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The Point of Politics

Abstract: Why do men and women compete? And what makes them compete more or less? An answer to the first question follows directly from Darwin. If *Homo sapiens,* like other species, is a product of natural selection, then we should have evolved to compete in order to reproduce. An answer to the second question follows from more recent versions of Darwinism. People, like other organisms, are likely to compete socially – to form dominance hierarchies – to the extent that it is costly for subordinates to flee ecologically. This paper first reviews evidence that winners at political competition have consistently won at reproductive competition. Next, it documents the slow shift toward declining political competition – toward democracy, and toward declining reproductive competition – toward monogamy, in the course of Western history. Last, it offers a model of what might account for that change.

1. Politics as Sex

"Suppose truth is a woman – what then?"
Friedrich Nietzsche, *Beyond Good and Evil*

Suppose 'truth' is a queen bee, an elephant seal cow, or a red deer hind? For drones, bulls and stags it might be. As Darwin put it in *Selection According to Sex:* "It is certain that amongst almost all animals there is a struggle between the males for the possession of the female. This fact is so notorious that it would be superfluous to give instances" (Darwin 1871, 571). Since then, 'superfluous' studies on diverse species have shown that success in competition correlates with success in reproduction (e.g., Clutton-Brock 1988). For females, that usually requires access to extra food. For males, that usually requires access to extra mates (Bateman 1948; Trivers 1972; Clutton-Brock/Vincent 1991).

Until recently, people fit that pattern. Napoleon Chagnon was among the first to get the detailed demographic data needed to show that men who win at competition – in this case, Yanomamö headmen – marry more women and father more children (Chagnon/Flinn/Melancon 1979; see too Irons 1979; 1980 on Yomut Turkmen). He later found that *unokais,* "those who have killed" either within a village or in an enemy raid, have more than twice as many wives and father three times as many children (Chagnon 1988). Since then, quantitative field studies in several societies have shown that men with higher status, more resources, or ability to win in a physical contest consistently mate with more women and (putatively) sire more children (Micronesian Ifaluk: Turke/Betzig 1985; Betzig

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1988; Paraguayan Ache: Kaplan/Hill 1985; Hill/Hurtado 1994; rural Trinidadians: Flinn 1986; Kenyan Kipsigis: Borgerhoff Mulder 1987; 1988; Aka Pygmies: Hewlett 1988; Efe Pygmies: Bailey 1991; Kenyan Mukogodo: Cronk 1991).

The ethnographic record had already made that qualitatively clear. To Diamond Jenness, for instance, the Copper Eskimo polygynist "must be a man of great energy and skill in hunting, bold and unscrupulous, always ready to assert himself and uphold his position by an appeal to force" (1922, 161). To Bronislaw Malinowski, Trobriand Island chiefs' "essential privilege and duty to tradition is to enforce the golden mean upon others"; that meant, among other things, restricting most subjects to monogamy while they practiced polygyny (1926, 91). And to Garcilaso de la Vega, "if he happened to desire some pretty woman, the Inca [emperor] knew that he had only to ask her father ..., since the entire land belonged to the Sun and to his descendants ..., [and] since the entire people adore them, and could not offend them, however slightly, without laying themselves open to the terrible punishments provided by the law" (1961, 25). Incas, like other powerful men, picked young women – with their reproductive lives ahead of them (e.g., Symons 1979; Jones/Hill 1993); they picked 'pretty' women – arguably healthier ones (e.g., Thornhill/Gangestad 1993); and they picked virgins, locked up and guarded them – making sure of their fidelity (e.g., Dickemann 1981; Buss 1994). Men's power paralleled sexual access to women within and between societies (Dickemann 1979; van den Berghe 1979; Betzig 1982; 1986; 1993; Table 1). In small, foraging groups, like the Eskimo, good hunters or fighters had primary sexual access to just two or three women; local leaders, like Yanomamö headmen, had primary access to as many as ten; supralocal leaders, like Trobriand chiefs, kept up to a hundred women in guarded harems; and heads of traditional

Table 1

	Hierarchy	*Despotism*
Despotism	.496 (n = 104)	
Polygyny	.358 (n = 99)	.859 (n = 99)

Cramer's V associations among hierarchy (number of levels in jurisdictional hierarchy, coded from 0 - 4), despotism (presence or absence of arbitrary killing by heads of hierarchy, coded dichotomously), and polygyny (number of women in head of hierarchy's harem, coded 1 (3 or fewer), 2 (4 - 10), 3 (11 - 100) or 4 (more than 100)), on a world sample of 104 politically autonomous societies. $p < .0001$ in every case. Correlations are consistent across geographic subsamples. Partial correlations, however, show no significant associations between hierarchy and despotism or polygyny; exceptions are mainly confined to post-industrial societies (Betzig 1986, ch. 5).

states, like the Inca, kept thousands (in Betzig 1993). The facts were clear in rudimentary form to Darwin. He said, "polygamy ... is almost universally followed by the leading men in every tribe" (1871, 896).

