

EVERYONE'S CONCERN; NO ONE'S RESPONSIBILITY:
A REVIEW OF DISCOURSE ON THE COMMONS

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Introduction

This symposium is called "Capturing the Commons." One connotation of its title is our concern with how and to what effect human groups capture—harvest, hunt, exploit, use—natural resources that are sometimes called common property. The title also reflects our use of anthropological perspectives to capture the social, cultural and ecological meanings of "the commons" for the peoples we study. A third, the focus of these remarks, is to make sense of the intellectual models found in academic discourse on common property resources: what writers about "the commons" assume, say, and do not say.

Those of us who have worked with fishermen, hunters, pastoralists, and other "commoners" are influenced by a certain view of how things work "in the wild." The view that I will try to capture in these pages claims an inherent tragedy, a "remorseless working of things," (Hardin 1968) in common property systems. It is essentially a micro-economic model of human behavior. My purpose is to explicate this model and criticisms of it and to suggest ways in which thinking about the "commons" in other disciplines relates to and can inform anthropological efforts to capture the commons.

What is Common Property Resource?

In their influential book "The Common Wealth of Ocean Fisheries" (1965) Christy and Scott give examples of common property resources: fisheries.

air, outer space and the upper atmosphere; wildlife and game; oil pools; outdoor recreational resources; flowing streams; and large bodies of water. However, Dorfman (1964), who reviewed the formal characteristics of those example, noted that "common property resource...seems to be a catchall concept for a variety of essentially different circumstances that require different definitions and formulations" (p.9). We should thus be wary of over-defining a complex phenomenon and also recognize that we are dealing with a concept imprecise enough to have become a powerful metaphor.

Most writers on "the commons" accept the notion that the term "common property" indicates a kind of tenure or ownership system. The phrase is made up of two legal words that mean publicly owned real property (Hansen 1974), as distinguished from privately owned real property or no real property at all (which might include air, outer space, and some waters). However* those who use the micro-economic model tend to ignore or dismiss the criterion of actual property rights—and common ones at that—(Ibid; see also Bromley, 1978) and move on to what they see as more truly definitive. To them a common property resource is one (a) that can be used simultaneously by more than one individual or economic unit (Christy and Scott 1965: 6) and (b) that has physical properties such that the effects of one user's activities are directly transmitted—as "externalities"—to other users (Dorfman 1974: 7). This is their minimal definition. We need not even talk of property rights (Ibid).

The minimalists allow a few more criteria. It is a resource that is used by numerous actors (Ostrom and Ostrom 1977). decision-making is decentralized (Dorfman 1974), and the social arrangement is such that "[n]o one user can control the activities of other users or, conversely, voluntary agreement or willing consent of every user is required in joint action involving the community of users" (Ostrom and Ostrom 1977: 157). The reason

for this social arrangement is that each has independent rights to the use of the resource, i.e. common property rights. Thus, like it or not, these slight additions to the minimal definition bring us back to the jural and social world of property rights.

To most observers, open access is the essence and the most problematic feature of the commons (e.g. Christy and Scott 1965: 6). Open access is usually seen as coterminous with or derivative from common ownership: "No single user has exclusive use rights to the resource nor can he prevent others from sharing in its exploitation" (Ibid). A few writers acknowledge a distinction between common ownership and open access, at least in theory, while still conflating the two as necessarily present in any commons case (e.g. Christy 1972). It is, however, important to keep these criteria separate and the open access one contingent. As Marion Clawson points out:

Property owned in common, whether land or other kinds, has not by any means always been freely open to any users....Social controls of many kinds have existed* and do exist, to limit and govern the use of property owned in common [Clawson 1974: 603.

A Common Metaphor

"the commons"

In a metaphorical sense/has been used to indicate any class of human problems for which there are "no technical* only social and political solutions: (Hardin 1968:). In particular, the metaphor suggests problems of conflict or discrepancy between individual and social welfare* between "micromotives" and "macrobehavior" (Schelling 1978), *and/or between* short-run and long-run welfare.

