forces, most tribute was retained by the chiefs, and all land was controlled by them. A further gradation among societies with ranked

lineages was from those where the political unit was a single autonomous village, to those consisting of a regional assemblage of villages in which the largest village with a paramount chief controlled the smaller villages with lesser chiefs.

BY NOW, IT should be obvious that chiefdoms introduced the dilemma fundamental to all centrally governed, nonegalitarian societies. At best, they do good by providing expensive services impossible to contract for on an individual basis. At worst, they function unabashedly as kleptocracies, transferring net wealth from commoners to upper classes. These noble and selfish functions are inextricably linked, although some governments emphasize much more of one function than of the other. The difference between a kleptocrat and a wise statesman, between a robber baron and a public benefactor, is merely one of degree: a matter of just how large a percentage of the tribute extracted from producers is retained by the elite, and how much the commoners like the public uses to which the redistributed tribute is put. We consider President Mobutu of Zaire a kleptocrat because he keeps too much tribute (the equivalent of billions of dollars) and redistributes too little tribute (no functioning telephone system in Zaire). We consider George Washington a statesman because he spent tax money on widely admired programs and did not enrich himself as president. Nevertheless, George Washington was born into wealth, which is much more unequally distributed in the United States than in New Guinea villages.

For any ranked society, whether a chiefdom or a state, one thus has to ask: why do the commoners tolerate the transfer of the fruits of their hard labor to kleptocrats? This question, raised by political theorists from Plato to Marx, is raised anew by voters in every modern election. Kleptocracies with little public support run the risk of being overthrown, either by downtrodden commoners or by upstart would-be replacement kleptocrats seeking public support by promising a higher ratio of services rendered to fruits stolen. For example, Hawaiian history was repeatedly punctuated by revolts against repressive chiefs, usually led by younger brothers promising less oppression. This may sound funny to us in the context of old Hawaii, until we reflect on all the misery still being caused by such struggles in the modern world.

What should an elite do to gain popular support while still maintaining

a more comfortable lifestyle than commoners? Kleptocrats throughout the ages have resorted to a mixture of four solutions:

1. Disarm the populace, and arm the elite. That's much easier in these days of high-tech weaponry, produced only in industrial plants and easily monopolized by an elite, than in ancient times of spears and clubs easily made at home.

2. Make the masses happy by redistributing much of the tribute received, in popular ways. This principle was as valid for Hawaiian chiefs as it is for American politicians today.

3. Use the monopoly of force to promote happiness, by maintaining public order and curbing violence. This is potentially a big and underappreciated advantage of centralized societies over noncentralized ones. Anthropologists formerly idealized band and tribal societies as gentle and nonviolent, because visiting anthropologists observed no murder in a band of 25 people in the course of a three-year study. Of course they didn't: it's easy to calculate that a band of a dozen adults and a dozen children, subject to the inevitable deaths occurring anyway for the usual reasons other than murder, could not perpetuate itself if in addition one of its dozen adults murdered another adult every three years. Much more extensive long-term information about band and tribal societies reveals that murder is a leading cause of death. For example, I happened to be visiting New Guinea's Iyau people at a time when a woman anthropologist was interviewing Iyau women about their life histories. Woman after woman, when asked to name her husband, named several sequential husbands who had died violent deaths. A typical answer went like this: "My first husband was killed by Elopi raiders. My second husband was killed by a man who wanted me, and who became my third husband. That husband was killed by the brother of my second husband, seeking to avenge his murder." Such biographies prove common for so-called gentle tribespeople and contributed to the acceptance of centralized authority as tribal societies grew larger.

4. The remaining way for kleptocrats to gain public support is to construct an ideology or religion justifying kleptocracy. Bands and tribes already had supernatural beliefs, just as do modern established religions. But the supernatural beliefs of bands and tribes did not serve to justify central authority, justify transfer of wealth, or maintain peace between unrelated individuals. When supernatural beliefs gained those functions and became institutionalized, they were thereby transformed into what we

term a religion. Hawaiian chiefs were typical of chiefs elsewhere, in asserting divinity, divine descent, or at least a hotline to the gods. The chief claimed to serve the people by interceding for them with the gods and reciting the ritual formulas required to obtain rain, good harvests, and success in fishing.