2. Change

> *"I go back from age to age up to the remotest antiquity, but I find no parallel to that is occurring before my eyes."*
>
> Alexis de Tocqueville, *Democracy in America*

Until recently, despotism prevailed in the West as well. Edward Gibbon, in *The Decline and Fall of the Roman Empire,* began: "If a man were called to fix the period in the history of the world during which the condition of the human race was most happy and prosperous, he would, without hestitation, name that which elapsed from the death of Domitian to the accession of Commodus." (1961, 1) Although Antonine emperors may have been relatively benign, the Latin sources tend to contradict Gibbon. According to Suetonius, Augustus won "the hatred of the people" for capricious killing. A Roman knight was done in for "taking too close an interest" in an imperial speech; a consul-elect was driven to suicide after a "spiteful comment" provoked the emperor's threats; and a praetor was tortured "as if he were a slave" and sentenced to death for hiding writing tablets under his toga (Suetonius, *Augustus,* 27). Later emperors were nastier. Under Tiberius, Augustus' successor, people could be killed for carrying a coin bearing Augustus' head, for changing their clothes too close to Augustus' image, "or for criticzing anything Augustus had ever said or done". "Every crime became a capital one, even the utterance of a few careless words." (Suetonius, *Tiberius,* 58, 61) And under Caligula, who followed Tiberius, men of good family were branded, sent to the mines, or thrown to wild beasts "for criticizing his shows, or failing to sear by his Genius" (Suetonius, *Caligula,* 27). More credible Latins, like Cassius Dio and Tacitus, confirm the impression that Rome was a despotism. Dio attributes to Caligula the most concise remark a despot might make: "Would that you all had but a single neck" (*History* lix.13.6); and Tacitus refers to Tiberius' "reign of terror" when private extravagance was prohibited or, as he puts it, "when distinction meant death" (*Annals,* iii.54).

Sir Ronald Syme, in his classic *The Roman Revolution,* argued that Augustus and later emperors made a lasting peace in the Roman empire by subordinating the senatorial aristocracy that ruled under the republic (1939). That fits with more recent evidence. Keith Hopkins, for instance, in his study of *Death and Renewal,* documented a rise in the numbers of consuls, praetors, senators, and even citizens under successive emperors – in other words, there were more and more honors, so every honor was cheaper (1983). And Peter Garnsey, in his study of *Social Status and Legal Privilege in the Roman Empire,* found a general status-bias in the application of Roman law, and a specific tendency of emperors to favor sumptuary legislation that kept senators and other competitors from having extravagant weddings, sponsoring too many shows, wearing showy clothes, eating ostentatious

food, being interred in big tombs, and so on (1970). The most devastating of all tools emperors used against the aristocracy might have been the "moral" legislation, which Theodore Mommsen called "one of the most intrusive and long-lasting creations in criminal law in all history" (1955, 691). Those laws, passed under Augustus and augmented by emperors up to Constantine, may have widened the gap between imperial and senatorial power. Among other things, they made it harder for senators and other rich men to get a rich wife, to keep her chaste, and, above all, to leave the bulk of an estate to her eldest son (Betzig 1992a). Apparently as a result, "the historical aristocracy began to wither away. The huge latifundia disintegrated into parcels in the course of the proscriptions" (Csillag 1976, 67).

