Chapter 15

Social Hierarchies

Equality may perhaps be a right, but no power on earth can ever turn it into a fact.

Honoré de Balzac

However energetically society in general may strive to make all the citizens equal and alike, the personal pride of each individual will always make him try to escape the common level, and he will form some inequality somewhere to his own profit.

Alexis de Tocqueville

THE BIOLOGICAL FOUNDATIONS OF SOCIAL HIERARCHIES

Social hierarchies are universal to the human condition, despite their enormous variation in type and degree from one society to the next. In this regard I have found it useful, although I seem to be the only sociologist who does, to distinguish between two different types of hierarchical arrangements, social *inequality* and social *stratification*. By social inequality I mean the existence of a hierarchy in which some individuals have greater prestige and social influence than others but without there being differences in wealth that have become crystallized into social classes (although small wealth differences may exist between individuals). Normally where only inequality prevails the superior status of some individuals is achieved rather than hereditary. Hierarchies of this nature are most commonly associated with hunter-gatherer and small-scale horticultural societies. Inequality comes to be converted into stratification when differences in wealth or privilege become significant enough so that distinct social strata or classes form and where one's social class position has a strongly hereditary character. Stratified societies are built around what Morton Fried (1967:186) has called "differential access to resources," which means that "members of the same sex and equivalent age status do not have equal access to the basic resources that sustain life." Whereas social inequality is typical of hunter-gatherer and simple horticultural societies, stratification is much more characteristic of large-scale horticultural societies with more intensive systems of economic production, of agrarian societies, and of modern industrial societies.

The argument here will be that social hierarchies must be explained thrice over, i.e., bio-, eco-, and polimaterialistically. A strong tendency toward hierarchy is a fundamental feature of the human biogram, but this tendency is greatly affected by a range of features of the natural and sociocultural environment. Social hierarchies are biologically rooted but socially elaborated. Most sociologists disagree with this view, holding that humans do not have the kind of biogram that I have indicated, and thus that hierarchies are purely cultural arrangements. The evidence, much of which I shall present below, goes strongly against this latter view, as a number of sociologists and anthropologists have recognized. As Somit and Peterson

I contend that the evidence for all of these claims is extremely strong. All four of Alice Rossi's four criteria for suspecting a biological basis for a behavioral pattern are met. Social hierarchies are universally found in human societies (even though in some societies they are only minimally developed), they are widely found in the animal world (especially in our closest relatives, the nonhuman primates), dominance and status-oriented behavior is found in young children prior to major socialization influences, and such behavior is closely associated with one or more physiological attributes (in this case, neurochemicals). Pierre van den Berghe (1978:40-41) notes the virtual universality of hierarchy among primates and points out that

> we [humans] are like some other primates and unlike others. Most of the lower primates, like lemurs, and some of the higher ones, like gibbons . . . , show very little dominance behavior. However, the predominantly terrestrial primates, like baboons and macaques, form, like ourselves, strongly hierarchical societies with sharp status differences between various age and sex groups, and even among adult males, and among adult females.
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> Those monkey societies are hierarchically organized for defense against predators. As the band forages in open country . . . the subordinate males act as sentinels on the periphery, the females and the young are in the middle, and the oligarchy of dominant males stays on the alert at or near the center prepared to jump into the fray, to cover the retreat, and to bear the brunt of the fighting if the need arises.

Returning to the human situation, a variety of ethological studies of young children, and in some cases even of infants, suggest that dominance- and rank-oriented behavior are found before major socialization influences have had much chance to take effect. A number of studies have reported dominance orders among infants (e.g., Bakeman and Brownlee, 1982; Missakian, 1980; Strayer and Trudel, 1984). One such study (Russon and Waite, 1991) focused on 11- to 16-month old infants in a daycare group and was able to identify high, middle, and low ranking subgroups. Dominance was also related to imitative behavior, with high-ranking infants being imitated more than low-ranking infants. Omark and Edelman (1975) studied kindergartners through third-graders in a middle-class private school and queried children in regard to their perceptions of other children. Specifically, the children were asked their perceptions concerning which children were the toughest, smartest, and nicest. From the first grade on, children were in greatest agreement in terms of which children were the toughest. Omark and Edelman (1975:104) comment that relations concerning toughness "seem to be among the first comparisons between self and others that are remembered. These results suggest that toughness is an important dimension in children's early social structures, and may have a significant effect on the way that they first learn to conceptualize the world." Weisfeld, Omark, and Cronin (1980) followed two cohorts of boys between the first and ninth grades, assessing them for toughness, dominance, leadership, and popularity. In both cohorts toughness was highly correlated with the other traits, dominance in particular, and this correlation remained stable over time. The authors concluded that dominance in boys is a highly stable trait that is based mainly on physical characteristics, and that it leads to the acquisition of resources (including females) and opportunities to exercise leadership. They were struck by the consistency between these findings and the findings of ethological studies of other mammals. They assert (1980:214):

> What does seem to be of prime importance in the present study is that males of our species negotiate a critical, or sensitive, period from about 4+ . . . to 7 years of age. During this period they (1) become combative with their peers, (2) become more muscular, (3) acquire the cognitive capacity for transitive reasoning necessary for comprehending rank orders, and (4) begin to experience pride or shame when they succeed or fail.

Barbara Hold (1980) has attempted to determine the extent to which these findings stand up cross-culturally. Hold looked for similarities in the behavior of German and Japanese kindergartners and G/wi San children of comparable age. She found that the children in all three cultures sorted themselves into dominance hierarchies; some G/wi children, just like German and Japanese children, sought the limelight. In all three cultures a select few children were the center of attention and these children were very frequently imitated by lower-ranking children. High-ranking children were much more likely to initiate activities than were lower-ranking children. Two important differences between G/wi children on the one

hand and German and Japanese children on the other were that G/wi children did not try to dominate or manipulate other children, and that the G/wi rank order seemed to be less rigid than the German and Japanese rank orders. These differences probably result from the fact that among the G/wi egalitarianism is stressed and strongly policed because of the particular exigencies of the G/wi economic situation.

Daniel Freedman (1979) has shown that height is an extremely widespread, probably universal, indicator of social status (cf. Brown and Yü, 1993; see L. Ellis, 1994a, 1994b, for a review of studies on body size and status among animals and height and status among humans). In a study carried out by a university marketing professor, 140 job recruiters were asked to choose hypothetically between two applicants for a sales position. The only difference between the applicants was that one was 6'1" tall and the other 5'5." It was found that 72 percent chose the taller applicant, 27 percent had no clear preference, and a mere 1 percent chose the shorter applicant. Freedman points out that being short poses a difficulty for men because it appears to be an automatic sign of subordinate status. In American elections for the presidency, the taller man has won the election nearly every time. Throughout Africa it is the taller tribes who are dominant over the shorter tribes. In Nigeria the tall Fulani have long ruled neighboring groups despite being a numerical minority. The very tall Masai have been the most feared warriors of East Africa, and in Rwanda and Burundi the tall Tutsis have long dominated and looked down upon the short Hutus. In Russia and England height and social status have long been highly correlated, "with a full head separating the Oxford working class and the Oxford dons" (Freedman, 1979:90). It is noteworthy that in many horticultural societies the term for a man of high social rank is often a word that means "big man" (Brown and Yü, 1993). There is a widespread, possibly universal, tendency for smaller individuals to be intimidated by bigger individuals. Pierre van den Berghe (1974) points out that throughout the world submission is expressed by individuals' bowing or crouching. In many highly stratified preindustrial societies, commoners threw themselves prostrate on the ground when powerful rulers visited their villages.

Sociologists are apt to claim (and some have claimed - cf. L. Ellis, 1994a) that the causal relationship between height and status is the reverse of what is being claimed here, i.e., that it is greater status that causes people to be taller because, among other things, people of higher social status enjoy better nutrition. In many highly stratified societies, higher-status persons do generally enjoy better nutrition, but this can explain at best only a small portion of the height-status relationship. Lee Ellis (1994b) reviews studies showing that about 90 percent of the variance in human height is due to genetic factors rather than social environment. This can be illustrated by the fact that blacks in the United States are slightly taller than whites despite their lower social status. Moreover, in egalitarian band and tribal societies height and social status are related just as they are in highly stratified agrarian and industrial societies. Since band and tribal societies usually do not have inequalities in nutritional intake, social status differences cannot be causing differences in height.

It appears that the relationship between social status and height in individuals is closely paralleled by a relationship between social status and the physical elevation at which people live. In their study of a medium-sized Midwestern city, Hoiberg and Cloyd (1971) found an average correlation of .76 (Pearson r) between social status and elevation. They explained this relationship in terms of "the symbolic cultural definition given to the entire concept of height. Such a symbolic meaning can be crudely displayed through the popularity and meaning of such sayings as 'top drawer,' 'high man on the totem pole,' 'top dog,' etc." (1971:71). I do not object to such an interpretation so long as it is not taken to mean that such a symbolic definition is floating free from biological realities. It is likely that every society has the linguistic equivalent of "top dog" because the mental association between height (or elevation) and social status is part of the wiring of the human brain. Hoiberg and Cloyd studied only one community in one society, but I would predict that physical elevation and social status are positively associated in every society, or at least in the vast majority. (I suspect there are studies on this, but I have not yet encountered any.)

If the tendency toward status striving and hierarchy is rooted in the human biogram, as I am claiming it is, then there must be biochemical indicators of such. Can we identify hormones or other chemicals that are responsible for status striving? The answer is a clear yes. Testosterone has long been linked to aggressive, competitive, and dominance-oriented behavior (see Mazur and Booth, 1998, for a review of the evidence), but the neurotransmitter serotonin would appear to be a much better candidate.

Research linking serotonin levels to dominance behavior in vervet monkeys (McGuire, 1982; McGuire, Raleigh, and Johnson, 1983) quickly led to research of the same nature on humans by Douglas Madsen (1985, 1986, 1994) and others. In an early study, Madsen (1985) found substantial correlations between men's blood serotonin levels and certain personality characteristics. Men who were highly driven and who had aggressive, competitive, and hardcharging personalities had substantially higher levels of serotonin in their blood than individuals low on these personality characteristics. In a second study, this time experimental, Madsen (1986) divided his subjects into groups with high, average, and low levels of blood serotonin. His major finding was that the high serotonin group showed a very different physiological response to a competitive situation than the average and low serotonin groups. The cortisol levels of the high serotonin group soared in response to the onset of actual competition, whereas no such effect was observed in the other two groups. This led Madsen (1986:268) to say that "the high serotonin individuals are indeed a special lot. A behavior pattern which had been tied to WBS [whole blood serotonin] only through questionnaire data has now been given striking physiological representation. The dynamics of the best understood of the plasma hormones here presented, cortisol and epinephrine, reflect for the high WBS group precisely the kind of internal response that one would expect from aggressive competitors in the context of rivalry." In a third study, Madsen (1994) looked at the relationship between serotonin levels, social rank, and aggressiveness in a game-playing situation. The serotonin levels of individuals who played the game in a nonaggressive way declined as their perceived social rank rose. However, the serotonin levels of individuals who played the game aggressively rose as their perceived social rank rose. Thus, for the nonaggressive individuals serotonin levels are negatively correlated with social rank, whereas for the aggressive individuals serotonin levels are positively correlated with rank. Madsen (1994:156) comments that the "aggressive themselves are a fascinating group. Seemingly classic Machiavellians, they provide a close fit with the politician of popular imagination: ambitious, self-centered, and when it comes to moral questions, a little fast and loose. If the aggressive-manipulative style enhances the likelihood of real-world political success (which is, of course, unproven), then the dominant figures in our major social arenas may in fact show the elevated blood serotonin predicted by the animal model."

Serotonin levels are also known to play a major role in another form of human behavior, viz., depression. Individuals suffering from major depression are frequently seen to have low serotonin levels, and many of the major antidepressant drugs now available are designed to increase these levels. Interestingly, a psychiatrist who had been treating some of his depressed patients with Prozac soon after it became available noticed that the drug not only lifted their depression but also brought about actual personality changes (Kramer, 1993). The most pronounced change was to turn very reticent individuals, some of whom were painfully shy, into much more confident individuals. Confidence is undoubtedly related to the extent to which individuals will strive for success, and thus to eventual social rank. This is further evidence of an important link between serotonin and status seeking. Moreover, research by Michael McGuire and colleagues (reported in Madsen, 1986) has shown that nondominant vervet monkeys treated with fluoxetine (the chemical name for Prozac) moved into the dominant position in their respective groups.[2]

THE SOCIAL AND CULTURAL ELABORATION OF HIERARCHIES

The question now concerns how this human tendency toward hierarchy gets translated into actual systems of inequality and stratification. Jerome Barkow (1992) presents an argument that dovetails beautifully with the theory and massive evidence presented by Gerhard Lenski in his well-known book *Power and Privilege* (1966). Barkow claims that there are three human psychological traits that make it possible for humans to generate stratification under the appropriate conditions. These are the pursuit of high social rank, nepotism, and the capacity for social exchange. Barkow explains how these work together (1992:634; cf. P.A. Green, 1995:68-69, 74-75):

> Individuals seek high relative standing. They engage in social exchange with others in order to achieve and maintain such standing and to transmit it to their children and other close kin. These

tendencies are presumably universal. In some societies, however, there is some surplus production. High relative standing automatically would tend to involve some control over that surplus. The social exchanges through which individuals maintain their high status now have a strong economic component. Enter nepotism. Those who achieve high standing and control over resources seek to transmit these advantages to their offspring and to other close kin. Social exchange facilitates that transmission, too, as reciprocal altruism merges with kin altruism so that members of the elite aid one another's children. . . . Among themselves, the higher ranking favor exchanges that eventually cement themselves and their families (despite rivalries) into coherent, self-interested elites or upper classes. These elites favor their own close kin while striving to reduce or eliminate competition from the progeny of the lower strata, producing barriers to social mobility. Thus, whenever a society achieves a relationship among its population density, environment, and technology such that surplus production of food and other goods reliably results, the psychology of our species makes it very likely that social inequality and, eventually, social stratification will soon follow...

