# Legal and primary-group social controls

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*The ultrasociality of human beings, unlike that of the social insects, is beset by competition among social cooperators. Four social mechanisms to deal with this problem are discussed: mutual monitoring, internalized restraint, legal control and market mechanisms. Each is investigated in sociobiological perspective.*

This essay is a preliminary sketch of how sociobiology may be united with the traditional sociological issues of social control and bureaucracy. Human beings, like all fertile animals, are in direct competition with their kin (except their identical twins) and neighbors for the food and shelter available in their environment. This ubiquitous condition creates an obvious interest in controlling how other individuals behave, best elaborated in David Wilson's (1980) deterrence theory. It can be analyzed as a conflict of interests between the group-as-a-whole and each individual as to how that individual should behave, thus getting into the problem of social control. However, I believe it is more appropriate to reserve that mode of analysis for the conflict of interests that emerges with social and ultrasocial forms of life.

In a wide range of ecologies, cooperation such as big animal hunting and irrigated grain fields increases food resources and shelter from predators. But individuals are, once again, in competition for the size of their shares of these increased resources. At this level, however, a novel form of collective interest emerges: individual competition for maximum share of the resources jeopardizes the benefits of cooperation and the cooperative organization itself. Greedy quarrelling for maximum share reduces the pool of resources to be shared. In ecologies where cooperation can double or quadruple the per capita resources available, there is a payoff for effective social control that protects the efficacy of cooperation from individual greed. That such mechanisms are rare and fragile is the conclusion of analyses coming both from the mathematical models of evolutionary biology (Haldane, 1932; Williams, 1966; Wilson, 1975; Chapter 5; Wilson, 1980; Boorman & Levitt, 1980), and the social sciences (Von Neumann &

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Morgenstern, 1944; Hardin, 1968; Olson, 1968, Schelling, 1971). Masters {this volume) presents the issues in terms of "prisoner's dilemma" examples. My own point of view {Campbell, 1972. 1975, 1979, 1982) can be summarized thus.

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Ultrasociality refers to the most social of animal organizations, with full time division of labor, specialists who gather no food but are fed by others, effective sharing of information about sources of food and danger, self-sacrificial effort in collective defense. This level has been achieved by ants, termites and humans in several scattered archaic city-states. Inclusive fitness, kin-selection, and structured deme theory {Wilson, 1980) adequately explain moderately social forms such as the semi social wasps and baboons. In the social insects, the further route to ultrasociality has been achieved by caste sterility, almost entirely removing genetic competition among the cooperators; this route has *not* been available for human urban societies. Instead, cultural evolution {including norms inhibiting human selfishness, deceitfulness and cowardice) has been required.

The human route to ultrasociality is not fully understood, but a detailed examination of present understanding of the route of the termites {extreme inbreeding alternating occasionally with outbreeding which produces a generation of siblings more closely related to leach other than to own offspring, making possible caste sterility) and ; the route of the ants {haplodiploidy, which makes sisters more closely ; related to each other than to own offspring, which when combined with sex ratios favoring females, stabilizes brood care for parental ; offspring at expense of own fertility) makes clear that the human route must have been different-it did not involve the sterility of the cooperating specialities. Among the conceptual tool available for reconstructing the human route are reciprocal altruism {clique selfishness), moralistic aggression to punish defectors from reciprocal-altruist pacts, the in-group as a socially inherited reciprocal-altruist pact, socially evolved beliefs promising transcendant purposes, posthumous rewards for altruistic contribution to group welfare at own expense, and transcendent sanctions against self-serving behavior that jeopardizes group welfare. In general, biologically evolved supports for preferences for altruistic behavior on the part of other group members do not have the costs to inclusive fitness that tendencies to own self- sacrificial altruism have. Moral norms, socially evolved with or

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without biological support, thus tend to be focused on other persons' behavior, not one's own..