Chiefdoms characteristically have an ideology, precursor to an institutionalized religion, that buttresses the chief's authority. The chief may either combine the offices of political leader and priest in a single person, or may support a separate group of kleptocrats (that is, priests) whose function is to provide ideological justification for the chiefs. That is why chiefdoms devote so much collected tribute to constructing temples and other public works, which serve as centers of the official religion and visible signs of the chief's power.

Besides justifying the transfer of wealth to kleptocrats, institutionalized religion brings two other important benefits to centralized societies. First, shared ideology or religion helps solve the problem of how unrelated individuals are to live together without killing each other—by providing them with a bond not based on kinship. Second, it gives people a motive, other than genetic self-interest, for sacrificing their lives on behalf of others. At the cost of a few society members who die in battle as soldiers, the whole society becomes much more effective at conquering other societies or resisting attacks.

THE POLITICAL, ECONOMIC, and social institutions most familiar to us today are those of states, which now rule all of the world's land area except for Antarctica. Many early states and all modern ones have had literate elites, and many modern states have literate masses as well. Vanished states tended to leave visible archaeological hallmarks, such as ruins of temples with standardized designs, at least four levels of settlement sizes, and pottery styles covering tens of thousands of square miles. We thereby know that states arose around 3700 B.C. in Mesopotamia and around 300 B.C. in Mesoamerica, over 2,000 years ago in the Andes, China, and Southeast Asia, and over 1,000 years ago in West Africa. In modern times the formation of states out of chiefdoms has been observed repeatedly. Thus, we possess much more information about past states and their formation than about past chiefdoms, tribes, and bands.

Protostates extend many features of large paramount (multivillage)

chiefdoms. They continue the increase in size from bands to tribes to chiefdoms. Whereas chiefdoms' populations range from a few thousand to a few tens of thousands, the populations of most modern states exceed one million, and China's exceeds one billion. The paramount chief's location may become the state's capital city. Other population centers of states outside the capital may also qualify as true cities, which are lacking in chiefdoms. Cities differ from villages in their monumental public works, palaces of rulers, accumulation of capital from tribute or taxes, and concentration of people other than food producers.

Early states had a hereditary leader with a title equivalent to king, like a super paramount chief and exercising an even greater monopoly of information, decision making, and power. Even in democracies today, crucial knowledge is available to only a few individuals, who control the flow of information to the rest of the government and consequently control decisions. For instance, in the Cuban Missile Crisis of 1962, information and discussions that determined whether nuclear war would engulf half a billion people were initially confined by President Kennedy to a ten-member executive committee of the National Security Council that he himself appointed; then he limited final decisions to a four-member group consisting of himself and three of his cabinet ministers.

Central control is more far-reaching, and economic redistribution in the form of tribute (renamed taxes) more extensive, in states than in chiefdoms. Economic specialization is more extreme, to the point where today not even farmers remain self-sufficient. Hence the effect on society is catastrophic when state government collapses, as happened in Britain upon the removal of Roman troops, administrators, and coinage between A.D. 407 and 411. Even the earliest Mesopotamian states exercised centralized control of their economies. Their food was produced by four specialist groups (cereal farmers, herders, fishermen, and orchard and garden growers), from each of which the state took the produce and to each of which it gave out the necessary supplies, tools, and foods other than the type of food that this group produced. The state supplied seeds and plow animals to the cereal farmers, took wool from the herders, exchanged the wool by long-distance trade for metal and other essential raw materials, and paid out food rations to the laborers who maintained the irrigation systems on which the farmers depended.

Many, perhaps most, early states adopted slavery on a much larger scale than did chiefdoms. That was not because chiefdoms were more kindly

disposed toward defeated enemies but because the greater economic specialization of states, with more mass production and more public works, provided more uses for slave labor. In addition, the larger scale of state warfare made more captives available.