Note that until fairly large-scale societies existed, with accumulated surpluses of resources, the extent to which parents could ensure the future standing of offspring and other close kin was strictly limited. . . . But once we have an increase in societal scale and technology such that there is a possibility of control over some resource, or a surplus of production, then the tendency toward nepotism means that parents will strive to transmit that control or surplus to their offspring (and grandparents to grandchildren).

Systems of inequality and stratification thus represent the social elaboration of a basic innate tendency toward rank and dominance. Stratification emerges and becomes increasingly complex and elaborate when societies grow larger in scale, become more technologically advanced, and begin producing large economic surpluses, and these conditions themselves emerge as responses to population pressure, changing patterns of land tenure, and changing forms of political organization. Stratification is inherent in the human condition, but it is only a latent rather than an actual possibility until the necessary conditions develop. Let us trace out the changing patterns of inequality and stratification throughout the long process of social evolution. (Much of the evidence reviewed below comes from Lenski, 1966.)

With some important exceptions, hunter-gatherer societies are unstratified because in these societies it is uncommon for any individual to have the capacity to deprive others of access to the resources of nature that sustain life and well-being. Usually there are no wealth differences, and social strata or classes seldom exist. Inequalities of prestige or social influence do exist, however, and are typically based on such factors as age and sex. The possession of certain personal traits is also generally a basis for the acquisition of prestige. Men who show special courage, who are thought of as especially wise, or who are particularly skilled hunters are usually highly esteemed. Despite the absence of wealth differences or class distinctions among most hunter-gatherers, it is clear that a tendency toward stratification is present and will emerge when the right conditions are there. One of these conditions is the existence of an economy or environment productive enough to allow for the accumulation and storage of foodstuffs. Alain Testart (1982) has shown that there are some very important differences between hunter-gatherers who store food and those who do not. Storing hunter-gatherers are usually sedentary and have high population densities, and a more individualized or privatized pattern of ownership has often emerged among societies of this type. Using a representative sample of 40 hunter-gatherer societies, Testart found that 80 percent of the food-storers were stratified compared to only 7 percent of the nonstoring societies. The classic examples of stratified hunter-gatherers are many of the Indian tribes inhabiting the Northwest Coast region of North America. This region of the world is characterized by exceptionally rich environments that have permitted high-density, complex societies to be supported. Many of these societies developed elaborate stratification systems characterized by ruling chiefs who were obsessed with social rank and the pursuit of prestige.

It appears that a number of prehistoric hunter-gatherer societies (about 12,000–10,000 years ago) had become stratified or at least were characterized by marked distinctions of status or rank. Paul Mellars (1985) has uncovered evidence of complex hunter-gatherer societies with apparently high levels of population density in late Upper Paleolithic southwestern France. Mellars suggests that these societies had

begun to exploit a much wider range of food resources than in earlier times, probably as a result of the economic stress produced by population pressure. The archaeological sites show evidence of specialized craftsmen and grave goods that suggest the existence of significant social ranking. Like the Northwest Coast tribes, these were densely populated societies living in regions of abundant resources that had adopted the practice of food storing. In general, I think that prehistoric hunter-gatherers were more likely to be stratified, and some of them highly stratified, than contemporary hunter-gatherers. The latter have generally been found in environments poor in resources compared to most of the environments that prehistoric hunter-gatherers would have occupied (Dickemann, 1975), and thus hunter-gatherers in today's world have generally been unable to be productive enough to allow the emergence of true stratification.

Simple horticultural societies, like hunter-gatherers, are usually characterized by social inequality in the absence of stratification. However, prestige differences in simple horticultural societies are often much more pronounced than they are among hunter-gatherers. Simple horticultural societies are often good examples of what Fried (1967:109) has termed a *rank society*, or one "in which positions of valued status are somehow limited so that not all those of sufficient talent to occupy such statuses actually achieve them" (1967:109). In many simple horticultural societies, a few hard-working and ambitious individuals are able to produce enough from their gardens and animal herds to hold large feasts, and individuals who repeatedly demonstrate their ability to hold successful feasts come to be held in considerable respect and accorded a great deal of prestige. As discussed in the last chapter, in many of these societies, especially those in Melanesia, such persons acquire the status of "big men" (Harris, 1977). Big men typically have many rivals who want to oust them from their positions of high rank. Big men accumulate wealth, but their status is gained by generously distributing it rather than keeping it for themselves. Among the Siuai of Bougainville in the Solomon Islands, for example, the most successful feast givers have praise heaped upon them and are usually deferred to. As Douglas Oliver (1955:401) comments, among the Siuai big men "are usually spared menial jobs; others fetch water for them, and climb palms to get coconuts and areca nuts for their refreshment. Boisterous talk usually becomes quieter when a leader approaches, and boys leave off rough-housing. In fact, one of the sternest lessons impressed upon a child is to stay away from a leader, or else remain quiet in his presence." Moreover, "few people would assume enough familiarity with him to place a friendly hand on his shoulder – a common gesture among equals."

It is with the shift to more intensive or advanced horticultural societies that we most commonly see the emergence of stratification. Intensive horticultural societies frequently exhibit hereditary strata or classes, the true mark of stratification. Many of these societies contain three main social strata consisting of chiefs, subchiefs, and commoners. The differences among these strata involve differential access to the basic resources of nature, which for Fried (1967) is what separates systems of stratification from systems of mere inequality. The strata are distinguished by differences of social rank, power, dress and ornamentation, consumption patterns, involvement in economic production, availability of leisure time, and general styles of life. Stratification systems of this sort have been found among many advanced horticultural societies in sub-Saharan Africa as well as among a number of the precontact societies of Polynesia, Hawaii in particular (Sahlins, 1958). Hawaii before the arrival of the Europeans was divided into three main strata consisting of high-ranking chiefs and their families, stewards who managed local or regional domains of a chiefdom, and a very large class of commoners. The highest ranking or paramount chief was thought to be divine and a series of elaborate taboos existed concerning contact with him. No one could let his shadow fall on the paramount's house or possessions, wear his robe, or enter his house ahead of him, and commoners were even prohibited from touching anything used by the chief. When in his presence others were required to lie prostrate on the ground. A paramount chief exercised strong control over the use of land and could evict commoners from land for any number of reasons. Persons of high status could call upon lower-status persons for the performance of various labor services, and commoners could be killed for failing to comply with a demand for their labor. High chiefs and their families took no part in the production of daily subsistence and consequently have often been considered a kind of primitive "leisure class."

Although they are often highly stratified, advanced horticultural societies have been permeated nonetheless by what Lenski has called a "redistributive ethic." Chiefs or kings were expected to be

generous and their popularity could sharply decline if they were not. As Lenski (1966:165) has noted with respect to some African advanced horticultural societies, "On great public occasions [the king] is expected to slaughter many of his cattle and provide beer and porridge for all who gather at his village. He lends cattle, supports destitute widows and orphans, sends food to sick people and newly confined mothers, and in time of famine distributes corn from his own granaries or, if this is insufficient, purchases supplies from neighboring groups." But with the transition to agrarian societies, with their much more intensive systems of economic production, the limitations formerly placed on the stratification system were lifted. The redistributive ethic essentially disappeared and there emerged a much more extreme form of stratification in which most of the population was thrown into a condition of poverty and social degradation. The gap in power, privilege, and prestige between the dominant and the subordinate classes was immense.

Agrarian stratified orders were complex and often contained numerous strata. At the top was an elite that consisted of the political ruler and his family along with a landowning class. Below this was often a retainer class, which consisted of functionaries who directly served the elite and performed a wide variety of administrative tasks; a merchant class; a class of religious functionaries or priests; a class of artisans or craftsmen; and, at the very bottom, a class of expendables, or people who relied largely on illegitimate or illegal means of support, such as thievery or prostitution. Despite this complexity, however, in nearly all agrarian societies the landowners and the peasantry constituted the most important social classes in the sense that it was their relationship that made the wheels of their economy and society turn.

The ruler in agrarian societies officially stood at the political head of society. What Lenski calls the governing class was normally composed of the principal owners of land. However, both the ruler and the governing class tended to be both major landowners and major holders of political power, and these two segments of the politico-economic elite were usually closely linked. This elite constituted only a tiny fraction of the population – perhaps no more than one or two percent – but it may have controlled anywhere from half to two-thirds of the total wealth. Agrarian societies generated huge economic surpluses, the bulk of which usually ended up in the hands of the politico-economic elite. Elites often developed an elaborate status culture and set of manners that were designed to distinguish them sharply from subordinate groups. In the Chinese gentry, for example, the "emphasis was on the idle, highly-cultivated man; status markings, such as wearing long fingernails to indicate remoteness from manual work, were used. The content of Chinese high culture thus developed great subtlety of tastes. Out of this situation came the high aesthetic standards of Chinese arts, cuisine, architecture, and furnishings" (Annett and Collins, 1975:178). And consider also the behavior of members of elites in early modern Europe (Annett and Collins, 1975:179):

> Courts became places of considerable enforced leisure. Large numbers of ladies and gentlemen were obliged to spend a great deal of time waiting upon the king, and developed means of whiling away the hours. Conversation became an art form with elaborate emphasis on politeness and topics of respectable entertainment. It is at this time that verbal taboos began to develop, especially taboos on the vulgar language of the people. Particularly at the court of Louis XIV in the seventeenth century, great emphasis was placed on elaborate mutual bowings and curtseying, flowery greeting and farewell rituals, and polite inquiries after one's health. The correct style of conversation kept politics and other business for the backstage, while entertaining conversation came to consist of *bon mots* and flowery compliments, clever discussions of personalities and love affairs. At Versailles, the mastery of trivial details of etiquette and an elaborate secret language of hints and catch-words could make or break careers.

In most agrarian societies the largest social class by far was the peasantry. Peasants' economic situation was for the most part a miserable one, although just how exploited they were varied greatly from one place and time to another. Peasants everywhere were subjected to taxation, which varied from as little as 10 percent to as much as 70 percent of the crop. Peasants were also normally subjected to forced labor, being required to provide a certain number of days of labor either for their landlord or for the state. In medieval Europe, for example, peasants were required to work on their lord's demesne, or home farm, several days every week. In addition to their severe economic deprivation, peasants occupied a very low

social status in all agrarian societies, a huge gulf separating them from the elite. Peasants were regarded as extreme social inferiors, often being considered less than fully human.

It is clear that the system of inequality or stratification is very closely related to a society's stage of technological development. Hunter-gatherer and simple horticultural societies are seldom stratified, intensive horticultural societies are much more likely to exhibit stratification, and agrarian societies are by far the most highly stratified of all preindustrial societies. However, with the transition from agrarian to industrial societies within the last two hundred years there has occurred what Lenski (1966) calls a "historic reversal" in the relationship between stratification and technological development. Industrial societies appear to be less stratified than their agrarian predecessors. The main line of evidence that Lenski uses to support his claim has to do with the proportion of total wealth claimed by the dominant class in agrarian and industrial societies. He estimates that in agrarian societies perhaps as much as 50 percent of the total wealth was claimed by the dominant class, whereas in industrial societies this proportion has been reduced to about 25 percent. Also, in modern industrial societies there has been a diffusion of wealth throughout the population and the creation of large middle and working classes that enjoy an extremely high standard of living in comparison to the largest social class in agrarian societies, the peasantry.

Nevertheless, industrial societies, especially industrial capitalist societies, are still very highly stratified. One way of assessing the degree of stratification in industrial capitalist societies is by looking at income inequality, especially the proportions of total national income claimed by the top and bottom income quintiles. Kevin Phillips (1990) has reported the following figures for several major capitalist societies in the late 1970s and early 1980s: United States, 12:1; France, 9:1; Canada, 9:1; Britain, 8:1; West Germany, 5:1; Sweden, 5:1; Netherlands, 5:1; and Japan, 4:1. These figures suggest not only that industrial capitalist societies are highly stratified, but that they differ significantly among themselves.

Industrial capitalist societies have a class structure that looks more or less like the following (Rossides, 1976). There is an upper class, called by Marxists a bourgeoisie or capitalist class, whose members possess great wealth and power. This class probably constitutes no more than about one or two percent of the population. Its members occupy the top positions in corporations, banks, insurance companies, etc., and enjoy extremely high prestige. There is an upper-middle class, constituting perhaps 10 percent of the population, whose members are primarily successful business managers, members of the learned professions, and high-level civil and military officials. The members of this class generally earn very high incomes and are able to accumulate substantial wealth. They enjoy very high prestige. Below this class is a lower-middle class that comprises perhaps 30 percent of the population and includes mainly small businessmen, lower-level professionals, and sales and clerical workers. The members of this class receive moderate incomes and enjoy moderate prestige. The largest social class in industrial capitalist societies is the working class, which may constitute anywhere from 40 to 60 percent of the population. Its members are skilled, semiskilled, and unskilled manual and service workers. The incomes received by the members of this class are relatively low in comparison to those of higher classes. There is usually a lower class in industrial capitalist societies, although its size varies markedly from one society to another. It may consist of as much as 20 percent of the population in Britain and the United States, but its proportions are much smaller in most other industrial capitalist societes (on the order of, say, 5 percent). The members of this class are people whose lives are very economically marginal. They are chronically unemployed or underemployed, frequently suffer from acute economic distress, and have extremely low social prestige.