Much hypothesized cultural evolution must achieve a kind of "group selection" precluded among vertebrates at the purely biological level and achieved by invertebrates only through caste sterility. " The models of cultural evolution of Boyd & Richerson (1980) help here. Non-linear, multiple-social-parent transmission, with a majority amplifying effect, pushes face-to-face groups to internal unanimity in the absence of selection. This provides the raw material of ingroup homogeneity and group-to-group heterogeneity prerequisite for group selection. Such selection would come through differential group success, differential growth, conquest with cultural imposition, voluntary attraction of converts, imitation etc. As a byproduct, striking group-to-group differences also occur in functionally neutral beliefs and customs. These acquire a secondary function as indicators of ingroup membership, designating fellow reciprocal-altruists of the same clique.

This perspective on human social evolution is more loyal to the details of biological evolution than are current over-emphases on kin selection theory which by omission imply that human ultrasociality can be explained by the same evolutionary mechanisms that explain the social insects. This more complex understanding of human evolution produces a sociobiology much more readily reconciled with the traditional understandings of the social sciences and the humanities. Light is thrown on human ambivalence, deceit, cowardice, disloyalty; on the specific content of lists of sins, commandments and taboos; on human intuitions of justice, equality and equity; on the dynamics of ethnocentrism, nationalism and war; and on self-seeking and nepotistic distortions of collectively-rational bureaucratic roles.

Emphasis on group selection is central to my argument. It is a minority point of view. The issue was the focus of an important half- day subgroup discussion at Monterey Dunes involving Alexander, Durham, Masters and myself, focused on Durham's paper for illustrative purposes. The discussion has led me to back off somewhat from an implication of my flamboyant title of 1975, "On the Conflicts between Biological and Social Evolution and between Psychology and Moral Tradition." For most sociobiologists and evolutionary theorists (Alexander, 1979), sociocultural evolution cannot persistently produce behavior tendencies that result in a net loss of biological inclusive fitness. Cultural evolution is dependent on biologically evolved capacities; cultural items that reduced inclusive fitness would never have

evolved. Cultural evolution thus cannot conflict with biological evolution or reduce biological inclusive fitness. I should have emphasized the conflict between behavioral tendencies produced by biological evolution and those produced by social evolution as mediated through moral indoctrination, beliefs about the supernatural, and social organization. Some degree of group selection is always going on. Haldane's and subsequent analyses point out that behavior traits that benefit the group but involve sacrifice of individual inclusive fitness will be undermined by individual competition within the group. The benefits to average individual inclusive fitness that could come from self- sacrificially altruistic social cooperation are thus precluded by the collectively self-defeating "genetic competition among the cooperators" (Haldane, 1932; Williams, 1966). Any mechanism that can overcome this self-defeating tendency will result in great gains in biological inclusive fitness for the average gene, the average individual, the breeding pool and the organized group. Therefore, cultural evolution of behavior tendencies that furthers group effective self- sacrificial altruism would be strongly selected for. On the other hand, as Hamilton ( 1964) has emphasized, the stronger these tendencies, and the more collective prosperity they produce, the greater the inclusive fitness payoff to being a successful "free rider" (Olson, 1968), parasitical on the cooperative efforts of others without risking the costs to own inclusive fitness.

Let us examine the issue in terms of a skeletonized model of the cultural evolution of a general moral preaching. Assume some degree of "direct" effect of teaching-that people tend, however slightly, to believe what they are told, and act according to their beliefs. According to the mathematical models of Boyd & Richerson (1980), a cultural evolution of moral preachments from parents to offspring under an analog of individual selection social transmission would produce moral preachings of the nature "Get others to cooperate but be a free-rider yourself." "Don't be a sucker." "Better a procreating coward than a dead hero." When this model is expanded to include multiple, across- lineage, social-transmission of "parenting," the same type of moral teaching is favored in their linear model with individual selection. Only in their non-linear group-selection of teaching and preaching do we get conditions that would select for public moralizing that favors group advantage at individual cost.