The metaphor is even more complex. The idea of the commons is a mythical metaphor that orders our thoughts and informs our behavior; it is

one that, whether we like it or not, often has a semantic beyond the definitions given above. First, ^{the hidden hand} we often use it to signify the idea of tragedy and to imply that property rights are the source of the tragedy. Second, once the term "common property" is used we have implicitly signified a certain opposite, "private property." Each kind of property is seen as the deus ex machina for its own "remorseless working of things," but private property's tragedy has a good outcome, helped as it is by Adam Smith's hidden hand of the marketplace, while common property's tragedy has only dire outcomes. ^{a different hidden hand} There is thus a hierarchical ordering: private property is not only cast as essentially different from common property, but it is also better--and evolutionarily later, more progressive, more conserving. The opposition also tends toward no property rights (or ill defined ones) versus solidly defined property rights (as in Demsetz 1967), despite the fact that common property rights can be as clearly entitled and enforceable at law as other kinds (Dorfman 1974).

The metaphor leads us on. The "commons" is primitive--or at least Saxon--while private property is the mark of civilization. The commons exists in the wilderness and in the past; it is anachronistic and dangerous in an industrial society and the present. Private property is the cultural solution to the problematic relationship between man and nature. It is also the source of propriety and hence of culture (following Sider 1980). Common property leaves man and nature to fight it out--the tragedy of the commons--and is improper. It is no basis for culture--certainly not for progressive agriculture, animal husbandry, or aquaculture!

The Microeconomic Model of "The Commons"

The formal exegesis of the "tragedy of the commons" is found in the work of Gordon (1954), Scott (1955) and others. Marine fisheries and an idealized image of the English pastoral commons are favorite examples, but

the model is meant to apply beyond, to encompass forests, rangelands, water resources, general land-use, human reproduction. It has even been used to analyze the African slave trade (Thomas and Bean 1974) and urban mugger/muggee relationships (Neher 1978). The micro-economic model has many assumptions, some of which are particular to its various uses. Common to all is the assumption that users of a common property resource are self-interested rational actors--individuals or firms--whose goals are to maximize profits. Most also assume open access.

The models are in the form of yield/effort curves from which a point of maximum sustained yield for the resource is derived (Schaefer 1954), establishing a goal for wise management. The economic model adds costs of effort and translates yield into dollar values; it establishes a point of maximum economic yield, when the net return to factors or production is the largest or when marginal costs equal marginal gains (Gordon 1954). (A revised version of this [Clark 1971] takes account of the fact that price is not constant but rather a function of both total costs and catch, and yet another revision adds "worker satisfaction bonus" to revenues [Smith 1981].) Maximum economic yield is also a goal for wise management of the resource.

We thus have two "social goals," maximum sustained yield and maximum economic yield (in its various forms). The models have one more point of interest: the equilibrium point, where total costs equal total revenues, beyond which the individual unit will only lose money and thus is likely not to go. The problematic of these models is that the equilibrium point is at levels of effort and costs far beyond either the maximum sustained yield of the resource or the maximum economic yield of the industry. Individuals acting in terms of their own immediate interests work against optimal social goals--and ultimately themselves and the resource: the tragedy of the

commons.

One tragedy of the commons is that the behavior of the individual users is only too predictable. They cannot help themselves. Under conditions of open access and the absence of ways for one user to control the activities of others, the rational commoner follows a catch-as-catch-can strategy, letting the costs of this fall as externalities onto other commoners and onto the future. His calculus of costs and benefits in a commons situation makes it foolhardy to restrain his own efforts in order to protect a threatened resource or to make private investments in its enhancement. Anything he does not take can be taken by others; the fruits of his investment are shared by others as well. The costs are the individual's. They are "private." The benefits are only fractionally his. They are "social" and shared among all the commoners.

A second tragedy is that of the resource. If the numbers and efforts of the commoners increase beyond the maximum sustained yield or other measures of the ecological resilience of the resource, it is ruined. Third, this is an economic tragedy. Resource ruination spells ruin for the commoners because this is, after all, a human tragedy. It is caused by a group of actors entwined in the commons form of "the remorseless working of things" and the hubris of their immediate interests. They do themselves in. This is how it works: as long as there is profit to be gained, people will continue to enter the system and to compete with one another for a declining resource "...until all true profit (or rent) is dissipated" (Christy and Scott 1965: 7). They end up broke or at least accused of wasting capital and labor that could be deployed more profitably elsewhere.