State socialist societies emerged earlier in this century as an alternative to industrial capitalism. One of their explicit aims was to eliminate the capitalist class struggle and create a "classless" society. What happened, however, was the creation of a new kind of class society rather than a society without classes. This failure to create a classless society despite revolutionary changes in who owned the means of production is, I would argue, strong support for the claim that the tendency toward social hierarchy is an innate and fundamental part of what it means to be human.

The class structure of the old Soviet Union, the leading exemplar of state socialist society, can be delineated approximately as follows (Parkin, 1971):

- the white-collar intelligentsia
- skilled manual workers

- lower-level white-collar workers
- unskilled workers
- peasants

Frank Parkin (1971) has regarded the main class division as that between the intelligentsia and everyone else, and it is clear that the intelligentsia as a whole has been a highly privileged class. This class, comprising roughly 20 percent of the population, has generally consisted of university-educated managerial and administrative workers in the Soviet state and state corporations. Its members have enjoyed more privilege and prestige than the members of other social classes. They have received higher incomes (which have included bonuses and special wage supplements), access to the best housing, opportunities to travel abroad, and the use of official cars and other forms of state property. They have also been highly successful in guaranteeing places for their children in the best schools and universities. However, the real elite in Soviet society has been a tiny segment of the intelligentsia known as the *nomenklatura*, the closest thing in the old Soviet Union to a capitalist *haute bourgeoisie*. It has been by far the most privileged of the privileged class.

It is true that the Soviet Union and other highly industrialized state socialist societies created a more egalitarian income distribution than what has been found within industrial capitalist societies (Lane, 1971; Slama, 1978, cited in Kornai, 1992), and it is true that the state socialist societies for a time created levels of upward social mobility exceeding those of capitalism (Parkin, 1971; Giddens, 1980; Yanowitch, 1977). It is also true that the Soviet bureaucratic elite has been different in nature and composition from a capitalist bourgeoisie (Lane, 1971). These differences between state socialism and capitalism indicate that the nature of the economic structure is surely an important determinant of the stratification system. However, the fact that state socialism has continued to have a privileged elite with an abiding interest in passing along its advantages to its offspring seems to confirm the biomaterialist conception of stratification discussed earlier.

It is also extremely interesting to see what is happening now in Russia since the collapse of the Soviet Union in 1991. With increasing privatization far greater economic inequalities have emerged. The careers of many members of the old *nomenklatura* have been ruined, whereas other members of this elite have been able to benefit enormously from the new privatization. They have often become co-owners of new private companies and are rapidly forming a private entrepreneurial class. Some members of this class have become extremely rich. They live in extremely expensive apartments in Moscow, for example, and have been exceptionally ostentatious with their new wealth (Zaslavsky, 1995). Once the lid was lifted things began to change very rapidly. In postsocialist society the primal urge toward hierarchy seems to be taking full advantage of the new possibilities.

THEORETICAL AND EMPIRICAL REPRISE

The evidence, then, shows that humans invariably take advantage of whatever opportunities exist in order to display dominance, rank, and status-oriented behaviors and to accumulate wealth. To me this strongly suggests an innate tendency toward hierarchy that interacts in complex ways with several crucially important conditions such that social hierarchies become progressively more elaborate and extreme as societies evolve in other respects. As mentioned earlier, the most important of these conditions appear to be changes in population density, changing forms of land tenure, technological advance, increasing economic productivity, and changing forms of political organization. However, exactly how these variables are related to the progressive growth of stratification is a matter of some uncertainty.

One of the best known attempts to explain hierarchies in social evolutionary terms is Lenski's (1966) ecomaterialist theory. Lenski starts with precisely the same assumption I have been arguing for. Humans will share with each other to the extent that this sharing is necessary or beneficial to themselves, but when conditions change such that sharing is no longer needed, or such that they can do better by not sharing, then people will tend to hoard and to compete, to struggle against one another rather than to cooperate. We recognize such sharing, of course, as reciprocal altruism. Lenski argues that the most important condition undermining cooperation and sharing is technological advancement. As societies improve their subsistence technologies, their economies become more productive. Economic surpluses

emerge, and these surpluses grow larger the more technology advances. Wealth now exists and expands and accumulates. As the pie gets bigger, people compete with each other for larger and larger shares, and thus stratification intensifies.

I call Lenski's theory a *surplus theory* because it makes struggles over the economic surplus the key to stratification. However, this theory makes what seems to me an unwarranted assumption: When technology makes surpluses possible people will start producing them. That seems to me to violate the all-important Law of Least Effort that is a fundamental grounding assumption of Darwinian conflict theory. Since, other things equal, people try to expend as little time and energy making a living as possible, what would lead them to produce an economic surplus? One possibility is economic. Horticulturalists may want a safeguard against drought and famine, and thus may produce enough food to store away in time of need (Harris, 1975). Hunter-gatherers living in bountiful environments may store food for similar reasons. But most importantly, I think the major human motive lying behind surplus economic production is political compulsion. At some point, some people get themselves into a position by means of which they can compel other people to work for them and produce substantial quantities of storable food. And I think that what gets people into this position is some sort of shift in land tenure, some sort of movement toward private landownership. Some people get control of a lot of land, others get control of much less (or none), and those who control the most can begin to control decisions about how the land is used, including in particular how hard people can be forced to work and how much surplus they are expected to produce. Once this happens, a threshold has been crossed, the threshold marked by Fried's "differential access to resources."

I call this alternative ecomaterialist theory a *scarcity theory* to distinguish it from Lenski's surplus theory (Sanderson, 1995a). It has been put together from suggestions made by Michael Harner (1970), Morton Fried (1967), Richard Wilkinson (1973), and Rae Lesser Blumberg (1978). In terms of a linear chain of causation, the scarcity theory says that population growth and resultant population pressure lead to increased land scarcity, that increased land scarcity leads to increased competition and struggle for the control of land, and that at some point land begins to be controlled in an unequal fashion. Differential access to resources has emerged. Some people can now compel others to begin producing economic surpluses and to relinquish them. Technological advance is also a part of this process, being dictated to a large extent by population pressure. All of these variables change together as parts of a package. Technological advance allows for increased economic productivity, and thus bigger and bigger surpluses can be extracted from the primary producers. Underlying the whole chain is the insatiability of human wants: As people get more, they want more, and so stratification feeds on itself over time and becomes both self-perpetuating and self-enhancing. As the lid gets lifted, the possibilities become greater and greater. People can never have enough wealth or enough status once they start to pursue them vigorously.

In order to shed more light on these two interpretations of the evolution of stratification I have attempted to supplement Lenski's qualitative analyses with quantitative analyses of data from the *Ethnographic Atlas* and the SCCS. From the *Atlas* I selected the variable "class stratification" (categories = egalitarian, wealth distinctions only, elite, dual, complex) as the dependent variable and ran it against three independent variables: subsistence type, stage of political evolution, and mean size of local communities. Subsistence type was correlated at r = .409 with class stratification, but it mostly washed out when the other variables were controlled. Stage of political evolution correlated with class stratification at r = .657 and community size correlated at r =.650. When all of these variables were entered into a multiple regression analysis, they collectively explained 51 percent of the variance, with community size and political stage contributing about equally and subsistence type contributing very little. A second regression analysis was run in which several more specific subsistence variables were substituted for subsistence type: percent dependence on gathering, percent dependence on hunting, percent dependence on agriculture, and percent dependence on animal husbandry. These subsistence variables, along with community size and political stage, explained 59 percent of the total variance in class stratification, and political stage was by far the most important predictor.

The SCCS contains an additional stratification variable, "social stratification" (categories = egalitarian, hereditary slavery, two social classes, two social classes + caste and slavery, three social classes or

castes), that seems to be slightly more sensitive than "class stratification." This variable was entered into a multiple regression analysis with four independent variables: subsistence type, community size, political stage, and population density. All of these variables were moderately to strongly correlated with social stratification, but only political stage remained strong when the effects of the other variables were removed (zero-order r = .770, partial r = .597). Community size, political stage, and subsistence type collectively explained 62 percent of the variance in social stratification, and political stage explained most of this.

These analyses strongly suggest that the emergence and evolution of social stratification is a political process. The fact that subsistence technology is correlated with stratification but largely washes out when the other variables, especially political stage, are controlled suggests that a higher level of subsistence technology is only an *enabler* of stratification. It permits the development of the conditions necessary to stratification (an economic surplus, and all that), but by itself it is not a cause of stratification. For stratification to emerge and become elaborated, power differentials are necessary to turn possibility into reality. This makes sense, but can we make political stage an independent variable to stratification? Theoretically (i.e., from the perspective of Darwinian conflict theory), I have been thinking of political stage as a dependent variable and stratification as an independent variable. Perhaps politics and stratification are related such that each ratchets the other up throughout social evolution. The variables could be codetermining each other.

Are these findings compatible or incompatible with my scarcity interpretation of the emergence and evolution of social stratification? They appear to be. For one thing, that interpretation views stratification as a political process. Population pressure sets everything in motion, but it is only significant if it leads to changes in land tenure and the economic and political power that flow from those changes. This is what the data suggest, for in the SSCS population density is correlated with stratification (r = .526) but largely washes out when other independent variables are controlled (partial r = .052). Like the level of subsistence technology, population pressure appears to be only an enabler of stratification rather than a true cause of it.

The scarcity theory is actually very similar to an argument put forth by Richard Lee (1990), a Marxian anthropologist, except that Lee would certainly reject the biomaterialist side of the argument. Lee has nominated population growth as the variable setting the evolution of stratification in motion. At some point this leads to "(a) an increase in population density, which leads to (b) a relative decrease in per capita resource availability, and therefore a decreased ease of subsistence, which leads to (c) an increase in societal scale and levels of production to meet increased demands, which in turn leads to (d) an increase in internal/external tensions." In the following passage Lee tries to show how the leveling devices of hunter-gatherer societies get eliminated and replaced by increasingly severe forms of stratification (1990:244-45):

> But leveling devices are not simply aspects of value orientation. They also operate on the material plane to prevent both accumulation and destitution. The underlying principles can be modeled as follows: visualize two horizontal parallel lines. The upper line is a ceiling of accumulation of goods above which an individual cannot rise, and the lower line is a floor of destitution below which one cannot sink. In the communal mode the ceiling and the floor are closely connected; one cannot exist without the other. No one can have too much, and if there is any food in the camp, everybody in the camp is going to get some of it. The obligation to share food and the taboo against hoarding are no less strong and no less ubiquitous in the primitive world than the far more famous taboo against incest. But unlike the incest taboo, which persists to the present, the hoarding taboo beame a casualty of social evolution. One of the key developments of social evolution is the lifting of the ceiling of accumulation. Animal domestication represents such a shift. Instead of shooting the animal and eating the meat, one brings the beast into the settlement and it sits there as property. Once the ceiling is raised, the possibility of wealth differences emerges. Someone could have no goats while another person had one; and if no goats and one goat is possible, then so is one goat and ten goats, or one goat and a hundred.
>
> So far we have spoken of raising the ceiling, but at a crucial point in the evolution of societies we observe the lowering of the floor. I don't know exactly how that happens. In the communal mode if someone gets a little uppity, (s)he is leveled out. By the same token, those falling through the cracks are supported by the group. But when the floor is lowered, poverty for some becomes possible. The community safety net for some disappears. One of the elements of

social evolution that is of great interest is how the cracks get wider. Do people fall through those cracks by neglect, or are they preyed upon? Does society devour itself by the rich preying on the poor? (In ancient Greece, as some people got wealthier, they first took the land of their neighbors, then they enslaved them.) The ceiling and the floor are dialectically connected.

In the modern world, both floor and ceiling have disappeared. There are billionaires in one area and mass poverty and starvation in others.

The only thing wrong with this argument, in my view, is that it begs the most important question of all: Why should the earliest forms of stratification ever have begun in the first place? Lee is certainly not assuming an organism with a hierarchical tendency of any sort, and that is where he goes wrong. He simply does not see the extent to which status competition is just below the surface (and not always that) of the least hierarchical societies. Lee's human organisms have no real tendencies at all. But then whence that curiously nasty tendency for societies to become progressively more unequal with general social evolution? Doesn't the existence of such a striking trend all over the world throughout both history and prehistory strongly suggest that there is a particular kind of organism there? I cannot see how any other conclusion is possible. If humans have no natural tendency toward rank and hierarchy, then why have those behaviors always emerged and intensified whenever conditions permitted? Social evolution has always run in the same direction all over the world. If we have no innate tendency toward hierarchy, then why didn't some societies refuse it when conditions offered it? Why didn't at least some human societies "just say no" to hierarchy?