Roman despotism was arguably matched by differential reproduction. According to the Latins, most Roman emperors were promiscuous. Consider Suetonius on Augustus: "His friends used to behave like Toranius, the slave-dealer, in arranging his pleasures for him – they would strip mothers of families, or grown girls of their clothes and inspect them as though they were for sale." (*Augustus,* 69). Consider Tacitus on Tiberius: When he retired to Capreae, "his former absorption in State affairs ended. Instead he spent his time in secret orgies" (*Annals,* iv.66-7). Consider Dio on Caligula: He liked to say he'd copulated with the moon, and to pose as Neptune, Bacchus, Apollo, and Jupiter; "he made this a pretext for seducing numerous women" (*History,* lix.26.5). Nor was promiscuity confined to the imperial aristocracy. The evidence on Roman slavery suggests that the millions of slaves in the Roman empire were concentrated in wealthy houses, that many slaves were women, and that they were often bought to breed more slaves. Sexual access to slave women was taken for granted by masters – Latin literature is filled with such allusions – but often taken at risk by other men. And masters cared materially and emotionally for some of their slave women's children; they very often freed them young; and they left some of them great wealth, high position, and a place in their family tombs (Table 2; Betzig 1992b).

The feudal lords who followed Roman emperors were certainly less powerful, but they were hardly democratic. As Gregory of Tours starts the second book of his 6th-century *History of the Franks:* "I recount for you ... the holy deeds of the Saints and the way in which whole races of people were butchered." One lord, Rauching, would scorch a serf's legs with lighted candles, and threaten him with swords, "convulsed with merriment to watch the man weep" (v.3). King Guntram killed his second wife's half-brothers for making "hateful and abominable remarks" about his Queen; and King Chilperic, having levied "extremely heavy" taxes, punished people who plotted to kill the collector by "having them tortured and even put to death out of hand" (v.17, v.28). Bishops, of whom Gregory was one, were no better – particularly those whose will opposed his own. As feudalism grew, a lord's 'protection' came with certain obligations. "A lord was apt to lay claim, even in defiance of custom, to the exercise of an arbitrary authority: 'he is mine from the soles of his feet to the crown of his head,' an abbot of Vézelay said of one of his serfs'." (Bloch 1961, 264-5)

Table 2

"It is beyond doubt that thousands of slaves, scattered throughout the Empire, were owned by the emperor, who was himself the greatest slave owner of all." (Bradley 1984)

Estimate	*Owner*	*Source*
Around 500	Pliny the Younger	Brunt 1971
204	Volusii	Treggiari 1975
634	Statilii	Treggiari 1975
642	*Monumentum Liviae*	Treggiari 1975
4116	Metelli freedman	Pliny the Elder
Around 24,000	Melania the Christian	Finely 1980

Estimates of slave holdings of prominent families in imperial Rome. Note that commemorated slaves – those listed on tombs from which many of these estimates are drawn – probably include mainly the minority who worked in the household, and exclude the majority who worked on farms and in mines (from Betzig 1992b).

Like Roman emperors, medieval canonists also used legal weapons. Jack Goody has interpreted much of medieval canon law as a successful attempt on the part of the church to relieve lay men of their estates (1983). Goody focused, most of all, on the incest prohibition. Extension of the ban against inbreeding to the seventh canonical degree had the effect of making it hard for a rich man to find a proper spouse, and so to get a proper heir. Objections to wet nursing, and to incontinence during long stretches of the liturgical cycle, may have lowered the probability that the wife a man found would conceive. And objections to remarriage, concubinage, and adoption made it hard, if not impossible, to substitute an heir in the event that a wife failed to bear one. In that case, men in the church – often feudal lords' disinherited younger sons – would be in a position to come into their elder brothers' estates by default. They might do that directly, as back-up heirs; and they might do it indirectly, by raising bequests to the church (Betzig 1994a).

Wealthy medieval lay men and church men had sexual access to scores of women. Georges Duby relates the account of a 12th-century cleric, named Lambert, about the master of his chateau, count Baudouin. Lambert writes, "From the beginning of adolescence until his old age, his loins were stirred by the intemperance of an impatient libido ...; very young girls, and especially virgins,