No doubt self-serving preachings such as the above often go on in the privacy of homes, directly or indirectly, consciously or unconsciously. We can envisage on an individual selection basis a double

standard of preaching. an altruistic morality for exhortation to others, a self-serving one for own offspring. I anticipate that in the long run such a system would not work to produce complex social coordination, even though it would end up with the altruistic preachings heard by the offspring generation being many times more numerous than the selfish ones. I am more hopeful for another analysis: if one's own private preachings of selfish opportunism to one's offspring undermined the tendency of others to behave cooperatively, and if the payoffs for cooperation were high, situations could occur in which it would be of net inclusive fitness advantage to preach the altruistic message to one's own offspring even if they behaved accordingly. Does it require something like group selection to create a situation in which such a choice is presented to an individual? Or can it be achieved purely on an individual selection basis?

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At Monterey Dunes we did not discuss the group selection issue for the termites and ants, but I have elsewhere been challenged by Alexander for upholding the old-fashioned thesis that group selection is required for their ultrasociality too. With due attention to a considerable portion of the relevant literature I have come (Campbell, 1982) to the conclusion that where proto-social insects find themselves in an ecology in which multiple brood care is required, it becomes in the inclusive fitness interests of an auxiliary brood carer to distribute a fertility inhibiting pheromone to fellow auxiliary brood-carers even at the expense of having own fertility inhibited. At this initial stage the insects are only semi-social, the mother or sister "queen" still gathers food for herself and for the immature individuals just as do the sterile "workers." There is no structural differentiation or behavioral division of labor except for fertility. Preserving this sterile worker caste effectively removes genetic competition among the cooperators, and makes possible the *subsequent* evolution of ultrasociality, with the adult queen and adult soldiers being fed by the adult workers. It is the preservation of this sterility that makes the unit of selection the cooperating social nest, including the fertile queen. Selection for socially effective self-sacrificial altruism is not undermined be genetic competition among the cooperators, since the cooperators are all sterile. Now in the formal mathematical models of "group selection" in population genetics, only groups of fertile organisms are considered; since there is no group selection for groups of queens and nests (indeed

they compete most ruthlessly), the social insects are rejected as instances of group selection. I must be more careful about my terminology. What I and Wynne-Edwards (1962) and William Morton Wheeler (1928) were talking about is in today's usage better called "selection by social organization and not by participating individual" (but the word "group" used to be a near synonym for social organization).

## SOCIAL CONTROL MECHANISMS

Mechanisms of social control serve two functions: coordination and restraint. *Coordination* is the function of routing, routinizing and in- formation sharing which reduces chaos and maximizes coordination in ways that do not oppose human nature or individual preference. As a pure type, coordination is supported by individual-dispositional preferences, assisting the individual to choose from a set of neutral behavioral alternatives the one that optimizes group function, the one that is for this reason preferred by the individual once designated, for it optimizes a group function from which the individual profits, and at no individual cost relative to other alternatives.

Social controls involving *restraint* also focus on optimizing efficacious collective action. But in contrast to coordination, they appear in situations in which individual dispositions favor some action other than the collectively optimal one. As we have seen, given the vertebrate ecology of genetic competition among cooperators, evolutionary biology makes some degree of such bias inevitable, and directly predicts the direction of the individual-dispositional bias against which the restraint is directed. Thus food sharing is essential for division-of-labor social organizations: genetic competition predicts a bias in the direction of under-generosity, not over-generosity. Truth telling is essential for the information sharing which produces the great economy of cognition (Campbell, *1965b)* which makes social life so much more productive than individual-the direction of bias is for self-serving dishonesty, not for self-sacrificial dishonesty. Audits on tax returns are based on anticipated bias in the direction of under-paying, not overpaying. A bureaucrat's personnel choices will over-favor own children and other kin, rather than be biased against them. Self-saving cowardice in battle is more common than foolhardy bravery. All of these obvious and well-known biases have not been able to eliminate genetic competition among the cooperators. All create problems of social control of the type I have designated as restrain

For purposes of this paper, four mechanisms of social control can be delineated.

(1) *Mutual monitoring*

This includes face-to-face approval and disapproval, ostracism, conformity pressure, shame and pride. All group members share in both detecting violations and enforcing sanctions.

(2) *Internalized restraint*

This category includes processes of conscience or superego, the pain of guilt feelings, and the fear of supernatural sanctions. There is self- monitoring of norm violation and self-punishment.