A final question. Given the evolutionary trend toward greater stratification, why was there a reversal of this trend in the transition from agrarian to modern industrial societies? Lenski himself points to a number of factors but singles out the rise of democratic ideologies as the most important. With the rise of democratic ideologies, the many could combine against the few to help restructure society in their favor. Lenski is right; that is a big part of the picture. However, I would add that a certain logic of the capitalist economic system was at work as well. Despite Marx's predictions, capitalism did not collapse because of a massive crisis of underconsumption resulting from the increasing impoverishment of the working class. Capitalist industrialization created large and increasingly powerful working classes, and it was these classes that pressed hard for democratization because their economic interests were at stake (Rueschemeyer, Stephens, and Stephens, 1992). Systems of stratification are very sensitive to the underlying economies on which they rest, and they change as these economies change. Capitalism has led to a mass society, something that was unthinkable in agrarian societies, with their large oppressed and often dispossessed peasantries. It is the rise of mass consumer capitalism that is also behind the enormous decline in status and deference cultures within the last century, and the emergence of a widespread egalitarian ideology, especially in the United States.[3] Annett and Collins (1975:13) show that the

> general trend has been the decline of the old pretensions, the evaporation of the old collective conscience and its supporting deference rituals. Changes in styles of clothing, manners, conversation, and entertainment have been apparent since at least the 1940s.... the disappearance of the old formal party with its obliging host and array of servants, along with the high theatricality of evening dress; the bowing, hat-tipping, and polite titles of address giving way to a pervasive nicknaming familiarity; the neglect of old rituals of standing when women and superiors entered a room, and of the elaborate handshakings and introductions; the gossipy sociability that replaced the stiff aloofness and clearly marked ritual barriers of the traditional gentry style and the urbane posturing of fashionable society.

Annett and Collins go on to identify a number of conditions associated with the rise of mass consumer capitalism that have caused this status and deference culture to disintegrate. These include the disappearance of servants with the emergence of mass-produced household appliances; increases in the financial resources of the working and middle classes that have allowed them to maintain a style of dress closer to that of the upper classes and, in general, to emulate upper-class culture; and the rise of television and, with it, the emergence of an entertainment culture for a mass audience.

ADDITIONAL EVIDENCE

Amotz Zahavi (1975), in collaboration with his wife Avishag Zahavi (Zahavi and Zahavi, 1997) has introduced a new theoretical concept into neo-Darwinism, the Handicap Principle, which is to some extent a modification of sexual selection theory (G. Miller, 2000). Through the use of this principle the Zahavis hope to be able to explain a variety of features of animal anatomy and behavior. The idea was initially fiercely resisted by most evolutionary biologists when it was first introduced in the mid-1970s, but it is starting to win considerable acceptance. I am not sure how much it can explain – how wide-ranging its explanatory powers are – but it does appear to be the basis for a number of important insights.

The Zahavis use the Handicap Principle to explain such things as the elaborate plumage of peacocks. They reject the traditional explanation given by Sir Ronald Fisher many years ago, and widely accepted even today, that this is due to a runaway process of sexual selection. For them, the peacock's plumage is an *honest signal*, or one that, because of the burden – the handicap – it imposes on its bearer, genuinely signifies that he is of high quality and thus desirable as a mate. It takes a great deal of energy to grow a beautiful, long tail, and only healthy peacocks can do so. Moreover, peacocks hold their tails upright to show them off, and this takes strength, another sign of high quality. The Handicap Principle can also be put to use in understanding the relationship between predator and prey. When a gazelle stots to, say, a lion – jumps on all four legs simultaneously – it is showing the lion that it is too fast for the lion to catch it, thus giving the lion an honest signal of the gazelle's ability to escape. The Zahavis also suggest that animals may seek prestige by providing resources to others, thus signaling that they are of high quality. This applies to humans, as well, they think; people can, for example, show they are of high quality by wasting money in lavish displays. If they can waste money, they must have more than they need.

The Handicap Principle would seem to be almost tailor-made to explain such phenomena as big-man feasting and the famous potlatch practiced by many tribes that lived along the northwest coast of North America (Boone, 1998). The potlatch was an elaborate giveaway feast in which chiefs would invite neighboring chiefs to their villages to give property away. During their potlatches Northwest Coast chiefs would attempt to shame rival chiefs by giving away large quantities of wealth and by ranting and raving about their own greatness. The more wealth they gave away, the higher their status and the greater the shame that was brought down on their rivals. The greatest act that a chief could perform was pouring oil on his house and burning it to the ground. In terms of the Handicap Principle, the chief who gave away his property and burned down his house was engaged in a form of *costly signaling* or a *costly display*. He was sending a message to other chiefs that he was so rich that these things didn't matter. He could easily recover from such losses.

Among group-living birds known as babblers, individual birds compete to stand sentinel for others and to feed others. The Zahavis make particular note of the fact that higher-ranking birds attempt to feed lower-ranking ones and vigorously resist being fed by them. The act of giving seems to be an honest or costly signal telling other birds that the givers are of high quality. "By investing for the good of the group," they say, "the dominant male shows off both his superiority and his willingness to give to his subordinates. This makes these subordinates less likely to leave and thus helps the dominant bird remain at the head of a large, strong group" (1997:142). There is a striking parallel between this behavior and the behavior of big men in horticultural societies. As we have seen, in these societies the only avenue to big man status is through generous giving to others. Even in advanced horticultural societies, chiefs are still expected to be generous and usually make a special point to be, often referring to themselves as "great providers" (Harris, 1977). In modern industrial societies philanthropic giving by the rich is a well-known fact, and such societies have been notorious for what Veblen (1934[1912]) has called "conspicuous waste" as a status-seeking mechanism. I am also struck by the fact that, as discussed in Chapter 14, in a number of hunter-gatherer societies only a few men hunt and most of the meat the band eats is provided by these men, a practice that seems to involve prestige seeking. This is the case for the !Kung, the Hadza, the Aché and the Meriam (Hawkes, 1993; Smith and Bliege Bird, 2000). The Handicap Principle, whatever its other uses, may thus turn out to provide special insight into the biology of prestige seeking in human societies. Research along these lines might be handsomely repaid (cf. Boone, 1998).

NOTES

1. There seems to be an important sex difference in status striving and resource acquisition. Although women certainly engage in these behaviors, they appear to be stronger in men. Why should this be? As already indicated, men need status and resources in order to attract mates, or at least the most desirable mates. However, except among elites in highly stratified societies and where dowry exists, women do not particularly need either status or resources in order to attract mates. This may explain why men's status striving and resource acquisition efforts are usually more prominent than women's. The question might then arise as to why most women have an innate tendency to strive for these things at all. The answer is that status and resources do translate into greater reproductive success. Sarah Blaffer Hrdy (1999) has shown that Flo, the famous female chimpanzee studied by Jane Goodall, was able to use her high status to gain resources for her offspring and to protect them from attacks by other mothers. As Hrdy (1999:111) comments, "generalized striving for local clout was genetically programmed into the psyches of female primates during a distant past when status and motherhood were totally convergent." Hrdy argues that, although the evidence is less clear, social status and reproductive success also appear to be closely linked in human females. In the ancestral environment "where there was no birth control, and where no female was ever celibate, there was no possibility that female rank and maternal reproductive success could be *other* than correlated" (1999:112).
2. Although admitting that prestige-seeking men like big men in horticultural societies may have a genetically predisposed desire for approval and recognition that is stronger than that of others, Marvin Harris (1989) denies that human biology contributes much to the formation of social hierarchies. Harris is critical of Thorstein Veblen's (1934[1912]) argument that humans have an innate desire to feel superior and thus an innate desire to emulate the behavior of leisure classes and other high-status individuals or groups. Harris (1989:367) argues that "Veblen's universal drive to emulate the leisure class presupposes that a leisure class exists universally, which is factually untrue. The !Kung, Semai, and Mehinacu get along quite well without manifesting any marked propensity to show themselves superior. Instead of boasting about how great they are, they belittle themselves and their accomplishments precisely in order to reassure each other that they are all equal." But why should the !Kung, Semai, and Mehinacu need such reassurance if they have no natural desire to feel superior? If there is no such tendency toward status-seeking behavior, why do people spend so much time trying to make sure it doesn't arise? It is of course true that humans have nothing as specific as an innate desire to emulate a leisure class, but Harris takes Veblen too literally. Instead of a specific desire to emulate leisure classes, what people have is a more generalized desire to emulate high-status individuals, whatever they may be like in any actual society. But the most serious problem with Harris's argument is that he completely begs the question as to how leisure classes could ever come into existence in the first place. What Harris fails to see is that the formation of particular patterns of social stratification is always the result of the interaction between biological predispositions and a wide range of environmental circumstances. He is still stuck in the antiquated way of thinking promoted by the SSSM, viz., that biology and culture are opposing rather than cooperating and interacting forces. Correlatively, he is also a relentless "culture vulture": if something varies from one society to another, it can only be "because of the culture."
3. It is this very ideology, in my judgment, an ideology that began to take shape in the 1930s, that has been responsible for the rise of the SSSM and thus the fervently antibiological stance of most modern social science. As egalitarianism has grown, the SSSM has become more deeply entrenched and opposition to biological explanations of human behavior increasingly rigid and hostile. For an insightful discussion of this point, see Degler (1991).

Chapter 16

Politics and War

POLITICS AND THE STRUGGLE FOR POWER

Politics is the struggle for power or control or, at the very least, for leadership. It is the struggle for dominance, and thus derives from the same basic part of the biogram as the struggle for status. Indeed, the two are inextricably intertwined. Lionel Tiger and Robin Fox (1971) describe political systems as "breeding systems" inasmuch as the struggle for dominance is, ultimately, the struggle for reproductive success. They go on to identify five basic principles of primate politics:

1. The males dominate the political system, and the older males dominate the younger males.
2. Females often have great influence in promoting the dominance of particular males, and their long-term relationships to these males are critical for the stability of the system.
3. The dominant males keep order among and protect the females and juveniles.
4. Cooperation among males is a critical feature of primate politics inasmuch as coalitions of bonded males act as units in the dominance system.
5. The whole structure is held together by the attractiveness of the dominants and the attention that is constantly paid to them by subordinates.

Tiger and Fox hold that all human political systems - aristocracies, oligarchies, plutocracies, tyrannies, despotisms, democracies, etc. - work according to these same basic processes despite their obvious differences.

In their book *Darwinism, Dominance, and Democracy* (1997), Albert Somit and Steven Peterson argue that humans have been built by biological evolution to favor authoritarian political systems. They note that throughout human history authoritarian political regimes of one type or another have been overwhelmingly the rule, and democracy has been rare. From the beginnings of human history some 5,000 years ago until the middle of the nineteenth century, they argue, only ancient Athens and Rome had governments that could be described as at all democratic. They produce a "short list" of contemporary democracies, and are able to come up with only 28 countries (they limit themselves to what they call "macro-nations," or large states), or about 20 percent of the world's 148 macro-nations. They also point out that the ratio of democratic to nondemocratic nations has remained about the same for the past 75 years.

Somit and Peterson offer a great deal of evidence to support their major claim. First, of course, is simply the overwhelming presence of authoritarian states of one type or another throughout human history. Second, they suggest that the masses are easily indoctrinated into political beliefs that favor ruling elites and that they have a striking willingness to obey. In addition to all this, they make much of the fact that the greatest philosophers throughout human history have rarely endorsed democratic modes of government. As they put it (1997:88):

> Our great philosophers . . . have been unanimous in their hostility to democracy. The point warrants repetition: from Athenian days to the present, no major Western philosopher has endorsed the proposition that public policy should be decided either by direct popular vote or by

representatives chosen on the basis of anything approximating universal suffrage. Pericles, to be sure, eulogized Athenian democracy, but Plato's and Aristotle's assessment of rule by the majority ranged from the disparaging to the acutely hostile. Nor did their fellow Greek philosophers disagree.

Neither did the Roman or medieval political theorists who followed. In fact, after the fall of Athens, "for more than 2,000 years nearly all leading minds . . . rejected [the idea of] popular government." . . . Not until the English Levellers . . ., circa 1640, will we find an attempt to justify government resting on the will of the many.

There were, to be sure, prominent advocates of representative government – beginning, say, with Marsiglio of Padua and William of Occam in the fourteenth century, continuing with Nicolas of Cusa and his fellow Conciliarists, and then, in England continuing with John Locke and John Stuart Mill. With the exception of Mill, though, representative government was understood by its advocates as a system in which the representatives would be chosen not by a numerical majority but, in Marsiglio's classic phrase, by the "prevailing part [of society], both their number and quality in the community being taken into account." And Mill himself, rightly regarded as the preeminent advocate of representative government, was at best ambivalent about the merits of universal suffrage.

What about Jean-Jacques Rousseau? The most one can say here, given the contradictory nature of much of his work, is that while he may have favored representative government, he did not believe in popular democracy, certainly not as we understand the term.

Somit and Peterson do not mention non-Western philosophers, but the situation is undoubtedly the same there, if not actually worse.

In regard to their point that the masses have a striking tendency to submit to authority, Somit and Peterson cite the famous research of Stanley Milgram (1974) showing the remarkable extent to which people will obey a person of authority even when it means causing serious pain to another individual. Milgram set up a series of experiments in which subjects were told that they were participating in a study of memory. Students were asked to sit in front of a contrived machine which they were told was to be used for the administration of punishment in the form of electric shocks to a person, a "learner," sitting out of view. They were instructed that if the learner remembered an item correctly they were to do nothing. But if he remembered incorrectly, they were to administer an electric shock. With each incorrect response, a more severe shock was to be administered. What Milgram found, in results that have been extremely well publicized, was that his subjects were disturbingly willing to administer shocks when the experimenter, a scientist with authority, told them they must. Many of the subjects found this emotionally wrenching, but the vast majority obeyed the experimenter, even when they thought the shocks were becoming extremely painful (actually reaching a dangerous level) and the "victim" that they could not see groaned and screamed in apparent agony. It is interesting that Milgram, in the days before sociobiology and evolutionary psychology emerged on the scene, interpreting his findings in evolutionary terms. He comments that (1974:123-25)

> men are not solitary but function within hierarchical structures. In birds, amphibians, and mammals we find dominance structures . . . and in human beings, structures of authority. . . . The formation of hierarchically organized groupings lends enormous advantage to those so organized in coping with dangers of the physical environment, threats posed by competing species, and potential disruption from within. The advantage of a disciplined militia over a tumultuous crowd lies precisely in the organized, coordinated capacity of the military unit brought into play against individuals acting without direction or structure.
>
> An evolutionary bias is implied in this viewpoint; behavior, like any other of man's characteristics, has throughout successive generations been shaped by the requirements of survival.