aroused his desire" (in Duby 1978, 93). Baudouin was buried with twenty-three bastards in attendance, besides ten living legitimate daughters and sons. But he had opportunities to sire more. His bedchamber was at the core of his castle, in "the most inaccessible part of the house", the "family womb" (Duby 1978, 60, 63). It had access to the servant girls' quarters, and to the rooms of adolescent girls upstairs. It had access, too, to the "warming room", "a veritable incubator for the suckling infants"; many might have been Baudouin's bastards (Duby 1978, 87). Patchy medieval census records, and other documents, similarly suggest promiscuity among the clergy. David Herlihy, in his summary of census evidence from 9th-century Farfa, 9th-century St. Germain, and 15th-century Tuscany, concludes: "Women tended to congregate in the households of the powerful, even on monastic estates." (Herlihy 1985, 67; see Table 3) Medieval clerks had trouble practicing what they preached. Gregory of Tours describes two bishops, Salonius and Sagittarius, "feasting and carousing" by night, and "usually in the arms of some woman or other" by day (*History of the Franks,* v.20); Gerald of Wales, in his 14th-century *Topography of Ireland,* complained about clergy who, "dividing the day of twenty-four hours into two equal parts, they devote the hours of light to spiritual offices, and those of night to the flesh" (iii.27). In spite of efforts it made for hundreds of years, the church had 'indifferent' success at getting rid of clerical sex: as late as the 14th century, Bishop Henry of Gelders at Liége could brag he had sired 14 sons in just 22 months (Brundage 1987).

Democracy is recent in the West. Chronicles like William of Malmesbury's are full of despotic acts. In the 11th century, Hardecanute ordered Worcester plundered and burned for having killed two of his tax collectors; Henry I, in the 12th century, punished transgressions among his court "by a heavy pecuniary fine, or loss of life" (207, 445). In Bracton's time, even after the *Magna Carta* was signed, an English king remained above the law in fact. Pollock and Maitland write: "Though the king is not above the law, the law has no means of punishing him;" therefore "the right to restrain an erring king, a king who should be God's vicar, but behaves as the devil's vicar, is rather a right of revolution" (i.vii). The fall of kings, and rise of the common man, was not to astonish de Tocqueville and his contemporaries for hundreds of years.

Declining political privilege may, very roughly, have paralleled declining sexual privilege – in England, and throughout the West. English peers and gentry – like Roman aristocrats and medieval lords – *married* monogamously; but they probably mated polygynously. As Edward Westermarck points out, "where polygyny occurs it may be qualified in a monogamous direction both from the social and sexual point of view. ... The general rule is undoubtedly that one of the wives holds a higher social position than the rest or is regarded as the principal wife." (1921, 28-9; see too Goody 1973; Betzig 1993) Again, the critical issue is sexual access. In modern England, as in imperial Rome, feudal France, and elsewhere, that may arguably have varied with household composition and size. Bastardy – bridal pregnancy – was common in early modern England (Hair 1966; 1970); parish records suggest masters were sometimes the fathers (e.g., Laslett/ Öosterveen/Smith 1980), and other evidence – extremely sketchy – suggests

masters' subordinates, particularly servants and other men in their employ, occasionally assumed paternity for their children in return for various kinds of compensation (e.g., Stone 1978; Smout 1980).

Table 3

Santa Mara di Farfa	*Men*	*Women*	*Sex Ratio*
Dependent Farm Residents (Total)	621	526	118
Adults	297	288	103
Children	324	238	136
Manor House Servants	23	73	32
St. Germain des Prés			
Dependent Farm Residents (Total)	4857	3601	135
Solitaries	616	44	1400
Children	2224	1577	141
Slaves:			
Coloni	2017	1701	119
Lidi	94	59	159
Servi	250	94	266

Sex ratios at two medieval monasteries, from 9th-century surveys. Note that sex ratios are lowest at the manor house, and highest among low-status children. *Coloni* are slaves with light obligations; *lidi* have intermediate obligations; *servi* have heavy obligations (from Ring 1979; Herlihy 1985).

Life-cycle service – in which young women and men commonly pass their late adolescence and early adulthood in relatively wealthy households – was a long-standing pattern in England and other parts of northwestern Europe (Hajnal 1965; MacFarlane 1986). Lawrence Stone, in his *Crisis of the Aristocracy,* documents a marked drop in the size of estate staff. In the early 16th century, the Earl of Northumberland kept 171 servants in his principal household, and Cardinal Woolsey had a checkroll of 422; as late as 1612 the Earl of Rutland's checkroll totalled about 200. But "by the mid-17th century the outsiders were vanishing, and most large households were down to between 30 and 40. ... Whereas in 1587 the Earl of Derby kept a staff of 118 at Knowsley, in 1702 his successor managed to run the place very comfortably with only 38" (Stone 1965, 212-3). Gregory King's famous "Scheme of the income & expense of the several families of England" of 1688 – after the English aristocracy had passed its 'crisis' – estimated an average number of heads per family at 40 for temporal lords, 20 for spiritual lords, 16 for baronets, 13 for knights, 10 for esquires, and 8 for gentlemen ('vagrants', by comparison, had just 3 1/4) (Laslett 1984, 32). And Richard Wall, who calculated mean numbers of servants per 100 households in England from 1650-1970 on the basis of parish records, found a steady decline from 61 in the late 17th century to 0 in 1970 (Wall 1983, 497; Table 4).