(3) *Legal control*

Overt rules about offenses and punishments are in this mode. The detection of violations and the enforcement of penalties are delegated to specialists such as police, militia, tax collectors and judiciary. Sanctions include job loss, imprisonment, fines, exile and death. Rational bureaucratic systems are included in this category, as is government by administrative regulation.

(4) *Market mechanisms*

In such processes the intelligently selfish choices of all individuals curb the greed of individuals by making it unprofitable, as in the "invisible hand" of *laissez-faire* economics and libertarian political theory.

The last two, *legal control* and *market mechanism*, are currently the focal alternative poles being advocated in political discussion. Western democracies are based on a compromised mixture of the two. It seems to me that sociobiology has an important critique to make of each of them.

The first two, *mutual monitoring* and *internalized restraint*, seem unduly neglected in modern considerations of legal control and market mechanisms. Including them will help us understand both why the last two have worked when they have, and why they so often fail.

The first three, *mutual monitoring*, *internalized restraints* and *legal control*, represent to some extent an evolutionary sequence, partly one of biological evolution, but mainly a product of cultural evolution.

*Mutual monitoring* covers most of the "primary group" or "face-to- face" group social controls described in the older sociology. The

anthropological concept of "shame" culture overlaps. Primate sociality as reviewed by Boehm, Goodall, Gruter and Itani {this volume) exists, at this level. Trivers' { 1971) concepts of an innate predisposition to ; form "reciprocal altruist" pacts, and to show "moralistic aggression" when such compacts are violated, and Axelrod and Hamilton's {1981) "tit-for-tat" contingent cooperation and retaliation belong here. These are important concepts urgently needing elaboration beyond the dyad to multi-person groups. The ethological study of human facial expression, the autonomic nervous system and hormonal reactions associated with face-to-face disapproval, opinion-minority status and lying all fit in here.

In my judgment, it will turn out that many of the mechanisms that make mutual monitoring effective are stubbornly innate in human beings, and that they can be counted on to be at work creating a kind of ingroup solidarity, homogeneity of belief, and discipline in even arbitrarily assembled aggregates of persons who repeatedly interact in small groups. Indeed, research on social processes in experimental and social psychology laboratories show that such group formation processes begin to occur in as little as two hours. This fact is of extreme importance in understanding the dynamics of bureaucracy and large- scale organizations, but is still overlooked in human organizational theory.

In practice, reciprocal altruism can be translated as *clique selfishness.* While it may be true that a complete theory of games analysis would show cooperation to be mutually beneficial even if everyone were in the cooperating group, in practice reciprocal-altruist pacts and the inhibition of parasitical free-riding by mutual monitoring are the most common and most feasible for small groups, as the economist Olson {1968) has shown. In addition, both the lower primates and humans achieve their group solidarity in a context of competition with, or threat from, other groups of conspecifics. The formation of an ingroup solidarity is always accompanied by an outgroup hostility, as ubiquitously noted in studies of ethnocentrism {LeVine & Campbell, 1972). One of the most ubiquitous principles of that literature is that ingroup social control is enhanced under conditions of outgroup threat.

It is the common circumstance of modern social organization, in public or private bureaucracies, that they are made up of many separate face-to-face groups, connected by messages and messengers. It follows from our mutual monitoring principle that each face-to-face assemblage tends to become an ingroup whose solidarity tends to be motivated by treating other units as outgroups. In this process, orders

from higher administration can be reacted to as though they were enemy impositions, and cooperative efforts to subvert them can be supported by mutual monitoring. The engineering department and the sales department can play ingroup and outgroup. roles to each other. Customers and clients can become outgroups disrupting cozy ingroup patterns. Given human nature, both as observed and predicted from evolutionary tendencies, such occurrences are not occasional, isolated instances, but are unavoidable, universal tendencies. If they fail to produce major problems for large organizations it is because other factors keep them in check, not because they are absent.