> Behaviors that did not enhance the chances of survival were successively bred out of the organism because they led to the eventual extinction of the groups that displayed them. A tribe in which some of the members were warriors, while others took care of children and still others were hunters, had an enormous advantage over one in which no division of labor occurred.
>
> A potential for obedience is the prerequisite of such social organization, and because organization has enormous survival value for any species, such a capacity was bred into the organism through the extended operation of evolutionary processes. I do not intend this as the end point of my argument, but only the beginning, for we will have gotten nowhere if all we can say is that men obey because they have an instinct for it.
>
> Indeed, the idea of a simple instinct for obedience is not what is now proposed. Rather, we are born with a *potential* for obedience, which then interacts with the influence of society to produce the obedient man.

Somit and Peterson limit themselves to state-organized societies, but our knowledge of the main lines of political evolution also offers strong support for their argument (as well as for Milgram's), as we will see in the next section. The simplest societies certainly are not associated with authoritarian forms of political order, but the overwhelming tendency in social evolution is for authoritarian systems to develop once the conditions necessary for their existence have emerged. Once again it seems to be a matter of basic biological tendencies interacting with external conditions.

The existence of power elites in modern democratic societies is also strong confirmation of Somit and Peterson's major claim. Such social scientists as C. Wright Mills (1956), G. William Domhoff (1970, 1978, 1983, 1990), and Michael Useem (1984) have shown the extraordinary degree to which the most important decisions in modern American society are made by a very small number of very powerful people. Marxists (e.g., Miliband, 1977; Szymanski, 1978) have shown that the capitalist class, a tiny segment of the population, exerts an enormous influence over decision-making with respect to the economy. Indeed, C. Wright Mills argued in his famous book *The Power Elite* (1956) that the notion that the United States is a true democracy was actually so mythical that it was a fairy tale. This is not to say that the power elite theorists are right in everything they say, but simply that the reality of power elites is virtually undeniable.

Somit and Peterson argue that modern democracy became the major form of government in some societies in the modern world because of a variety of conditions. They list such things as a more egalitarian distribution of wealth, advanced education, urbanization, and a predisposing civic culture. Most of these are reasonable enough, although I would stress the first because it is the one most compatible with Rueschemeyer, Stephens, and Stephens's (1992) argument that it is the rise of a large and well-organized working class that is the key to democracy (more on which below). But they go on to add that democracy has only become stable and long-lasting because of humans' extraordinary indoctrinability. Since humans are naturally predisposed toward authoritarianism, they have had to be indoctrinated against their nature to accept democracy. It is in this way that democracy has moved from the status of "ugly duckling" to that of "irrestible swan."

Somit and Peterson suggest that democracy may be only a fleeting phase that is destined to disappear in the near future – that authoritarian government is apt to be a persistent phenomenon rather than an archaic stage of political evolution. In this I fear they may be correct. Indeed, many of the leaders of democratic nations seem to have the same fear. Repeatedly it is pointed out that democracy is fragile and requires the constant vigilance of the masses to maintain. We hear frequently of the need for democratic societies to have a well-educated citizenry because only by the presence of such a citizenry can democracy be preserved.

Although Somit and Peterson's major claim concerning the human inclination toward authoritarian politics rings true, at least in my view, there are some features of their analysis that are discomforting. In my

view they underestimate considerably the human inclination to disobey. It is true that humans do have a remarkable tendency to obey, but they also have virtually as strong a capacity to resist. Somit and Peterson say (1997:70), "For six millennia or more, rulers have commanded - and almost always their subjects have obeyed. Major collective acts of rebellion have been so relatively infrequent that almost any reasonably well educated person is familiar with most of them." Moreover (1997:70), "From the origin of organized political society, and over sixty some centuries of authoritarian and tyrannical rule by native and alien governors alike, the nearly (but fortunately not completely) invariable human response has been to obey. Taken in broad historical perspective, disobedience is a rarely encountered political phenomenon." I think the evidence will show that major acts of rebellion have been much more common than this - that disobedience is frequently rather than rarely encountered (Scott, 1990). Humans compete for dominance and power, but the losers resent being dominated and frequently challenge the winners (Boehm, 1999). That is what dominance orders are all about. As we have noted at least once before, in precontact Hawaii paramount chiefs who "ate the powers of government too much" were frequently overthrown and killed. In state-level societies people were seldom successful when they rebelled, but they rebelled frequently nonetheless. Peasant revolts and slave rebellions have been commonplace in history, and attempted revolutions have occurred everywhere in the modern world. Indeed, how do we understand the rise of democracy in the modern world, especially in the sense of universal suffrage, but as an effort on the part of the masses to overthrow authoritarian rule? The members of modern states have not accepted democracy simply because of indoctrination. The evidence is clear that they wanted it and struggled hard for it. Again, the very nature of a dominance order is that there is always some resistance from below to that which is imposed from above. In this sense, Somit and Peterson's conception of the human penchant toward authoritarianism is incomplete because it is inaccurate (or at least highly exaggerated) in its conception of what the subordinates are doing.

THE EVOLUTION OF CHIEFDOMS AND STATES

Years ago an extremely useful typology of political systems was proposed by the anthropologist Elman Service (1962, 1971), who distinguished between bands, tribes, chiefdoms, and states. Bands and tribes are political systems found among small-scale and highly undifferentiated societies, usually hunter-gatherers, simple horticulturalists, and some pastoralists. Bands are most characteristic of hunter-gatherer societies. They contain leaders, but these leaders lack any power or authority to coerce the actions of others. They maintain their positions only by the consent of the group and should they antagonize others they can be swiftly removed from their positions. Tribes are most common among simple horticulturalists and pastoralists. Like bands, they have leaders who lack formal power or authority. Tribes have sometimes been called *segmentary societies* because political leadership does not extend beyond the village level and each village is a segment of a larger cultural entity and essentially a replica of every other village. Intervillage linkages exist but are generally limited to kin ties and ceremonial relations.

Tribes become chiefdoms when a political structure unifying the separate villages develops and the villages lose their political autonomy. As the name suggests, chiefdoms are political systems under the control of one or more chiefs. A common situation is for there to be a paramount chief who rules the chiefdom but also delegates various powers and functions to a number of subchiefs who maintain control over regions or villages within the chiefdom. Chiefs and subchiefs possess genuine power and authority to coerce the actions of others in a variety of ways. Chiefdoms are normally highly stratified societies, although a wide range of chiefdoms exists in terms of their size and scale (Carneiro, 1981; Earle, 1987). At one end of the continuum, chiefdoms may contain as few as a thousand persons and be only minimally stratified. At the other end, there are chiefdoms with tens of thousands of persons - occasionally even 100,000 or more - that are highly stratified in the sense of exhibiting an extreme gap between top and bottom. Although some scholars have seen the chiefdom as an evolutionary dead end or as an alternative to the state (discussed below) (Webb, 1973; Sanders and Webster, 1978), others see it as a stage of political evolution necessary for state formation (Carneiro, 1981, 1991; Earle, 1987). I regard the latter view as

much more plausible, because it is extremely difficult to see how polities could evolve from autonomous villages all the way to the complexity of the state in one big step. This view is also supported by archaeological evidence showing that chiefdoms have in fact preceded states in many regions of the world (Earle, 1978).

What then of the state? Carneiro (1970:733) defines the state as "an autonomous political unit, ecompassing many communities within its territory and having a centralized government with the power to draft men for war or work, levy and collect taxes, and decree and enforce laws." The difficulty with this definition is that it could apply just as well to complex chiefdoms. What else is needed to transform a chiefdom into a state? The answer is, a monopoly over the means of violence. To say that states exercise a monopoly over the means of violence is to say that that have acquired a level of military force sufficient to prevent (in the vast majority of cases at least) being overthrown by a revolt from below. States, or at least the societies under their control, have a number of additional features worth mentioning (Sanders and Webster, 1978; R. Cohen, 1978). These include dense populations based on agriculture, unequal access to subsistence resources, complex economic specialization, a hereditary class structure, urbanism and monumental architecture, a complex system of trade and markets, and a complex set of judicial procedures. The formation of the state in prehistory represents a remarkable process of parallel evolution. States first formed in Mesopotamia and Egypt around 5100 years ago, but they developed independently in China sometime around 4100 to 3800 years ago, in the Indus Valley in India around 4600 years ago, in Europe perhaps as early as 4000 years ago and no later than 2700 years ago, in Mesoamerica sometime after 2200 years ago, and in Peru after AD 1 (Sanderson, 1999).

A variety of explanations of the rise of the state have been developed. Some theories have proposed the emergence of trade and economic exchange as the crucial factors (Rathje, 1971, 1972; Wright and Johnson, 1975; Blanton, Kowalewski, Feinman, and Appel, 1981; Feinman, 1991). Marxian theories (Engels, 1970[1884]; Fried, 1967, 1978) hold that the state emerged as the result of the formation of a dominant economic class that needed protection from the subordinate classes it was exploiting. Demographic theories have emphasized population pressure (Kirch, 1984; M. Cohen, 1981; Johnson and Earle, 1987). Perhaps the best-known theory of the origin of the state is Robert Carneiro's (1970, 1981, 1987) circumscription theory. This theory, which is a combined eco- and polimaterialist theory, makes use of three primary variables: population pressure, warfare, and what Carneiro calls environmental circumscription. Population pressure sets everything in motion. When population builds up in a region, warfare frequently results. However, if land is relatively plentiful people have the option of moving away into previously unoccupied land. When land is not sufficiently abundant, or is not well suited to cultivation, this option is not available. Enter environmental circumscription. Circumscribed environments are regions that contain fertile land but in which there are obstacles to movement beyond the region, the obstacles consisting of such things as large bodies of water, mountain ranges, or inhospitable deserts. When population pressure builds up in such regions, warfare intensifies and escalates as societies attempt to take over the land of others. Bands and tribes evolve into chiefdoms, chiefdoms evolve into states, and states sometimes evolve into multistate empires. Carneiro claims empirical support for his theory by noting that all of the major regions of the world in which states first originated were highly circumscribed.

In order to shed light on the process of political evolution I conducted several empirical analyses using data from the the *Ethnographic Atlas* and the SCCS. With respect to the *Atlas*, three variables turned out to be highly correlated with a society's stage of political evolution. Community size correlated .672 (Pearson r), class stratification .657, and subsistence type .525. In terms of the strongest correlate, community size, 76 percent of societies with communities of less than 100 persons were organized as bands or tribes, 22 percent as chiefdoms, and only 2 percent as states. In societies with communities of 5,000 or larger, 3 percent were organized as bands or tribes, 25 percent as chiefdoms, and 72 percent as states. A similar pattern was found with respect to class stratification. Here 67 percent of egalitarian societies were organized as bands or tribes and less than 1 percent as states. No societies with complex stratification were organized as bands or tribes, 28 percent were organized into chiefdoms, and 72 percent were organized into states. Political stage and these three variables were entered into a multiple regression analysis, and together the independent variables explained 56 percent of the variance in political stage. Class stratification was the

best predictor, followed very closely by community size. Subsistence type was a much poorer predictor than either of these. A similar multiple regression analysis was conducted for the SCCS. Here the independent variables were social stratification (a slightly better measure than class stratification), community size, population density, and subsistence type. All of the independent variables were moderately to strongly correlated with political stage, but community size and population density washed out completely when the other variables were partialed out. Subsistence type and social stratification together explained 65 percent of the variance, with stratification explaining a clear majority of this.

The results as a whole are to a large extent a mirror image of the results obtained with respect to the determinants of stratification discussed in the last chapter. Political stage and social stratification are clearly very strongly correlated with each other, almost inextricably intertwined. It is difficult to say which is the dependent variable and which the independent variable. It may be best to conclude that these variables are co-determinants – they ratchet each other up in the evolutionary process. Clearly they determine each other more – usually much more – than either is determined by anything else. The findings might also be seen as casting a certain amount of doubt on Carneiro's circumscription theory of political evolution. For Carneiro, population density is the variable that sets political evolution in motion, but our results show that population density, though highly correlated with political stage, washes out when the other variables are considered. Political evolution seems to be much more a matter of the struggle for wealth than for anything else, a process not recognized by Carneiro; he completely ignores patterns of economic ownership and social stratification (Webb, 1975; Schacht, 1988). This puts Marxian-oriented ecomaterialist theories back into the picture as identifying a crucial part of the process of political evolution (cf. Earle, 1991). None of this necessarily means that Carneiro's theory is altogether wrong, but it can be at best only a part of the story.[1]

THE EMERGENCE OF PARLIAMENTARY DEMOCRACY

Although an early form of democracy developed in ancient Athens (Bollen and Paxton, 1997), fully democratic societies – those with mass suffrage and constitutions granting civil liberties – did not develop until the nineteenth and twentieth centuries in the Western world. A number of cross-national, quantitative studies have been carried out showing a close link between democracy and economic development (e.g., Lipset, 1959; Cutright, 1963; Bollen, 1979, 1983). It has been primarily highly industrialized societies that have generated democracies. Unfortunately, it has been difficult to conclude from these studies exactly why economic development and democracy should be closely associated. What is it about development that leads to democracy?