A chiefdom's one or two levels of administration are greatly multiplied in states, as anyone who has seen an organizational chart of any government knows. Along with the proliferation of vertical levels of bureaucrats, there is also horizontal specialization. Instead of konohiki carrying out every aspect of administration for a Hawaiian district, state governments have several separate departments, each with its own hierarchy, to handle water management, taxes, military draft, and so on. Even small states have more complex bureaucracies than large chiefdoms. For instance, the West African state of Maradi had a central administration with over 130 titled offices.

Internal conflict resolution within states has become increasingly formalized by laws, a judiciary, and police. The laws are often written, because many states (with conspicuous exceptions, such as that of the Incas) have had literate elites, writing having been developed around the same time as the formation of the earliest states in both Mesopotamia and Mesoamerica. In contrast, no early chiefdom not on the verge of statehood developed writing.

Early states had state religions and standardized temples. Many early kings were considered divine and were accorded special treatment in innumerable respects. For example, the Aztec and Inca emperors were both carried about in litters; servants went ahead of the Inca emperor's litter and swept the ground clear; and the Japanese language includes special forms of the pronoun "you" for use only in addressing the emperor. Early kings were themselves the head of the state religion or else had separate high priests. The Mesopotamian temple was the center not only of religion but also of economic redistribution, writing, and crafts technology.

All these features of states carry to an extreme the developments that led from tribes to chiefdoms. In addition, though, states have diverged from chiefdoms in several new directions. The most fundamental such distinction is that states are organized on political and territorial lines, not on the kinship lines that defined bands, tribes, and simple chiefdoms. Furthermore, bands and tribes always, and chiefdoms usually, consist of a single ethnic and linguistic group. States, though—especially so-called empires

FROM EGALITARIANISM TO KINGDOMS

formed by amalgamation or conquest of states—are regularly multiethnic and multilingual. State bureaucrats are not selected mainly on the basis of kinship, as in chiefdoms, but are professionals selected at least partly on the basis of training and ability. In later states, including most today, the leadership often became nonhereditary, and many states abandoned the entire system of formal hereditary classes carried over from chiefdoms.

OVER THE PAST 13,000 years the predominant trend in human society has been the replacement of smaller, less complex units by larger, more complex ones. Obviously, that is no more than an average long-term trend, with innumerable shifts in either direction: 1,000 amalgamations for 999 reversals. We know from our daily newspaper that large units (for instance, the former USSR, Yugoslavia, and Czechoslovakia) can disintegrate into smaller units, as did Alexander of Macedon's empire over 2,000 years ago. More complex units don't always conquer less complex ones but may succumb to them, as when the Roman and Chinese Empires were overrun by "barbarian" and Mongol chiefdoms, respectively. But the long-term trend has still been toward large, complex societies, culminating in states.

Obviously, too, part of the reason for states' triumphs over simpler entities when the two collide is that states usually enjoy an advantage of weaponry and other technology, and a large numerical advantage in population. But there are also two other potential advantages inherent in chiefdoms and states. First, a centralized decision maker has the advantage at concentrating troops and resources. Second, the official religions and patriotic fervor of many states make their troops willing to fight suicidally.

The latter willingness is one so strongly programmed into us citizens of modern states, by our schools and churches and governments, that we forget what a radical break it marks with previous human history. Every state has its slogan urging its citizens to be prepared to die if necessary for the state: Britain's "For King and Country," Spain's "Por Dios y España," and so on. Similar sentiments motivated 16th-century Aztec warriors: "There is nothing like death in war, nothing like the flowery death so precious to Him [the Aztec national god Huitzilopochtli] who gives life: far off I see it, my heart yearns for it!"

Such sentiments are unthinkable in bands and tribes. In all the accounts

that my New Guinea friends have given me of their former tribal wars, there has been not a single hint of tribal patriotism, of a suicidal charge, or of any other military conduct carrying an accepted risk of being killed. Instead, raids are initiated by ambush or by superior force, so as to minimize at all costs the risk that one might die for one's village. But that attitude severely limits the military options of tribes, compared with state societies. Naturally, what makes patriotic and religious fanatics such dangerous opponents is not the deaths of the fanatics themselves, but their willingness to accept the deaths of a fraction of their number in order to annihilate or crush their infidel enemy. Fanaticism in war, of the type that drove recorded Christian and Islamic conquests, was probably unknown on Earth until chiefdoms and especially states emerged within the last 6,000 years.