What can be *done*? Commoners can be charged user fees or royalties on their harvests to induce them to stay closer to the socially optimal levels of effort (Dorfman 1974:12). Users themselves have incentives-*contra* the

classic versions of this model--to restrict the number of users with access to the resource, since the "rent" captured by each will be larger the smaller the number of users (Cheung 1970:63); informal territoriality, fisherman and boat unions, legal regulation may serve this end (Ibid). One of the themes of this symposium is that much can be and is done to correct commons problems, some imposed on them by keepers of the "public trust" and social order, some developed amongst themselves. What these are, how they work or do not work, the locus of responsibility and power, who pays and who reaps the benefit: these are all questions of immediate concern to commoners and to students of the commons.

However, the classic "bioeconomic" model of the tragedy of the commons directs us, with the help of algebraic, geometric, and graphic tools, to the ultimate solution: privatize the commons. The model, like the metaphor, rests on the distinction between common and private property and argues that the latter is far superior (Scott 1955). Privatization internalizes costs and benefits that were "externalities" and increases individual responsibility. Economic progress and wise conservation depend, essentially, on social change, on the creation of more exclusive property rights that allow the "hidden hand" of market forces to work a lot better.

The Evolution of Property Rights

Micro-economic models have also been used to study social change, the historical transformation of property rights. Tenure--land or sea--is a powerful dimension of human behavior. The bioeconomic model of the commons is framed around it. Anthropological models of cultural evolution cannot ignore it. The micro-economic perspective is used specifically to study the transaction costs of social and political action to change the tenure system and the enforcement costs of maintaining a new one.

← Why, are some resources "common property" and others not? Because the costs ~~and benefits~~ of appropriating and defending more exclusive systems of tenure may be higher than the gains (Christy and Scott 1965:6; Demsetz 1967; Cheung 1970; Anderson and Hill 1977; Ostrom and Ostrom 1977; Dyson-Hudson and Smith 1978). When changing economic and environmental conditions alter the cost-benefit calculus of individuals, then and only then will they be willing to pay the costs of "property rights definition and enforcement activities" (Anderson and Hill 1977: 202). The history of social action surrounding land, cattle, and water in the American West is this kind of history (ibid).

A contribution of the economic historians of property rights is that in their efforts to determine the costs and benefits of rights definition, conflict, and enforcement they expand the field of inquiry to the shifting interplay of markets, law and courts, and government; to factors such as the numbers of people involved, the size of their "land" holdings, and the physical and behavioral attributes of the resource (Cheung 1970). In addition, in predicting or retrodicting the kinds of property rights systems chosen, the distinction between common property and private property is expanded to one that includes many other types of social arrangements (e.g. Cheung's [1970:64] "tribal or union," "cooperative," "private property," and "common property" models; see also Bromley, 1978). Thirdly, the economic historians and some "public choice" political scientists emphasize and argue for the merits of recognizing the existing and potential variety of human resource management systems (ibid; Ostrom 1977) in opposition to the gloomy, universalist view that only centralized regulatory authorities working with one or two models of resource management can do the job.

Finally, property rights historians, like some ecological anthropologists and "socioecologists" (Dyson-Hudson and Smith 1978), deal with implications of the behavior, population dynamics, and ecological structure of natural resources for human behavioral strategies, including territoriality and other forms of "property rights definition" (Cheung 1970; Demsetz 1967-Hudson and Smith 1978; Richardson 1982; Jochim 1981). The nature of the resource is essential to the development of "truer" bioeconomic models. There has been much sophisticated use of information on resource population dynamics, multi-species interactions, etc., in the classical models. Resource abundance is one obvious determinant of the costs and benefits of social action. When resources seem "inexhaustible" there is little economic incentive to act socially to alter human exploitative behavior. When they become scarcer the costs of property rights definition, enforcement, and other social actions relative to the gains is reduced. Multi-species situations (or human mobility) may make it economically wiser to switch rather than engage in social action to protect the resource or one's interest in it.