In perhaps the most detailed cross-national, quantitative study of democracy ever carried out, one based on 172 countries, Tatu Vanhanen (1997) has attempted to identify the key determinants of democracy. Vanhanen argues that democracy emerges when the large mass of the population acquires resources that it can use to force autocratic states to open themselves up to mass suffrage and political rights. He stresses that these crucial resources are not limited to economic ones. Vanhanen identifies six types of resources and thus six major variables that should contribute to democratization: size of the nonagricultural population (NAP), size of the urban population (UP), the degree to which farms are independently owned by families (FF) , the literacy rate (LR), the number of students in institutions of higher education (STU), and the decentralization of nonagricultural economic resources (DD). He combines these six variables into a comprehensive supervariable that he calls the Index of Power Resources (IPR), which he then correlates with an Index of Democracy that is based on the extent of both electoral participation and political party competition. The average correlation of the IPR for three different years (1991, 1992, and 1993), was .786, which translates into 62 percent of the variance being explained.

One problem with Vanhanen's analysis is that he stops with simple correlations, failing to control for any other variables. Moreover, he makes the assumption that all of the six subvariables within his IPR are of equal significance in producing democracy. I find this extremely implausible, but we do not have to leave it at that. Since Vanhanen reports all of his data, we can decompose his IPR into its six dimensions

and put all of them into a multiple regression analysis. I did this while at the same time adding two more independent variables, gross national product per capita (GNP) and degree of unionization of the labor force (ULF). Using Vanhanen's Index of Democracy for 1993 as the dependent variable, I found that it was correlated moderately to strongly with all eight independent variables. However, the zero-order correlations for NAP, UP, FF, STU, and GNP all but disappeared when the other seven independent variables were controlled. The best predictors of the level of democracy were DD, LR, and ULF. These three variables alone explained 66 percent of the variance (slightly more than Vanhanen explained with his entire IPR), and DD was clearly the strongest of these. Obviously, then, Vanhanen's subvariables are very unequal in their ability to explain democratization.

Vanhanen's Index of Democracy combines measures of electoral participation and party competition. He argues that this index will reflect the extent to which a government grants political and civil rights. This may be true to some extent, but I employed measures of political and civil rights as additional dependent variables. Vanhanen's IPR was correlated .703 with political rights, thus explaining 49 percent of the variance. This was considerably improved by putting the eight independent variables used earlier into a multiple regression analysis. In this instance, just two variables, DD and LR, explained 72 percent of the variance, and DD explained the great bulk of this. Both of these analyses were repeated with a measure of civil rights as the dependent variable. IPR correlated .687 with civil rights, explaining 47 percent of the variance. In my multiple regression analysis, DD and LR explained 64 percent of the civil rights variable and, again, DD explained most of this.

As a final analysis, I created a new measure of democracy, which I call "superdemocracy" (SD), by combining Vanhanen's Index of Democracy with the measures of political and civil rights. DD and LR were able to explain a huge 85 percent of the variance in SD, with DD explaining about 59 percent and LR about 26 percent. When various world regions were considered separately, DD was far and away the most important predictor of SD in Europe/North America, Asia, and Africa, and marginally the best predictor in Latin America. DD was also quite clearly the best predictor among both the poorest and the richest halves of the world's countries.

My regression analyses extend Vanhanen's important research by showing that it is the decentralization of nonagricultural economic resources that is by far the best predictor of democracy. This dimension of Vanhanen's IPR is far more important than his other five dimensions, and four of his dimensions turn out to be relatively unimportant. However, which way are the causal arrows pointing? Conceptually and theoretically I prefer the argument that it is the decentralization of economic resources that leads to greater democracy, but this cannot be demonstrated on the basis of the analyses carried out thus far. It is possible that as societies democratize they give people the opportunity to decentralize economic resources. Lenski (1966), for example, has argued that the key to greater economic equality in modern industrial capitalist societies has been democratization. And Rueschemeyer, Stephens, and Stephens (1992:297) say that "the greater weight of the subordinate classes in the political process should in turn express itself in state policies which redistribute resources from the privileged to the underprivileged. This is what, in fact, has happened."

To make a reasonable assessment of the direction of causation I selected two different points in time (1920 and 1970) and performed two panel analyses. Because Vanhanen did not include data on DD for any dates earlier than 1990, I had to use IPR as a rough proxy for DD on the assumption that the most important part of IPR is, in fact, DD. In the first analysis, I regressed 1920 levels of IPR on the 1970 Index of Democracy while controlling for the 1920 Index of Democracy. The results showed that 1920 IPR predicted 1920-1970 changes in the Index of Democracy better than the 1920 Index of Democracy did (respective betas = .401 and .337), an excellent result. In the second analysis, the 1920 Index of Democracy was regressed on 1970 levels of IPR while simultaneously controlling for 1920 levels of IPR. Here the 1920 Index of Democracy was a weak predictor (beta = .162), whereas 1920 IPR was a very strong predictor (beta = .673). The conclusion to be drawn is that IPR is exerting a much greater causal effect on the Index of Democracy than the Index of Democracy is exerting on IPR. If IPR is a reasonably satisfactory proxy for DD, then changes in DD cause changes in the level of democratization.

Dietrich Rueschemeyer, Evelyne Huber Stephens, and John D. Stephens (1992) are highly criticial of quantitative studies of democracy primarily because they believe that they do not allow us to establish a clear causal order among the variables. They have carried out the most comprehensive qualitative study of democracy known to me. On the basis of detailed comparative and historical study, they show that democracy developed earliest and most extensively in the most industrialized societies. They argue that this is because those societies developed large and well-organized working classes that engaged in political struggle in order to get the vote. Democracy was inhibited in less-industrialized or nonindustrialized societies not only because the working class was small and weak, but also because the landed nobility was the dominant social class and it fiercely resisted democracy because of its incompatibility with its need for a submissive peasantry. In Europe, democracy developed first in Switzerland, France, Norway, and Denmark and then shortly thereafter in Britain, the Netherlands, Belgium, and Sweden. These were the most industrialized European societies with the largest working classes. Italy, Germany, Austria, and Spain made a fairly early transition to democracy, but in each case democracy broke down after a short time. These cases fit Rueschemeyer, Stephens, and Stephens's argument because they were less-industrialized countries with weaker working classes and powerful landed nobilities. With later industrialization these countries returned to democracy, although in the case of Spain quite late. Democracy also developed early in the British settler colonies - the United States, Canada, Australia, and New Zealand - and long before they experienced substantial industrialization. However, despite their limited industrialization, Rueschemeyer, Stephens, and Stephens point out that these societies began as societies of free farmers; there was no peasantry or landed nobility, and thus no class obstacle to democracy.

How compatible are the results of Rueschemeyer, Stephens, and Stephens with my reanalyses and extensions of Vanhanen? At a general level they seem highly compatible, since Vanhanen's DD seems to be the kind of thing that Ruschemeyer, Stephens, and Stephens are referring to when they talk about the growing size and power of the working class. But under more careful scrutiny the results seem to be at variance with the conclusions of Ruschemeyer, Stephens, and Stephens. These authors claim that democracies developed earliest in those capitalist societies that had moved farthest along the path of industrialization. Presumably, this can be measured best by two of Vanhanen's variables, NAP and UP. Although these variables are substantially correlated with the level of democracy, the correlations wash out when the other independent variables are controlled. Moreover, Vanhanen's IPR and DD were much better predictors of democracy than ULF (degree of unionization of the labor force). In terms of Rueschemeyer, Stephens, and Stephens's theoretical logic, this last variable should be a major predictor of the level of democratization; that it was not casts doubt on their causal chain. The crux of the difference between their variables and Vanhanen's DD seems to be that DD is more Marxian in nature inasmuch as DD involves ownership of the means of production (Rueschemeyer, Stephens, and Stephens stress that their analysis is not a Marxian one). My conclusion, therefore, is that the critical factor in the democratization of Western and other societies has been shifts in the ownership of capital resources in a more decentralized and egalitarian direction. Rueschemeyer, Stephens, and Stephens are correct to point out that industrialization preceded democracy, but they have not identified exactly what it is about industrialization that produces higher levels of democratization.

Does the emergence of democracy in the modern world contradict the argument of Somit and Peterson (1997) that political authoritarianism is part of human nature? In my view, no. As argued earlier, humans are both naturally authoritarian and naturally resist authoritarian behavior directed toward themselves. Throughout human history the conditions necessary to sustain democracy rarely existed, but in the modern world these conditions have emerged. Nonetheless, I would still argue that democracy is a rather fragile phenomenon that takes a great deal of effort to maintain. There is no necessary evolutionary trend toward greater democracy, and future governments may see a return to less democratic politics. It is not at all out of the question that democracy could be a fleeting form of government that will emerge only under very special circumstances.

WAR IN HUMAN SOCIETIES

The relation of the sexes . . . is the cause of war and the end of peace.

Arthur Schopenhauer

He butchered three of them with an ax and decapitated them. In other words, instead of using a gun to kill them he took a hatchet to chop their heads off. He struggled face to face with one of them, and throwing down his ax managed to break his neck and devour his flesh in front of his comrades. . . . I awarded him the Medal of the Republic.

General Mustafa T'las

Man's greatest good fortune is to chase and defeat his enemy, seize his total possessions, leave his married women weeping and wailing, ride his gelding, [and] use the bodies of his women as a nightshirt and support.

Ghengis Khan

War is regarded as nothing but the continuation of politics by other means.

Karl von Clausewitz

A warlike spirit, which alone can create and civilize a state, is absolutely essential to national defense and to national perpetuity. . . . The more warlike the spirit of the people, the less need for a large standing army. . . . Every male brought into existence should be taught from infancy that the military service of the Republic carries with it honor and distinction, and his very life should be permeated with the ideal that even death itself may become a boon when a man dies that a nation may live and fulfill its destiny.

General Douglas MacArthur

How common is war in human societies past and present? The answer seems to be that humans are a highly war-prone species. Clark McCauley (1990) asserts that peaceful societies have been rare, a judgment strongly seconded by Lawrence Keeley (1996). Keeley summarizes findings from three cross-cultural studies of warfare using ethnographic data. In a study of 50 societies by Otterbein (1989), 90 percent of the societies were without question engaged in warfare, with the remaining societies at least occasionally engaged in some violent conflict. In another study of 90 societies (Ross, 1983), only 13 percent seldom or never engaged in warfare. However 6 of these societies were ethnic or tribal minorities that had been pacified by modern nation-states, and 3 were living in geographical isolation, thus making the practice of war difficult or impossible. In the third study, which examined 157 North American Indian societies (Jorgensen, 1980), only 4.5 percent were reported to be truly peaceful, and all of these were small bands living in very dry and highly isolated environments. Shaw and Wong (1989) show that data on some 90 hunter-gatherer societies indicate that only 3 can be classified as relatively peaceful (the Eskimos of the Yukon, the Siriono of Bolivia, and the Semai of Malaysia). Peaceful hunter-gatherer bands, they point out, are those that are highly isolated or so nomadic that territorial conflict tends not to be possible. But even the most peaceful hunter-gatherer societies are not entirely free from war. Keeley argues that the war proneness of humans is also strikingly revealed by the archaeological record (cf. Ferguson, 1997, for a contrary view). He claims that

- evidence from Czechoslovakian cemeteries dating between 35,000 and 24,000 years ago suggest a high level of violent conflict;
- human skeletons found in Egyptian Nubia between 12,000 and 14,000 years ago suggest common and brutal warfare;
- violent death is suggested by the remains of hunter-gatherer societies in western Europe between 5,000 and 10,000 years ago;
- many villages of early agricultural tribes and simple chiefdoms in Neolithic Europe were fortified with ditches and palisades and, at least in Britain, several of these enclosures reveal clear evidence of having been attacked and burned;
- several areas of the prehistoric United States, especially those where archaeological study has been extensive, reveal violent deaths and in some periods these were extremely common.

What then of the frequency of warfare? Otterbein's study of 50 societies found that 66 percent of prestate societies were engaged in war every year, as were 40 percent of state-level societies. In Ross's study of 90 societies it was found that 62 percent of tribes and chiefdoms engaged in war yearly, as did 77 percent

of state-level societies. Shaw and Wong summarize evidence collected by Montagu (1976) showing that there have been on the order of 14,500 wars over the past 5,600 years of world history, as well as evidence from Burke (1975) indicating that in the last 3,400 years of history there have been a mere 268 years of peace. Pitirim Sorokin (1937:352) has shown that throughout the history of Greece and Rome and over the past several hundred years of European history, "Almost every generation (25 to 30 years) in the past, with very few exceptions, has been a witness of, or an actor in, war phenomena." Shaw and Wong note that war proneness is also a relative constant in modern history. The proper conclusion seems to be that almost all societies have been warlike and most of these have engaged in war on a very frequent basis.