HOW DID SMALL, noncentralized, kin-based societies evolve into large centralized ones in which most members are not closely related to each other? Having reviewed the stages in this transformation from bands to states, we now ask what impelled societies thus to transform themselves.

At many moments in history, states have arisen independently—or, as cultural anthropologists say, “pristinely,” that is, in the absence of any preexisting surrounding states. Pristine state origins took place at least once, possibly many times, on each of the continents except Australia and North America. Prehistoric states included those of Mesopotamia, North China, the Nile and Indus Valleys, Mesoamerica, the Andes, and West Africa. Native states in contact with European states have arisen from chiefdoms repeatedly in the last three centuries in Madagascar, Hawaii, Tahiti, and many parts of Africa. Chiefdoms have arisen pristinely even more often, in all of the same regions and in North America's Southeast and Pacific Northwest, the Amazon, Polynesia, and sub-Saharan Africa. All these origins of complex societies give us a rich database for understanding their development.

Of the many theories addressing the problem of state origins, the simplest denies that there is any problem to solve. Aristotle considered states the natural condition of human society, requiring no explanation. His error was understandable, because all the societies with which he would have been acquainted—Greek societies of the fourth century B.C.—were

states. However, we now know that, as of A.D. 1492, much of the world was instead organized into chiefdoms, tribes, or bands. State formation does demand an explanation.

The next theory is the most familiar one. The French philosopher Jean-Jacques Rousseau speculated that states are formed by a social contract, a rational decision reached when people calculated their self-interest, came to the agreement that they would be better off in a state than in simpler societies, and voluntarily did away with their simpler societies. But observation and historical records have failed to uncover a single case of a state's being formed in that ethereal atmosphere of dispassionate farsightedness. Smaller units do not voluntarily abandon their sovereignty and merge into larger units. They do so only by conquest, or under external duress.

A third theory, still popular with some historians and economists, sets out from the undoubted fact that, in both Mesopotamia and North China and Mexico, large-scale irrigation systems began to be constructed around the time that states started to emerge. The theory also notes that any big, complex system for irrigation or hydraulic management requires a centralized bureaucracy to construct and maintain it. The theory then turns an observed rough correlation in time into a postulated chain of cause and effect. Supposedly, Mesopotamians and North Chinese and Mexicans foresaw the advantages that a large-scale irrigation system would bring them, even though there was at the time no such system within thousands of miles (or anywhere on Earth) to illustrate for them those advantages. Those farsighted people chose to merge their inefficient little chiefdoms into a larger state capable of blessing them with large-scale irrigation.

However, this “hydraulic theory” of state formation is subject to the same objections leveled against social contract theories in general. More specifically, it addresses only the final stage in the evolution of complex societies. It says nothing about what drove the progression from bands to tribes to chiefdoms during all the millennia before the prospect of large-scale irrigation loomed up on the horizon. When historical or archaeological dates are examined in detail, they fail to support the view of irrigation as the driving force for state formation. In Mesopotamia, North China, Mexico, and Madagascar, small-scale irrigation systems already existed before the rise of states. Construction of large-scale irrigation systems did not accompany the emergence of states but came only significantly later in each of those areas. In most of the states formed over the Maya area o

Mesoamerica and the Andes, irrigation systems always remained small-scale ones that local communities could build and maintain themselves. Thus, even in those areas where complex systems of hydraulic management did emerge, they were a secondary consequence of states that must have formed for other reasons.

What seems to me to point to a fundamentally correct view of state formation is an undoubted fact of much wider validity than the correlation between irrigation and the formation of some states—namely, that the size of the regional population is the strongest single predictor of societal complexity. As we have seen, bands number a few dozen individuals, tribes a few hundred, chiefdoms a few thousand to a few tens of thousands, and states generally over about 50,000. In addition to that coarse correlation between regional population size and type of society (band, tribe, and so on), there is a finer trend, within each of those categories, between population and societal complexity: for instance, that chiefdoms with large populations prove to be the most centralized, stratified, and complex ones.