There are other ecological variables. "Floating fishes," in English legal terminology, are less likely to be the subject of exclusive property rights than are oysters, which are sedentary and "imbedded in the soil," no matter how abundant one is relative to the other. Independent of the stimulus of the fur trade, the relatively bounded range and behavior of the forest game of the Labrador Peninsula made it more likely that American Indians would develop territoriality there than in relation to the large, migratory herds of game found on the Great Plains (Demsetz 1967 following the work of Leacock; see also Nelson 1982). Cultural ecology is replete with this kind of thinking, recently systematized by Dyson-Hudson and Smith

(1978). They use the biologists' "economic defensability" model to argue that environmental conditions of high resource density and predictability reduce the social costs of appropriation and defense while those of sparsity and unpredictability raise the costs (see also Richardson 1982; Jochim 1981: 167-174).

It is not very surprising that the property rights transformation theorists and ecological anthropologists, especially those using optimal foraging and other models of evolutionary ecology, seem to be talking in the same way. Ecological models of territoriality, group size, diet choice, and breadth (cf. Smith and McKelvey 1983) applied to birds, animals, and human foragers are based on the same optimization and consumer choice micro-economic models that inform property rights and common property theory (cf. Rapport and Turner 1977).

Social Dilemmas. Culture, and Community.

The behavioral theory noted earlier—that in common property situations individuals will choose to act on the basis of their immediate self-interests despite rewards for themselves and others if they acted cooperatively to restrain themselves—is the focus of psychological research on "social dilemmas" (Dawes 1960). These are also called "social traps" (Platt 1973): situations in which "the similar behavior of several independently acting individuals eventually traps them in a group community crisis" (Cass and Edney 1978:372). It is easy enough to also call them "commons dilemmas" (Ibid). By and large their experiments, albeit "lousy simulations of the social dilemmas with which most of us are concerned" (Dawes 1980:188), support the behavioral theory of common-property economists. There is indeed something about the commons that makes it difficult for "micromotives" to become translated into "macrobehavior" that is not tragic for all concerned (Schelling 1978).

Psychological research has, however, also led to considerations of aspects of community and culture that affect social action in common property situations, considerations that, like ecological variation, tend to disappear in the abstractions of the bioeconomic models. It has done so while working with essentially similar models of trade-offs among utilities and cost-benefit analysis, plus game theory.

Human behavioral choices In "commons dilemma" situations are affected by group size, moralizing, expectations about others' behavior, the extent and content of communication, and the degree of subject involvement (Dawes 1980: 183-190). These are aspects of culture and community otherwise absent in the microeconomic models of "the commons."

This work has considerable interest for anthropologists and others concerned not only about "the commons" but also about what Raymond Hames (1983) recently pointed to as needed and lacking in human ecological studies: a theory of conservation. Some anthropological speculations about the conditions under which "intentional conservation" as opposed to de facto conserving effects of actions undertaken for other purposes, may be expected—e.g., territoriality, environmental predictability, and the "visibility" of resources and pay-offs for conserving behaviors (Jochim 1981:174)—have in fact been tested and confirmed In the "lousy simulations" of psychologists. Thus, for example, Cass and Edney (1978) tested ideas derived from Acheson's (1975) analysis of territoriality among Maine lobstermen. When they added territoriality and resource visibility (information about resource levels in the common pool) to their simulations, the experimental groups came closer to optimal renewable resource management.

The anthropologist Richard Nelson (1982) echoes the psychologists'

emphasis on "resource visibility" and hence knowledge. In his suggestion that the development of a "conservation ethic" is more likely in simple ecosystems than in complex ones» and among hunters who depend on boreal forest game than among hunters who go after migratory herding animals. This is primarily because "...the finite nature of resource populations is easily understood" (p. 222) in the former cases. Where it is not, a catch-as-catch-can tactic is more likely than the behaviors associated with a conservation ethic (but see Schrire 1980).

In concluding these remarks on psychologists' contributions to understanding of commons dilemmas and conserving factors, I wish to suggest that certain perspectives and controversies concerning the commons may be related to a variable they have identified as powerful in influencing whether or not people choose to cooperate to obtain "social benefits." This is group size.