EXPLAINING WAR: BANDS AND TRIBES

Perhaps the most famous theory of warfare in bands and tribes is the ecomaterialist theory of Marvin Harris (Divale and Harris, 1976; Harris, 1984) in which war is seen basically as a population-regulating mechanism. Population pressure and resource scarcity, especially scarcity in the availability of animal protein, are regarded as the proximate causes of warfare. Warfare leads in turn to a male supremacist complex since societies that go to war frequently need to rear large numbers of fierce and combat-ready warriors, and the best way to do this is to exaggerate the characteristics of masculinity and denigrate the characteristics of femininity. The male supremacist complex helps provide a justification for female infanticide, which, in addition to male deaths from combat, helps to regulate population growth. Warfare also helps to balance out numbers of people against the supply of animal protein by creating "no-man's lands," or areas where people do not live that can be protected zones for animals. For Harris, band and tribal warfare is adaptive in the sense of producing a better standard of living than would otherwise be possible.

Harris's theory has been highly controversial ever since it was introduced. It has been strongly challenged by Napoleon Chagnon (1983; Chagnon, Flinn, and Melancon, 1979). Since Chagnon views protein scarcity as the crux of Harris's theory, he has tried to show that the Yanomamö, an Amazonian horticultural tribe studied extensively by Chagnon and used by Harris to illustrate his theory, are eating plenty of animal protein. In fact, Chagnon shows that the Yanomamö and several other Amazonian groups consume more animal protein per capita per day than the USSR, the United Kingdom, Germany, Portugal, and Japan, and nearly as much as Australia and New Zealand, the world leaders in the consumption of animal protein. Chagnon himself favors a biomaterialist interpretation of band and tribal warfare, arguing that the Yanomamö fight over women and that they have a natural tendency toward violence that, in the absence of a state, cannot be suppressed. But more on that later.

Brian Ferguson (1989b) has challenged the relevance of Chagnon's calculation of how much animal protein the Yanomamö and other Amazonian groups are eating. He notes that Harris's protein hypothesis does not predict an actual deficiency of animal protein in the diet, but, rather, implies that war will stop the decline in dietary animal protein before it has a chance to reach unhealthy levels. For Ferguson, then, it is no surprise that Amazonian groups seem to be eating enough meat. However, Ferguson challenges Harris's theory on other grounds. He notes that it has commonly been observed that the threat of war leads people to establish larger villages than would normally be the case, and that large villages lead to a greater depletion of local game than do smaller villages (Ferguson, 1989a). Thus, war cannot be seen as producing a better fit between population and natural resources. Ferguson insists that war is not adaptive. "War may produce a fit between population and resources," he says, "but it is a bad fit. Life is worse for war" (1989a:258). Ferguson (1989b) admits that the decreasing availability of game does lead to increasing interpersonal conflict within villages, but he denies that this leads to actual warfare between villages. This conflict, he believes, is simply not sufficient to start wars. The logical outcome of interpersonal conflict, he claims, is movement, not war.

By way of further test of Harris's theory, Keeley (1996) found no correlation between population density and the frequency of warfare for 87 societies. Surprised by this result, I undertook my own test of the relationship for the band and tribal societies in the SCCS. The correlation was not only low, but was

running in the wrong direction (r = -.119). A true test of Harris's theory requires a measure of actual population *pressure* rather than simple population density. I created such a variable by combining population density with the intensity of production. The results were almost exactly the same (r = -.109). These results call Harris's theory seriously into question inasmuch as the theory emphasizes resource scarcity as the result of population pressure as the major cause of war in band and tribal societies.

Ferguson (1984, 1990a) has proposed an ecomaterialist theory of warfare that is broader than Harris's, broad enough in fact to explain war beyond the level of bands and tribes. Ferguson agrees with the Harris school that war arises from material causes and comments that nonmaterial goals and aims will ordinarily not lead to war unless these aims are accompanied by material objectives. Ferguson's basic theory is that wars will occur when the decision makers believe that the material benefits of war will outweigh the material costs. Ferguson specifies six material interests decision makers can have and thus six strategic objectives of war (1990a:30):

1. to increase access to fixed resources by eliminating competitors;
2. to capture movable goods;
3. to impose an exploitative relationship on one or more previously independent groups;
4. to conquer and incorporate one or more other groups;
5. to enhance the power and status of those who make decisions about whether or not to make war;
6. to defend against attacks by other groups.

This seems to me a very sensible theory of human warfare in general, some parts of which apply in particular to bands and tribes. Harris has emphasized the first strategic objective of war among bands and tribes, whereas Ferguson emphasizes this but also the second, third, and sixth objectives. Ferguson (1990b, 1995a) claims that the most fundamental cause of warfare among the Yanomamö and other Amazonian groups, both historically and at present, is Western contact (cf. Ferguson and Whitehead, 1992). Historically, native populations have often been drawn into colonial rivalries between European powers and engaged in war as a result. Europeans have often introduced epidemic diseases that have created severe population imbalances and led to warfare designed to capture women and children in order to redress these imbalances. Most significantly, however, Ferguson emphasizes conflict over the allocation and control of Western manufactured goods, especially steel axes. Ferguson points to studies which show that steel axes are far superior to stone axes in terms of efficiency, being able to reduce work time and energy expended by a factor of anywhere from three to nine. Among the Yanomamö, forest can be cleared seven to ten times faster using steel axes. Many native Amazonian peoples long ago acquired great dependence on steel axes and maintain such dependence to this very day. They have also become dependent on such manufactured goods as shotguns, machetes, knives, fishhooks, pots, manioc griddles, matches, tobacco, kerosene, beads, and clothing. Throughout Amazonia, and in all historical periods, Ferguson claims, native groups have gone to war to gain access to these and other highly desired goods. As he (1990b:245) puts it,

> we know for certain that many Native peoples have gone to war in order to obtain Western manufactures, especially steel tools. Throughout virtually all regions and time periods, Native peoples have been willing to kill and risk death to get these precious means of production. That leads to a question: what happens when something this valuable enters Native systems of exchange? The answer, I believe, is that this entry both creates conflicting vital interests and transforms relations of cooperation at all levels of social organization. Furthermore, these conflicting interests, fully embedded in the totality of social relations, shape political alignments and general social hostilities, up to and including war.

Ferguson is not implying that there was no war in Amazonia prior to European intrusion, for most certainly there was. But he does see the introduction of Western goods as greatly intensifying war and keeping it alive.

A third major type of explanation of band and tribal warfare is biomaterialist, one subtype of which is the classical sociobiological theory: Men compete among themselves for access to women, and when the scarcity of women becomes severe enough intervillage warfare is the result (Chagnon, 1988; Low, 1993b; van der Dennen, 1995:317-31). This scarcity can result from such factors as female infanticide, unbalanced sex ratios that develop for other reasons (Fisher, 1958[1930]; Chagnon, Flinn, and Melancon, 1979), or the

practice of polygyny. However, Donald Symons (1979) points out that women are always scarce to at least some extent in all societies, and that men therefore are always in competition for them. The men who will be most reproductively successful will in most cases be the most successful warriors, and men will therefore be strongly motivated to form coalitional bands and go to war (cf. Tooby and Cosmides, 1988). As Bobbi Low (1993b:33) has pointed out, "The benefits of warfare to men in preindustrial societies thus include increased direct access to reproductive females, and increased material resources useful for the lineage and in contracting marriages."

Focusing in particular on the Yanomamö case, Chagnon (1988) argues that this group fights primarily over women and that blood revenge is a major motive for war once it has started. Chagnon says that most fights begin over such things as infidelity and suspicions of infidelity, seductive attempts directed at other men's wives, stealing women from visiting groups, and sexual jealousy. Many of the fights that arise over sexual matters culiminate in both intra- and intervillage killings. "Aggressive groups," he says, "coerce nubile females from less aggressive groups whenever the opportunity arises. Many appear to calculate the costs and benefits of forcibly appropriating or coercing females from groups that are perceived to be weak" (1988:986). The Yanomamö themselves explain their own warfare in terms of competition for women. In an amusing anecdote, Chagnon (1983) conveyed to a Yanomamö village he was living with Harris's protein scarcity explanation of their warfare. Upon hearing this, they laughed and said that they liked meat but they liked women a whole lot more! An important status among Yanomamö men is that of *unokai*, or one who has killed another man, and Chagnon shows that *unokais* have more wives and greater reproductive success than non-*unokais*. In a study of 380 Yanomamö men (137 *unokais* and 243 non-*unokais*), Chagnon (1988) has shown that the *unokais* had an average of 1.63 wives per man, whereas the non-*unokais* averaged only 0.63 wives per man. The gap was particularly wide among men aged 20 to 24. In this age group, 5 *unokais* had a total of 4 wives, but 78 non-*unokais* had a total of only 10 wives. Obviously the key to mates and reproductive success among Yanomamö men is to gain status by killing other men.

There is a great deal of evidence from other bands and tribes that conflict over women is a major cause of war. As Laura Betzig (1986:26) has pointed out,

> Disputes over women "stand apart" among modern Turks, invariably calling for violence . . .; elopements may lead to physical fighting among the Mohla in the Western Punjab.
> . . . adultery is regarded as the most serious crime among the Semang . . . ; and over 90% of Tiwi disputes were matters in which women were somehow involved . . . . Among Kapauku, Pospisil noted that most wars start because of violations of a husband's exclusive sexual rights . . . ; Linton found Marquesan killings followed two motives: sexual jealousy and revenge . . . . Among the Saramacca of the upper Suriname River Basin, quarrels over women were more frequent than any other kinds of disputes . . . ; and among Trumai, "the chief source of conflict in the village was sex."

I have tried to test this sociobiological hypothesis empirically in a rough sort of way. Using the SCCS, correlational analyses were run between overall warfare frequency and 12 independent variables. The only variables that were substantially correlated with warfare were frequency of homicide ($r = .417$) and frequency of socially organized homicide ($r = .548$). When only bands and tribes were included in the analysis, the respective correlations were .507 and .520. This suggests to me support for the sociobiological argument. Warfare is most closely related to male violence outside the context of war, and it is likely that this violence is occurring mostly over women, as Chagnon and others have suggested. Harris and Ferguson stress resource scarcity as the primary cause of band and tribal warfare, but it would appear to be women that are the most crucial resource.

A biological foundation for human warfare is also strongly suggested by a human-chimpanzee comparison. Chimps and humans share about 98.5 percent of their DNA, and chimps are actually more closely related to humans than they are to gorillas. Chimps are humans' closest relative, and they shared a common ancestor that is believed to have lived between about 5 and 7 million years ago. In the last two decades or so it has become evident that chimpanzees are animals who frequently engage in lethal violence. Patterns of chimpanzee violence and their similarities to human violence have been carefully studied by the biological anthropologist Richard Wrangham (Manson and Wrangham, 1991; Wrangham and Peterson, 1996). Evidence has accumulated to show that the males of chimpanzee communities commonly patrol

their community's borders and raid neighboring communities. Often this raiding appears to have as its main objective the killing of the other community's adult males. Small groups of males will seek out lone males, attack them, and kill them mercilessly, often mutilating the body. There is a stunning similarity between intergroup violence among chimpanzees and human warfare between bands and villages, and it is striking that chimps and humans are the only primates who engage in this particular type of behavior. Wrangham notes that about 30 percent of adult male chimpanzees die as the result of violence, a figure that closely approximates the situation in many human bands and tribes. About 30 percent of Yanomamö men die from violence, as do 20 percent of men among the Huli, 25 percent of Mae Enga men, and 29 percent of men among the Dugum Dani, all groups from highland New Guinea. Among the Murngin of Australia in aboriginal times, about 28 percent of men died from violence.

Wrangham refers to human and chimpanzee males as *demonic males* and argues that chimps and humans are the only species with such males. He argues that human and chimpanzee males have inherited their strong aggressive tendencies from their common ancestor. And these demonic males have not evolved in isolation from females; females have collaborated in the evolution of demonic males because they have preferred such males as mates. Demonic males are the most successful reproducers, and thus females who mate with them are likely to have sons who will be good reproducers. Females can maximize their reproductive success by mating with demonic males. Wrangham says that the "individual men and women who make up our species are extraordinarily ready to admire, to love, and to reward male demonism in many of its manifestations; and that admiration, love, and rewarding perpetuates the continuation, for generation after generation, of the demonic male within us" (Wrangham and Peterson, 1996:241).

Shaw and Wong (1989) offer yet another type of biomaterialist explanation of war. They root band and tribal warfare in ethnocentrism, which is itself driven by xenophobia, or fear of and hostility to strangers. In state-level societies warfare is driven by nationalism and ethnic mobilization, which are modern expressions of ethnocentrism. A large literature has now accumulated (e.g., van den Berghe, 1981a; Reynolds, Falger, and Vine, 1986) which provides strong evidence that ethnocentrism is an evolutionary adaptation. In the ancestral environment strong attachment to one's group and willingness to fight in defense of it would have been highly adaptive. On the whole and in the long run, individuals who behaved in such a fashion would have more often lived to fight another day, and to acquire mates and leave offspring, compared to individuals with weaker group attachments. Darwin himself saw ethnicity and ethnocentrism as evolutionary adaptations. He said that a "tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to aid each other and to sacrifice themselves for the common good would be victorious over other tribes." Darwin even made the connection between ethnocentrism and warfare explicit: In-group amity and out-group enmity go together as two sides of the very same coin. In support of Shaw and Wong, it must be recognized that in preindustrial societies, band and tribal societies in particular, in-group attachments are usually intense and out-groups are not only regarded as inferior, but are often vilified as the very essence of evil (Reynolds, Falger, and Vine, 1986). Under such circumstances, it is no wonder that war among bands and tribes is so common.