These correlations suggest strongly that regional population size or population density or population pressure has *something* to do with the formation of complex societies. But the correlations do not tell us precisely how population variables function in a chain of cause and effect whose outcome is a complex society. To trace out that chain, let us now remind ourselves how large dense populations themselves arise. Then we can examine why a large but simple society could not maintain itself. With that as background, we shall finally return to the question of how a simpler society actually becomes more complex as the regional population increases.

WE HAVE SEEN that large or dense populations arise only under conditions of food production, or at least under exceptionally productive conditions for hunting-gathering. Some productive hunter-gatherer societies reached the organizational level of chiefdoms, but none reached the level of states: all states nourish their citizens by food production. These considerations, along with the just mentioned correlation between regional population size and societal complexity, have led to a protracted chicken-or-egg debate about the causal relations between food production, population variables, and societal complexity. Is it intensive food production that is the cause, triggering population growth and somehow leading to a com-

plex society? Or are large populations and complex societies instead the cause, somehow leading to intensification of food production?

Posing the question in that either-or form misses the point. Intensified food production and societal complexity stimulate each other, by autocatalysis. That is, population growth leads to societal complexity, by mechanisms that we shall discuss, while societal complexity in turn leads to intensified food production and thereby to population growth. Complex centralized societies are uniquely capable of organizing public works (including irrigation systems), long-distance trade (including the importation of metals to make better agricultural tools), and activities of different groups of economic specialists (such as feeding herders with farmers' cereal, and transferring the herders' livestock to farmers for use as plow animals). All of these capabilities of centralized societies have fostered intensified food production and hence population growth throughout history.

In addition, food production contributes in at least three ways to specific features of complex societies. First, it involves seasonally pulsed inputs of labor. When the harvest has been stored, the farmers' labor becomes available for a centralized political authority to harness—in order to build public works advertising state power (such as the Egyptian pyramids), or to build public works that could feed more mouths (such as Polynesian Hawaii's irrigation systems or fishponds), or to undertake wars of conquest to form larger political entities.

Second, food production may be organized so as to generate stored food surpluses, which permit economic specialization and social stratification. The surpluses can be used to feed all tiers of a complex society: the chiefs, bureaucrats, and other members of the elite; the scribes, craftspeople, and other non-food-producing specialists; and the farmers themselves, during times that they are drafted to construct public works.

Finally, food production permits or requires people to adopt sedentary living, which is a prerequisite for accumulating substantial possessions, developing elaborate technology and crafts, and constructing public works. The importance of fixed residence to a complex society explains why missionaries and governments, whenever they make first contact with previously uncontacted nomadic tribes or bands in New Guinea or the Amazon, universally have two immediate goals. One goal, of course, is the obvious one of "pacifying" the nomads: that is, dissuading them from killing missionaries, bureaucrats, or each other. The other goal is to induce

the nomads to settle in villages, so that the missionaries and bureaucrats can find the nomads, bring them services such as medical care and schools, and proselytize and control them.

THUS, FOOD PRODUCTION, which increases population size, also acts in many ways to make features of complex societies *possible*. But that doesn't prove that food production and large populations make complex societies *inevitable*. How can we account for the empirical observation that band or tribal organization just does not work for societies of hundreds of thousands of people, and that all existing large societies have complex centralized organization? We can cite at least four obvious reasons.

One reason is the problem of conflict between unrelated strangers. That problem grows astronomically as the number of people making up the society increases. Relationships within a band of 20 people involve only 190 two-person interactions (20 people times 19 divided by 2), but a band of 2,000 would have 1,999,000 dyads. Each of those dyads represents a potential time bomb that could explode in a murderous argument. Each murder in band and tribal societies usually leads to an attempted revenge killing, starting one more unending cycle of murder and countermurder that destabilizes the society.