The "commons dilemma" psychologists find that group size is a powerful variable affecting whether or not people choose to cooperate to obtain "social benefits" or to "defect" and go for their individual interests (Dawes 1980; Edney 1981; see also Olson 1965). The functional benefits of limiting group size include improved communication among members, enhanced visibility of the common pool and the social behaviors concerning it, and enhanced visibility of the problems of any members that need to be redressed. In addition, in smaller groups it is harder than in larger ones for individuals to avoid responsibility. Their sense of alienation is reduced and of shared identity is increased (Edney 1981).

I suggest that it is therefore logical that scholars who have done their research with small-scale communities (mostly anthropologists) should be most vociferous in their defense of "the commons" as a not necessarily tragic institution. It is also logical to call us foolish romantics when we

extrapolate from those case studies to the overgrazing, erosion, fish depletion, pollution, and other "commons" problems of nation-states (cf. Gilles and Jamtgaard 1982; Berkes 1983; Johannes 1977). Scale is, then, a powerful variable even in the discourse on the commons. It should not be dismissed there or as it affects the commoners. The argument about scale and contingent variables directs us to consider both the limitations and possibilities of workable common-property systems and, following the work of property rights historians and ecological anthropologists, the conditions for change to other systems.

Some Criticisms

The micro-economic view of the commons is most explicit in the work of economists, economic historians, biologists, and psychologists. It is also central to the work of "public choice" political theorists, whose work has not been fully reviewed here (see Ostrom and Ostrom 1977). It is found implicitly and explicitly in anthropology, especially in the anthropology of fishing and foraging. It is a powerful explanation for human behavior and social and environmental problems in certain circumstances, very common ones. Aristotle recognized this 2000 years ago: "...that which is common to the greatest number has the least care bestowed upon it" (cited in Cass and Edney 1978: 372).

The micro-economic view has led to some powerful and pessimistic rhetoric:

Ruin is the destination to which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all [Hardin 1968: 1244].

The rhetoric reflects certain policy impulses and problems, as

discussed by M.E. Smith in this symposium. It is therefore important to be aware of criticisms of the tragic model of the commons.

One important criticism of the classical forms of the economic model of the commons is that resource ruination may not be the same as economic ruination. Under certain conditions of interest rates, resource returns, and goals of the users, an entrepreneur may find it economically comical, not tragic, to "kill the goose with the golden eggs" as long as he can invest the gold elsewhere once the goose is gone (Fife 1977). The bio-mathematician Colin Clark (1973; Clark and Munro 1975; 1978) formalized this argument using the language of capital theory and discount rates. The results of his work show that a biologically renewable resource can be "economically exhaustible." Moreover, his work demonstrates that this can happen irrespective of property rights or access conditions. These modifications of the economic model suggest that open access, property rights, and competition are not, in and of themselves, sufficient to account for tragedies of the commons. They also suggest that all commoners are not alike: some may apply high discount rates on their future, being immediate profit-maximizers, while others see the future differently, being concerned also with the goal of staying in business in a particular commons.

In the definitional section of this paper I alluded to another criticism: that the assumption of open access and unrestrained exploitation is not necessarily true for all common property situations. This point is very important. It directs us to look at the conditions under which commoners can cooperate to prevent or mitigate tragedies while still maintaining valued features of the commons (Ciriacy-Wantrup and Bishop 1975). The point is made in the context of another argument: that there are also "tragedies of the commoners": the inequities and losses that occur when resources are privatized; the distribution effects of various forms of

resource management; the ways in which resource management may be used to maintain or create differential social class privileges and access-rights (cf. Lund 1980).

Economists sometimes counter this criticism by arguing that open access, not the nature of property rights, is definitive of the commons. However* even they (e.g., Dorfman 1974) acknowledge the significance of property rights to the people involved and the dilemma itself. Commons do not lack property rights. The problem is that they have and claim them, and that there may be too many of them so that the exercise of one right imposes on the rights of others.