Thus *mutual monitoring* as a means of social control is effective at the small group level, but can easily become organized around purposes that are contrary to the larger group's collective interests. Keeping these interests co-aligned is one of the major unsolved problems of organizational design. Max Weber gave us a theory of bureaucratic rationality that failed to take these processes into account. Some such optimistic assumption that "as it is planned so shall it be carried out seems endemic among legislators and administrative designers as ever larger bureaucratic structures get created. Yet actual studies of bureaucracies (e.g. Blau, 1963) support the popular concept of inflexible, lethargic, self-serving bureaucracy. Sociobiology thus provides two grounds for predicting distortions of bureaucratic rationality. The first is the individual's selfish and nepotistic biases, particularly biasing when exemplified by those in high administrative rank. The second is the clique selfishness, the tendency for face-to-face ingroup formation with clique solidarity interests athwart those of the larger collective.

Bureaucracies, large organizations, states (Masters, this volume) would work with bureaucratic rationality if the only control requirements were those of *coordination,* none of *restraint,* if individuals had no interests divergent from those of the collective, if they were self- guiding and self-monitoring solely in terms of collective interests at the highest level of the social organization in which they participate. While it is turn-of-the-century-old-fashioned to use the social insects in such discussions (Campbell, 1975), I do find in them an enlightening comparison as to what human beings are not but conceivably could have been-a role that science fiction can also play. The ants, termites and bees are such self-monitoring automata in their social systems, executing their micro-purposes with extemporaneous intelligence in the face of local obstacles, micro-purposes which fit into generally competent collective action (in the absence of such novel

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ecological features as ant poison). The 12 or so pheromones with which they exchange signals {Wilson, 1971) have the function of coordination, not restraint. None of their division of labor goes into monitoring each other's behavior for compliance. A major reason for this, as I see it, is that the elimination of genetic competition among the cooperators has made the inclusive fitness interests of each worker and soldier exactly that of collective nest or hive survival.

*Internalized restraint,* traditionally achieved through religion and the awe- and fear-inspired morality accompanying it, has been the central focus of my major contribution to sociobiology { Campbell, 1975, *1965a, 1965b,* 1972, 1979, 1982). A dozen or so archaic city- states and nations {each probably independently) achieved ultrasociality, with fulltime priests, governors and soldiers who gathered no food, being fed by the workers, with granaries and large civic buildings and often with apartment-house concentrations. All were theocracies. All invested human effort heavily in temples, funeral monuments and graves for their rulers. All believed in supernatural gods and god- I stories far more incredible {from a modern scientific point of view) *J* than those of the simpler human societies that have remained for anthropologists to study-and those are incredible enough. The economist and evolutionist must ask what inclusive fitness function led to the selection of this apparently lavish waste of human energy, tools and the sacrifice of useful domesticated animals and servants. These belief and action systems were obviously products of a cultural evolutionary process.

While the Boyd arid Richerson {1980) model predicts the occurrence of bizarre beliefs that are neither functional nor dysfunctional, it would not predict such a widespread uniformity of such apparent violations of economic and biological efficiency. We are thus required to seek a function. I see that function in achieving social control of the kind of restraint that is effective {to some degree) even when human supervisors and policemen and worldly rewards and punishments are not present to shape individual behavior in the collectively optimal form. The beliefs about Valhallas that reward brave soldiers killed in battle, or the hells that punish cowards, thieves and liars, were legitimated and made more credible by the royal funeral waste testifying to the leaders' belief in an afterlife. The fit between the biases in human nature {that follow from the fact of genetic competition among competitors) and lists of religious sin and temptation explicit or implied in the commandments is also convincing. The emphasis on carnal, biological, human nature in the Christian tradition

(at least) further fits. The genes say "Thou shalt covet"; ultra-social human culture says (or used to say) "Thou shalt *not* covet." While the detailed picture is more complex and confusing than this, I know of no better evolutionary explanation for religious moralizing and temple building or for the current energy investment in religion, even though other functions are no doubt also served.