Shaw and Wong's position fits very well with Wrangham's analysis of chimp-human similarities. Chimpanzees seem to show the same xenophobia that is so characteristic of humans in societies that approximate the ancestral environment. The extreme forms of in-group amity and out-group enmity that we observe in so many human societies dovetail with the neo-Hobbesian position on war (Keeley, 1996), or at least with one fundamental aspect of the neo-Hobbesian position: The condition of war is normal in the absence of a state. Of course, war is also common in the presence of a state, but it is a very different type of war (to be discussed in a moment). The basic point is that it is extremely difficult to stop war in prestate societies once it gets going, and it gets going with remarkable ease. Napoleon Chagnon (1988:990) puts the matter poignantly:

> It is difficult for us to imagine the terror that might characterize our own social lives in the absence of laws prohibiting individuals from seeking lethal retribution when a close kinsman dies at the hands of another human. . . . A particularly acute insight into the power of law to thwart killing for

revenge was provided to me by a young Yanomamö man in 1987. He had been taught Spanish by missionaries and sent to the territorial capital for training in practical nursing. There he discovered the police and laws. He excitedly told me that he had visited the town's largest *pata* (the territorial governor) and urged him to make law and police available to his people so that they would not have to engage any longer in their wars of revenge and have to live in constant fear. Many of his close kinsmen had died violently and had, in turn, exacted lethal revenge; he worried about being a potential target of retaliations and made it known to all that he would have nothing to do with raiding.

My grand conclusions on all these theories are approximately as follows: Harris's ecomaterialist theory does not work very well because it is too narrow; Ferguson's broader ecomaterialist theory is extremely useful because it gives us a comprehensive picture of the kinds of material motivations that are capable of producing war. However, Ferguson overemphasizes Western contact and neglects a crucial resource - women. Human ethnocentrism and xenophobia are also likely to be powerful factors in the initiation and perpetuation of war. We must take seriously the neo-Hobbesian position that humans in a state of nature tend to be quite violent and that war results easily when there is no formal authority to prevent it. Humans are remarkably war prone and seem to have an extremely low threshold for initiating it. It can easily be caused by a wide range of ecological, demographic, economic, sexual, and political factors acting in concert with humans' low threshold for aggression.

EXPLAINING WAR: CHIEFDOMS AND STATES

Although it might be thought that conflict over women is much less likely to be a cause of war in chiefdoms and states than in bands and tribes, I found that frequency of homicide correlated .442 (Pearson r) and frequency of socially organized homicide correlated a whopping .808 with overall warfare frequency for the societies of the SCCS that are organized into chiefdoms. However, the situation was completely different for states. For the state-level societies of the SCCS, frequency of homicide correlated -.053 and frequency of socially organized homicide correlated -.153 with overall warfare frequency. This means that conflict over women, although it still seems to be a major cause of war in chiefdoms, no longer contributes to war in societies organized into states. This suggests additional support for the neo-Hobbesian position on war in that states do suppress interpersonal conflict among males over women.

Considerable evidence has accumulated to show that the nature and causes of war have changed substantially throughout humankind's evolutionary history (Ferguson, 1990a). Broch and Galtung (1966) have shown that what they call "economic war" and "political war" - presumably war fought for land or other economic valuables, as well as to conquer and incorporate other societies - are closely intertwined with the overall evolution of society. They created an index of social evolution for 652 widely different societies. At the lowest level of the index, no society was characterized by economic or political war; at an intermediate level of social evolution, 39 percent of the societies had economic and political war; and at the highest level of social evolution economic and political war were found in 95 percent of the societies. Using a sample of 125 societies from the Human Relations Area Files, and adding to it 7 industrial societies, Leavitt (1977) found that 10 measures of societal complexity (level of agricultural technology, military energy source, military artillery systems, level of transportation technology, level of communication technology, degree of social stratification, presence or absence of metallurgy, presence or absence of weaving, level of political differentiation, and settlement size) were positively correlated at R = .598 with external warfare (war fought between societies), and that these 10 variables explained 36 percent of the variance in external warfare. For the frequency of civil war, the corresponding numbers were R = .632 and 40 percent of the variance explained, and for the frequency of riots R was a huge .866 with 75 percent of the variance explained. Simple feuding, however, was negatively related to most of the measures of societal complexity.

While several of the motives for war that prevail among bands and tribes appear to continue in the transition to chiefdoms, a new motive, that of political conquest, comes onto the scene. Chiefdoms are

hierarchical societies under the formal authority of a chief, and they are capable of establishing much larger fighting forces than anything imagined in bands and tribes. Carneiro (1990) notes that whereas small-scale tribal societies are usually capable of putting together warrior bands of a few dozen at most, chiefdoms can put together fighting forces in the hundreds or thousands. Carneiro has studied chiefdom-level warfare in the Cauca Valley of Colombia and in Fiji. He notes that warfare among chiefdoms in these regions was nearly constant. Fiji was seldom without war, and in the Cauca Valley "warfare was universal, acute, and unending" (1990:193). As to the causes of warfare among these chiefdoms, Carneiro has this to say (1990:193-94):

> The sorts of grievances that provoked warfare between autonomous villages continued to provoke it at the chiefdom level. But in addition, such things as offenses against the dignity of persons of rank, especially the paramount chief, began to play a role. Thus, Williams . . . cites "pride and jealousy of the chiefs" as a common cause of war among the Fijians. And of course, the very existence of multi-village chiefdoms is *prima facie* evidence that the seizure of land and the subjection of peoples had already been acting as causes - or at least consequences - of war. Thus for Fiji, Williams . . . noted that "the fact of there being so many independent governments, each of which seeks aggrandizement at the expense of the rest," was a common motive for hostilities.
>
> In the Cauca Valley, a chief's desire to expand his domain and gain control of natural resources such as gold mines and salt deposits are cited by Trimborn . . . as leading causes of war. Territorial conquest was a particular incentive for Guaca and Popayan, two chiefdoms of the valley which, when the Spaniards arrived in the early 1500s, were actively expanding their territory and apparently well on their way to becoming states.

Patrick Kirch (1984) sounds the same theme with respect to warfare among ancient Polynesian chiefdoms. Warfare was primarily centered around a struggle for power between chiefs and a desire for domination over resources and people. Once the shackles of band and tribal society are released, we see the innate human desire for power and control begin to assert itself in much more vigorous form. States carry the process still further.

In states, as in chiefdoms, economic and political factors are also at the forefront of war. Historically, many state-level societies have been organized as large political empires. Empires are extremely predatory forms of political life, and in fact depend on this for much of their sustenance. The major way wealth is created is through expropriation of an economic surplus from the peasantry, and the best way to enlarge wealth is through incorporating more peasants by conquering neighboring societies. Along with peasants, many other important resources are captured as well - land, slaves, tribute, booty, etc. Political conquest is a major key to wealth. William Eckhardt (1992) has collected data on population size, empires, civilizations, battles, and wars for the last 5,000 years of world history. I analyzed some of his data and found that all of these dimensions of state-level societies are extremely highly intercorrelated, as shown below:

- empires and wars: .931
- civilizations and wars: .924
- population and wars: .964
- empires and battles: .933
- civilizations and battles: .949
- population and battles: .953
- empires and civilizations: .910
- empires and population: .961
- population and civilizations: .960

These results suggest that war virtually defines the essence of the agrarian civilizations and empires that dominated world history. Chiefdoms, especially larger ones, are organized for political and military conquest and the incorporation of conquered and subjugated societies, but states, especially large-scale imperial states, carry out these goals on a scale and to a degree unimagined in most chiefdoms. Speaking of Ancient Rome, Graeme Donald Snooks (1997:140) has said that the "defining characteristic of Roman

warfare was its continuous nature. Rome was a society committed to war and conquest as a business." What was true of Rome has in general been true of all imperial states throughout world history, except perhaps on a less grand scale.

EXPLAINING WAR: MODERN SOCIETIES

Mesquida and Wiener (1996) have tried to show that even in modern societies war may stem from male competition over females and other resources. They examined 88 modern nation-states, the majority of which were less-developed countries, and looked at the proportion of the male population that was in the age group 15-29. They then took the ratio of 15-29-year-old males to males 30 years and older, and correlated this ratio with the level of war. The two variables were correlated at $r = .69$, a very high correlation that explained 47 percent of the variance in war. But what is the causal relationship between these variables? Mesquida and Wiener reasoned that, since men in the age category 15-29 are at their peak level of aggressiveness and competitiveness, a greater proportion of 15-29-year-olds in the population means more competition for resources, females included, and as a result the level of social conflict escalates. At some point war is initiated by governments as a means of enhancing resources in order to reduce internal social conflict. However, there is another interpretation of Mesquida and Wiener's finding that seems just as plausible, if not more plausible: Modern states are more likely to go to war when they have more 15-29-year-olds in the population simply because this allows them to muster a larger fighting force and thus to have a greater likelihood of success.[2]

As in agrarian states, war in modern societies is rooted largely in economics and politics, but very few modern societies are conquest societies (e. g., the old Soviet Union to some extent; occasionally others have tried to be, e. g., Nazi Germany). Marxists stress that war is motivated by the economic competition of capitalists in different nation-states (for instance, they explain the two World Wars, as well as colonial wars, in this manner). Weberians emphasize that one of the main defining features of the state is its organization for war. In this view, the state does not simply fight wars for the benefit of its capitalists, but has its own interests and motives in going to war. It is, in essence, a warmaking machine, and it fights for political glory. The Marxists and the Weberians are both partially right, but I think the evidence will show that the economic motives of modern war generally outstrip the political motives.

To understand war in the modern world it cannot be forgotten that for the past 500 years there has been a capitalist world-system and an international system of states that in the twentieth century became truly global (Wallerstein, 1974a, 1974b, 1979, 1980, 1989). This system has been driven by the imperative of capitalist accumulation and war must be understood within this context. States within these intertwined systems engage in war with one another because they wish to become upwardly mobile both economically and politically, because they wish to avoid downward mobility, or out of pure self-defense against the aggression of other states. As Rasler and Thompson (1994:1) have put it, "The most significant wars, which also tend to be among the most deadly ones, take place within the context of ascent and decline among the world system's most powerful state actors. It is movement toward and away from the apex of the world system's status hierarchy, and the associated costs and benefits associated with leading positions, that cause so much trouble." For example, when The Netherlands (The United Provinces) achieved hegemony within the capitalist world-economy during the middle of the seventeenth century its economic efficiency was so great that its main rivals, Britain and France, were relatively unsuccessful in competing with it on purely economic grounds. Because of this they resorted repeatedly to war to try to undermine The Netherlands' economic position and promote their own (Israel, 1989). When Britain finally became hegemonic within the world-system in the nineteenth century, it could only secure that hegemony by maintaining a powerful military apparatus, especially a strong navy. The hegemony of the United States after World War II was guaranteed by the world's preeminent military apparatus and the United States became, as Britain was before it, a "world policeman." However, we need to be clear that modern war, even major war, is not only about gaining or defending economic advantage. Geopolitical considerations are also of considerable importance (Skocpol, 1979; Collins, 1986b). The behavior of the old Soviet Union in the international

states system, for example, was determined as much by geopolitical as by economic factors, especially its conquest of Eastern Europe in the aftermath of World War II.

The political scientist Joshua Goldstein (1988) has studied cyclical trends in the largest wars of the past 500 years, looking in particular at the relationship between Kondratieff waves and the outbreak of major wars. Kondratieff waves are periods of economic upturn and downturn that last approximately 40 to 60 years. A period of upturn lasts about 20 to 25 years, reaches a crest, and then is followed by a downturn of another 20 to 25 years. Then a new period of upturn begins. Goldstein has shown that in 9 out of the past 10 Kondratieff waves, a major war broke out during the second half of the upturn phase. Goldstein argues that this is because it is during this period of economic prosperity that states have the revenues they need to launch a large-scale war. Goldstein's finding dovetails neatly with my reinterpretation of Mesquida and Wiener's finding that states are more likely to fight wars when they have a high proportion of 15-29-year-old males in the population. In order to fight wars states need resources, especially financial resources, and when they have these resources they are apt to fight wars.

Let us not forget that most wars in modern societies are not major wars; most are on a relatively small scale. Although economic and geopolitical factors may enter in here, often it is ethnic hostility or the desire for political autonomy that are the motivating factors (Low, 1993b). Consider, for example, wars between Hindu India and what became Pakistan, between Nigeria and Biafra, between Tutsis and Hutus in Rwanda and Burundi, and so on. Surveys of wars around the world since 1945 generally show that most of these are between ethnic groups rather than large nation-states (Low, 1993b). What are in essence tribal conflicts of interest are extremely important in most of these wars. So the biological nature of humans – in this instance ethnocentrism and xenophobia – continues to rear its ugly head even in the modern world.

The biological nature of humans is also involved in modern warfare in a more general sense. As Bobbi Low (1993b:40) has remarked, "It is almost certainly true that past correlations between warriors' behavior and reproductive success no longer hold;... Nonetheless, several aspects of men's behavior in wars, and of the organization of fighting forces, suggest that *proximate* correlates of reproductive success due to risky and aggressive behavior still exist in modern wars, and successful leaders organize field units in ways that play on the past kinship structure of warring groups."

NOTES

1. For a much more detailed discussion of political evolution and theories about it, see Sanderson (1999:53-95).
2. I am grateful to Frank Salter for this suggestion.