Property rights historians view the conflicts primarily in terms of how they express changing costs and benefits and lead to the transformation of property rights in the direction of greater exclusivity and privatization. Anthropologists are perhaps less likely to take a unilineal view of social change and cultural evolution and presume either the direction of property rights change or its irreversibility, as suggested by Bauer's paper in this symposium. Anthropologists are beginning to focus on commons dilemmas as dramatic situations of contradiction and interplay between culture, behavior, and environment, between the locals and the government, as Pinkerton shows in this symposium. Commons dilemmas are situations of social conflict over rights, power, and, meaning and may be studied accordingly, especially as they may reveal discrepant or clashing cultural values and norms amidst the strategic manipulations of individual actors (cf. Van Velsen 1967).

As already noted, social inequality and issues of equity are important aspects of commons problems. The theories, models, and experiments used in commons research typically presume egalitarian social arrangements and avoid

Implications of the fact that» In commons situations, "...Inequality and Injustice will be In the nature of things" (Edney 1981: 19). This assertion Is Influenced by the work of the legal scholars Calabresi and Bobbltt (1978) on "tragic choice theory." Tragedies of the commons and attempts to deal with them, especially as they Involve how to allocate rights to scarce resources, lay bare existing Inequality and conflicts within a society and create new ones. Therein lies the real tragedy, and It Is found within every form of resource management used, from lotteries and flrst-come-ffrst-served to centralized regulatory control to the creation of private property (Edney 1981).

In closing I wish to underscore the point that our received wisdom concerning the commons Is virtually devoid of any appreciation of social reality and of community. As Ciriacy-Wantrup and Bishop (1975) point out, most economists Ignore the fact that common property Is a particular social institution. It Is one that, as property, refers to a bundle of rights in the use of transfer of natural resources; and that, as common property, refers—at least In Western law and custom—to a distribution of those rights In which a number of owners are co-equal In their rights to use the resource (Ibid: 714). Accordingly, the proper study Is of the structure of these Institutions, the cultural concepts of equity within them, how they have functioned, and how well they have performed. The applied task Is to use what Is learned to suggest and help Implement remedies for problems In natural resource management within or beyond the framework of common property Institutions. These are challenges worthy of anthropology!

I think that we—anthropologists and others—have tended to Ignore this point because we recognize the Individual bias of the bioeconomic model of the commons as true. Anthropology, In some of Its forms, has developed a theoretical stance toward the Individual, the decision-making actor (Vayda

and McCay 1975; Richerson 1977; Orlove 1980), partly influenced by neo-Darwinian evolutionary biology and sociobiology. This is also found in theories concerning the evolution of property rights and of public action concerning common pool problems (cf. Olson 1965 on "the logic of collective action"). From this perspective, at least as it appears in the literature, social action may be generated out of the calculi of individuals' as they deal with, cope with, adapt to changing economic and environmental circumstances. But in the models, social organization, culture, community are not there to begin with. When they do arise, they are contingent upon a more primary individual reality.

Even in sociobiology there is a notion of relatedness, expressed in the concept of "inclusive fitness." Yet one of the main assumptions of the common property model is that there is no relatedness, that "...each herdsman (entrepreneur) acts essentially alone for his own good without regard for the good of the others; there is no community" (Fife 1977: 76; emphasis added). Accordingly, there are some very strange results* as in the work of Anderson and Hill (1977) on the history of social action concerning land, cattle, and water in the American West. After describing in very great detail complex and changing social phenomena concerning property rights in the West, they make the valuable point that ordinary people do act to alter things, that centralized, authoritarian government is not the only or best way to manage the commons. But in so doing, they glide past the social to the individual:

Surely there is tragedy in the commons, but the extent of that tragedy is limited by the ability of individuals to alter the nature of rights [Ibid: 205; emphasis added].

By and large, the lack of community is seen as a feature of the commons, especially large-scale commons, rather than of our intellectual approaches. Kenneth Boulding, for example, does this end advocates the creation of community as one solution to commons problems:

The only other answer to the tragedy of the commons is the comedy of community. One is almost tempted to call it the Divine Comedy of community. Without some sort of sacredness, the comedy easily becomes black and obscene and returns once more to tragedy, either through incompetence or through tyranny [Boulding 1977: 286].

An anthropological contribution is to accept that this lack and need is also part of how we think about the commons and that an important task is to identify and analyze community, in its sacred and mundane aspects, to see how it affects the "remorseless working of things" the calculi of individual actors.

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