Even though self-monitoring, moral, dutiful persons (whose effective altruism goes far beyond situational opportunism or long range hedonism) come out of non-religious families, the general culture from which they come has both religious ancestors and neighbors. But whether or not a religious justification is required for such a culturally- induced self-monitoring restraint, internalized moral norms actually acted upon are of obvious use in a social organization. The seeds of world tragedy, of great losses in current human inclusive fitness such as Alexander (this volume) refers to, lie in the fact that self-monitoring internalized social control systems are necessary for effectiveness in national warfare, and are enhanced (just as is mutual monitoring) by ingroup-outgroup polarization between religions or nationalistic versions of religion. Tragically, nation-worship seems less incredible, less supernatural, to the modern secularized mind than do the reifications of collective interests found in the great religions of purportedly universal scope.

*Legal control* is a universal feature of all modern nations, going hand in hand with administrative bureaucracy. It has worked reasonably well in many nations for many historical periods. It is not conspicuously successful in most of the new third world nations, and its failure is being announced in some well developed ones, including such one- time paragons of national success as England and the United States. Given our sociobiological model of human nature, it is remarkable that it ever worked. As a pure form, without *mutual monitoring* or *internalized restraint*, with all detection of non-compliance and delivery of sanctions delegated to specialists, the required size of this specialist corps becomes unaffordably large, even if the self-interest and nepotistic biases of these legal-control specialists is disregarded.

The judicial system is more heavily used to further self-and-nepotistic interests than to curb them. The concept of "loophole," the literal legalistic interpretations of the law that subvert announced legislative intent, illustrate one aspect of the problem. Language is an inherently imperfect tool, which is used effectively only when shared contexts fill in the meaning, as the concept of "indexicality" points out (Putnam, 1975; Barnes & Law, 1976). But law in its effort to

achieve universality and fairness must pretend that words have situation-free constant meanings, denying their indexicality. Written and interpreted "literally," the wordings allow loopholes and unintended uses never envisaged in their construction. Perhaps more than half of our lawyers and legal research efforts are now employed to serve collectively biasing individual interests.

One must conclude that legal social control can only have worked well when supported by *mutual monitoring* and *internalized restraint.* This internalized restraint would have to cover not only restraint from violating the letter of the law, but also restraint from violating the public-interest announced *intent* of the law. It would also have to involve restraint in use of the law against fellow citizens in the service of opportunistic greed.

If the *internalized restraint* that makes legal social control work has to a considerable degree been based on consciences coming from social indoctrination employing transcendent religious belief, then secularization and also religious pluralism in which ethical norms apply only to co-religionists, both may lead to self defeating political efforts to increase the burden of social control delegated to legal and bureaucratic processes.

*Market mechanisms* in which the intelligent selfishness of all curbs the selfish greed of others, are the methods of social control recommended by *laisse-faire* economics, in which the only governmental interference with human nature allowed is the protection of private property and inherited wealth. Mancur Olson (1968) employs the tools of mainstream economics which are characterized by the hope that an "invisible hand" emerging from competition will provide the restraints needed for collective action. But he shows that this hope is wrong, that basic economic assumptions show that if each person is intelligently selfish in choices, "collective goods," including the benefits of cooperation, will be lost. He concludes that to solve the "free-rider" problem, compulsion is needed. For small groups whose members cannot readily join and quit, mechanisms such as I have included under mutual monitoring suffice. For larger groups, he judges legal compulsion is required. Thus he recommends compulsory taxation and compulsory union membership. I find his analysis compelling, and in keeping with sociobiology, except for the un- examined assumption that legal compulsion can be made to work. In agreement with Olson, I am inclined to reject the efficacy of market mechanisms, even though I admire their efficacy for social system- tuning in labor supply allocation. (The mixture of government

controlled intervention in income and services redistribution with j market mechanisms, which Friedman ( 1962) has introduced in the "negative income tax" and the "voucher system" for education and housing subsidies seem to me worth thorough consideration.) Market mechanisms, like legal control, seem to have worked well in some settings in the past. My conclusion is again that they only did so when supported by the internalized moral restraints and pride which the culture of traditional beliefs and mutual monitoring provided.

The task of thinking through the problems in social control that are created by genetic competition among the cooperators has just begun.