Table 4

Estimate	*Years*
61	1650 - 1749
51	1750 - 1821
33	1851 (rural)
14	1851 (urban)
2	1947
0	1970

Estimates of mean number of servants per 100 households in England, 1650 - 1970, calculated from parish records (from Wall 1983, Table 16.2).

Literary evidence again suggests that masters had sexual access to such women. Stone's *Family, Sex, and Marriage in England* surveys the diaries of six early

modern Englishmen: the 16th-century astrologer, Simon Forman; the 17th-century secretary of the Admiralty, Samuel Pepys; the 17th-century scientist, Robert Hooke; the 18th-century Virginia planter, William Byrd; the 18th-century man-about-town, Sylas Neville; and the 18th-century Scottish laird, James Boswell. The diaries suggest that a vast assortment of women made themselves available to these men. Stone concludes his long list: "Finally, there were the poor amatures, the ubiquitous maids ..., young girls whose virtue was always uncertain and was constantly under attack. These last were the most exploited, and most defenceless, of the various kinds of women whose sexual services might be obtained by a man of quality" (1978, 601).

3. Cause

> *"It is of course easy to imagine a powerful, physically superior person, who first captures animals and then captures men in order to make them catch animals for him; in brief, one who uses man as a naturally occurring condition for his own reproduction. But such a view is stupid, though it may be correct from the point of view of a given tribal or communal entity; for it takes the* isolated *man as its starting-point. But man is only individualised through the process of history."*
>
> Karl Marx, *Pre-Capitalist Economic Formations*

The fundamental problem for the theory of natural selection is altruism. If selection is strongest among individuals, rather than groups (e.g., Darwin 1859; Fisher 1958; especially Williams 1966; 1992), then why should individuals cooperate? Darwin relied on the "moral sense", derived from what he called the "social instincts", though he conceded that "it is untenable, that in man the social instincts (including the love of priase and fear of blame) possess greater strength, or have, through long habit, acquired greater strength than the instincts of self-preservation, hunger, lust, vengeance, &c" (1871, 483, see too 486). Others have relied on "cultural selection" (e.g., Boyd/Richerson 1985; Durham 1991; Barkow/Cosmides/Tooby 1992). I will rely on kin selection (Hamilton 1964) and reciprocal altruism (Trivers 1971). Both attribute apparent altruism to reproductive self-interest. According to Hamilton's theory of 'kin selection', individuals may evolve to help others with genes identical by descent (Hamilton 1964); according to Trivers' theory of 'reciprocal altruism', they may evolve to help others who help them back (Hamilton 1964; Trivers 1971; Axelrod/Hamilton 1981).

The model I propose is simple. *Exploitation will exist to the extent that subordinates are constrained by ecological benefits. Cooperation will exist to the extent that dominants are constrained by social benefits* (Betzig 1994b).

Sometimes, individuals group to take advantage of a high quality territory. Where they do, differences in fighting ability (determined by size, strength, motivational state, and other factors – e.g., Maynard Smith/Parker 1974; Parker/Sutherland 1986) will emerge as dominance hierarchies, and dominants will be

free to extract fitness benefits from subordinates (Vehrencamp 1983). Ecological benefits can include any fitness-enhancing resource *except* those provided by the other party. Relatively high access to abundant, predictable, high-quality food and to safe, defensible sites will raise the net ecological benefit of remaining in a group. So will relocation costs, including geographic and other obstacles to flight. All of these constrain subordinates against leaving. *To the extent that ecological benefits attract subordinates to a group, dominants will be free to extract fitness benefits from subordinates.* Relationships will be exploitive.

Sometimes – even in the absence of ecological benefits – individuals may group to benefit one another. Social benefits can include any fitness-enhancing resource provided by the other party. Direct childcare, shared food and labor, and defense all qualify (e.g., Betzig 1992c). A social benefit should be repaid by a benefit of equal fitness value. If the effects of ecological constraints on subordinates are removed, then *to the extent that subordinates provide fitness benefits to dominants, dominants will be constrained to provide equal fitness benefits in return.* Relationships will be cooperative.