In a band, where everyone is closely related to everyone else, people related simultaneously to both quarreling parties step in to mediate quarrels. In a tribe, where many people are still close relatives and everyone at least knows everybody else by name, mutual relatives and mutual friends mediate the quarrel. But once the threshold of "several hundred," below which everyone can know everyone else, has been crossed, increasing numbers of dyads become pairs of unrelated strangers. When strangers fight, few people present will be friends or relatives of both combatants, with self-interest in stopping the fight. Instead, many onlookers will be friends or relatives of only one combatant and will side with that person, escalating the two-person fight into a general brawl. Hence a large society that continues to leave conflict resolution to all of its members is guaranteed to blow up. That factor alone would explain why societies of thousands can exist only if they develop centralized authority to monopolize force and resolve conflicts.

A second reason is the growing impossibility of communal decision

making with increasing population size. Decision making by the entire adult population is still possible in New Guinea villages small enough that news and information quickly spread to everyone, that everyone can hear everyone else in a meeting of the whole village, and that everyone who wants to speak at the meeting has the opportunity to do so. But all those prerequisites for communal decision making become unattainable in much larger communities. Even now, in these days of microphones and loudspeakers, we all know that a group meeting is no way to resolve issues for a group of thousands of people. Hence a large society must be structured and centralized if it is to reach decisions effectively.

A third reason involves economic considerations. Any society requires means to transfer goods between its members. One individual may happen to acquire more of some essential commodity on one day and less on another. Because individuals have different talents, one individual consistently tends to wind up with an excess of some essentials and a deficit of others. In small societies with few pairs of members, the resulting necessary transfers of goods can be arranged directly between pairs of individuals or families, by reciprocal exchanges. But the same mathematics that makes direct pairwise conflict resolution inefficient in large societies makes direct pairwise economic transfers also inefficient. Large societies can function economically only if they have a redistributive economy in addition to a reciprocal economy. Goods in excess of an individual's needs must be transferred from the individual to a centralized authority, which then redistributes the goods to individuals with deficits.

A final consideration mandating complex organization for large societies has to do with population densities. Large societies of food producers have not only more members but also higher population densities than do small bands of hunter-gatherers. Each band of a few dozen hunters occupies a large territory, within which they can acquire most of the resources essential to them. They can obtain their remaining necessities by trading with neighboring bands during intervals between band warfare. As population density increases, the territory of that band-sized population of a few dozen would shrink to a small area, with more and more of life's necessities having to be obtained outside the area. For instance, one couldn't just divide Holland's 16,000 square miles and 16,000,000 people into 800,000 individual territories, each encompassing 13 acres and serving as home to an autonomous band of 20 people who remained self-sufficient confined within their 13 acres, occasionally taking advantage of

a temporary truce to come to the borders of their tiny territory in order to exchange some trade items and brides with the next band. Such spatial realities require that densely populated regions support large and complexly organized societies.

Considerations of conflict resolution, decision making, economics, and space thus converge in requiring large societies to be centralized. But centralization of power inevitably opens the door—for those who hold the power, are privy to information, make the decisions, and redistribute the goods—to exploit the resulting opportunities to reward themselves and their relatives. To anyone familiar with any modern grouping of people, that's obvious. As early societies developed, those acquiring centralized power gradually established themselves as an elite, perhaps originating as one of several formerly equal-ranked village clans that became "more equal" than the others.

THOSE ARE THE reasons why large societies cannot function with band organization and instead are complex kleptocracies. But we are still left with the question of how small, simple societies actually evolve or amalgamate into large, complex ones. Amalgamation, centralized conflict resolution, decision making, economic redistribution, and kleptocratic religion don't just develop automatically through a Rousseauesque social contract. What drives the amalgamation?

In part, the answer depends upon evolutionary reasoning. I said at the outset of this chapter that societies classified in the same category are not all identical to each other, because humans and human groups are infinitely diverse. For example, among bands and tribes, the big-men of some are inevitably more charismatic, powerful, and skilled in reaching decisions than the big-men of others. Among large tribes, those with stronger big-men and hence greater centralization tend to have an advantage over those with less centralization. Tribes that resolve conflicts as poorly as did the Fayu tend to blow apart again into bands, while ill-governed chiefdoms blow apart into smaller chiefdoms or tribes. Societies with effective conflict resolution, sound decision making, and harmonious economic redistribution can develop better technology, concentrate their military power, seize larger and more productive territories, and crush autonomous smaller societies one by one.

Thus, competition between societies at one level of complexity tends to