Whether fitness is gained by ecological or social benefits, they may enhance direct reproduction – through the production of offspring, or they may enhance indirect reproduction – through the production of offspring by collateral kin (Hamilton 1964). Relatedness sets up asymmetries in social interactions (e.g., Trivers 1974; Trivers/Hare 1976). Individuals benefit equally whether benefits are used to produce siblings (related by 1/2, that is, ($r = .5$), or to produce offspring ($r = .5$); but they benefit twice as much when they produce offspring ($r = .5$) as when they produce grandoffspring ($r = .25$). As a result, young should be willing to delay or even to forego direct reproduction in order to raise equal numbers of full siblings (Charnov 1978; Stubblefield/Charnov 1986). But to the extent that ecological constraints keep young in the group, parents may be free to 'manipulate' them (Alexander 1974) into raising half-siblings, or others even more remotely related.

In most species, social benefits are conferred on close relatives, and used in the production of collateral kin. *Homo sapiens* is the exception. People, more than any other organisms, pay back by 'reciprocal altruism' (Trivers 1971; *Ethology and Sociobiology* 1987). Fitness benefits are given to nonrelatives and, where relationships are cooperative rather than exploitive, they are later returned. In this case, the benefit must be translated, by both partners, into direct reproduction.

Conditions Favoring Despotism: Ecological Benefits to Subordinates

Social life is rare (e.g., Williams 1985). That fact suggests that the social costs of grouping are sufficiently high and the ecological benefits sufficiently low to permit most species to be solitary. Ecological costs and benefits are hard to quantify. Some experimental evidence, from cooperatively breeding birds, suggests that the artificial addition of breeding habitats increases rates of dispersal from natal nests – in other words, that birds group because of ecological constraints (e.g.,

Pruett-Jones/Lewis 1990; see too Heinze/Lipski/Hölldobler 1992). In any species, to the extent that ecological costs inhibit dispersal, subordinates who remain on a territory should be subject to exploitation (e.g., made to care for kin related by less than 1/2), and there should be evidence of competition (between parents and offpsring, and among siblings) to become the dominant individual who engages in direct reproduction.

Delayed reproduction has evolved in some vertebrates, as well as birds, who help at the nest (e.g., Emlen 1991); and facultative or complete sterility has evolved in some insects, including Hymenoptera, Isoptera, and aphids (e.g., Wilson 1971), and in the naked mole-rat (e.g., Alexander/Noonan/Crespi 1991). Such 'cooperative breeding' might be important in some human societies, too (e.g., Turke 1988). It is 'cooperative' in fact if, for young who help, the ecological benefits on a natal territory are less than or equal to the ecological benefits at a new breeding site. If the ecological benefits of staying at home are *greater* than the ecological benefits of dispersing to a new territory, then 'cooperative breeding' becomes 'exploitive breeding'. Parents can be expected to take advantage of their dominant position to manipulate offspring into helping to produce kin less closely related than full siblings. And unrelated helpers, for example, in polyandrous species (e.g., Goldizen/Terborgh 1989; Davies 1992), can be manipulated into caring for unrelated young.

That cooperative breeding is often exploitive in fact is suggested: First, by evidence that it is common where new territories are limited, or natal territories are of high quality (e.g., Brown 1987; Creel/Creel 1991; Heinze 1992), since both raise the ecological costs of leaving a group; second, by evidence that mothers are not always monandrous, but often produce broods of half-siblings by inseminations from more than one male (e.g., Page 1986; Westneat/Sherman/Morton 1989; Sherman/Jarvis/Alexander 1991); and third, by evidence that offspring with sufficient competitive ability challenge their parents and siblings for the ability to reproduce directly as dominant members of the 'nest' (e.g., Koenig 1981; Rissing/ Pollock 1986; Reeve/ Sherman 1991).

Conditions Favoring Democracy: Social Benefits to Dominants

Whether or not they get ecological benefits, individuals may group to get social benefits. Where ecological constraints are removed, individuals should provide one another with equal benefits.

Eusocial species are notable for their division of labor. To the extent that workers who provision or protect a nest raise the fitness of their parents, they should be conceded higher fitness themselves. That might be done by raising their relatedness to siblings, for instance, by haplodiploidy in the Hymenoptera (given a female-biased sex ratio) or by inbreeding and monandry in the Isoptera (making them full- rather than half-sibs) (Hamilton 1972). Or, it might be done by allowing them the opportunity to reproduce directly. Subordinates may raise dominants' fitness directly, for example, as valuable providers – as 'workers'. They might also

raise the fitness of the group, for example, as valuable defenders – as 'soldiers'. If a dominant's fitness increases exponentially with the mean fitness of the group – because she is more closely related than average to its members, for example, by polyandry – then a subordinate's services in group defense should be rewarded proportionately.

Human societies are notable for their division of labor. In this case, fitness benefits conceded are most likely to translate into direct, rather than indirect, reproduction. In other words, subordinates will commonly be compensated by reciprocal altruism, rather than by kin selection. Where a subordinate's services are essential and irreplaceable, dominants will be constrained to concede fitness benefits, like access to resources and mates. Just as in nonhuman species, subordinates may raise dominants' fitness directly, or they may raise the mean fitness of the group. And, as in nonhuman species, if the dominant's fitness increases exponentially with the mean fitness of the group – because he is more closely related than average to its members, for instance, by polygyny – then the subordinate's reward should proportionately go up.

Subordinates are not, of course, alone in their ability to provide services. Where dominants provide essential and irreplaceable fitness benefits to subordinates, subordinates will be constrained to concede additional fitness benefits to dominants. Unfortunately, it is as hard to measure social costs and benefits as it is to measure ecological benefits and costs. Are dominants fitter than subordinates because they fight better, because they have more to offer, or both? From Aristotle through Machiavelli, that's what the argument has been about.

Application to Human History

People are never solitary. But groups over most of human history have been made up of a few families. Fissioning is a fact of life in foraging societies (e.g., Rodseth/Wrangham/Smuts/Harrigan 1991). As Richard Lee put it of the Kalahari !Kung, "Foragers have a great deal of latitude to vote with their feet" (1979, 367).

Robert Carneiro, in his classic *Theory of the Origin of the State* (1970), argued that state formation was most likely where populations were constrained by geological obstacles (like mountain ranges), by territory quality (like the relative dearth surrounding river valleys), or by population pressure. All of these conditions should raise the ecological benefit to subordinates of staying in a group; as long as that benefit is not exceeded by benefits dominants extract, they should choose to stay where they are. These states should have been despotisms, and they were. As societies grew in size, and dominants grew in power, they took more and more fitness benefits – like labor, food, and mates – from subordinates by force.

Eventually, at some point in human history, a watershed was crossed. States continued to grow in size, and hierarchies in complexity, but despotism and harem size declined. The switch toward democracy and monogamy in state societies seems to have occurred just once in history: In Western Europe, and its colonies, over the past few centuries. That switch coincides with an ecological

novelty: The rise of an industrial economy. Industrialization may have moved social life away from despotism, toward democracy, in at least two ways: By an unprecedented division of labor, and by a cash economy that facilitated mobility.

Gibbon aside, most historians would concede that the Roman empire was a despotism, and that medieval politics were undemocratic. Many have confused monogamous *marriage* – which has been, again, common across extremely polygynous societies – with monogamous *mating*. Neither imperial Rome nor feudal Europe was monogamous. Like other agrarian societies with little division of labor and high dispersal costs, they were despotisms, and polygyny paralleled power.

The gradual decline in aristocratic household size – and, arguably, in variance in sexual access to women – seems very roughly to have paralleled the gradual switch toward democratic government in England, in other European countries, and in their colonies. Both appear to have paralleled the unprecedented division of labor that arose with industry, and the mobility that followed a cash economy.

What are the prospects for human societies? To the extent that ecological costs to dispersal decline as we move away from a land-based economy, and into a cash economy, fighting ability should diminish as a determinant of fitness differentials: Dominants should lose leverage. At the same time, fitness benefits to subordinates should increase with the division of labor: Subordinates should gain leverage. In a world in which no one is hemmed in by ecological costs, fighting ability should be irrelevant; payoffs should accrue for services rendered, period.

This argument hinges on the proposition that mobility limits competition. On the face of it, that contradicts arguments that mobility limits cooperation (e.g., Houston 1993). If services are repaid after a delay – by reciprocal altruism – the door is open to defection (Trivers 1971). Recipients might take the 'money' and run. The best constraint on defection is continued interaction (Axelrod/Hamilton 1981). But, failing that, a good proxy is reputation (e.g., Dugatkin 1992; Enquist/ Leimar 1993). As long as 'gossip' keeps pace with mobility, 'rovers' and 'free riders' will have nowhere to go.

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