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Stream: Global Themes

NOTE NEW TITLE: **Who, What, When, Why -- Resource Economics Before the Fall**

First, please note that this is a very informal version of an essay called "Property, Agency, Time, Culture, Spirit", to be published in a UNEP book on "Human Values and Biodiversity", edited by Darrell Posey, due out in 1998, I am told. To take advantage of the electronic access offered by the IASCP, and to avoid duplication, this version will provide a somewhat cantankerous rendition, and more speculative elaboration, with almost no references.

This paper is called "What, Who, When, Why..." because my intent is to propose a correct application of conventional microeconomic theory to these fundamental questions about resource management practises, "before the fall". The essential argument is that world-wide testimony from non-western peoples about how they "used to" manage resources is much closer to the truth than a naive economic view would lead one to believe. By naive, I mean a view that pretends to rigor and objectivity by formal and quantitative precision without regard for misspecified and inaccurate assumptions and claims. One might say that naive economists are arranging the deck chairs on the Titanic with fantastic precision, but they are never the ones who sink, so their learning experiences appear sadly limited, especially from the perspective of those who are sunk.

1. What can theory offer?

Common property regimes rest on both cultural and institutional bases, although the institutional or organizational aspects are more often considered (Bromley 1992, Ostrom 1990). Values are often treated as part of cultures, but they are usually assumed away in economic analysis through the circular formulation of treating behavior as revealing preferences, and inferring preferences from behavior, or else as deceptive or maybe even self-deceptive, and not usable in formal analyses. This is not entirely unreasonable -- no matter what people say, what they do may have more effect. But in the long run, economic analyses have just backed off from the problem of culture.

(Mark Sagoff has been an exception, but his impact is not clear; another group of "institutionalist" economists -- often publishing in the Journal of Economic Issues -- works from Dewey, Commons, and Veblen, but again their impact on the mainstream is hard to judge.) Fundamentally, the goal of economics, since the split from political economy and adoption of mathematical formalizations has been to explore "the logic of choice", taking choice as conveniently defined by the model.

Economic anthropologists have made a different choice, after a very bitter struggle over how to treat economics and culture, in what was called the "formalist-substantivist" debate, mainly over the arguments by Karl Polanyi and George Dalton. These critics of earlier economic anthropology declared that the "material provisioning" of society is embedded in culture, and that the economy as a separate category of life is really apparent only in modern market economies; it is not separable inside the family unit or inside societies that are otherwise organized. So, they argued, the search for economic analogues of market practises in all other societies and times is just misleading. Needless to say, this is quite interesting for those convinced that markets are insufficient as the only social organizing tools, or that markets must be limited or restrained in some ways, or perhaps not allowed to determine allocations in all cases. The anthropologists generally concluded that culture is powerful and important, and that economic exchanges and decisions are not always distinct from other relations, but that modern economic analysis is a powerful tool for considering how exchanges and relations are working (Plattner 1989). In the most interesting work, in my opinion, economic logic has been applied to "test the rationality" of various practises that seem strange or unproductive to the newcomer.

A broad range of social sciences have "discovered" the rationality or functional benefits of a wide range of practises. Farmer superstition and backwardness or excessive conservatism, as contemptuously dismissed by modernizing developers, turns out to be extremely well-adapted risk management, given the extreme stakes of losing, for instance. Pastoral blindness to modern husbandry has undergone a similar transformation of appreciation. Land fragmentation and tenure practises turn out to be important management and risk distribution techniques, and so on... generally, along with "ethno-sciences" and the recognition of "traditional ecological knowledge" in general, most of the human race is gradually being admitted to be human, even by consultants and the World Bank sort of experts. But there are still a few big hurdles left, and this work aims at one of them.

Traditional resource management practises have been hard to evaluate using conventional economic analysis for several important reasons. First, economics -- by which I really mean "neoclassical microeconomics" -- proceeds from assumptions about human nature, including implicit assumptions about the relationships between individuals and groups, and the preferences people have for using resources in the present instead of in the future. Second, there are more assumptions about how people make decisions -- as individuals, it is assumed. Much of the tension between economic approaches and traditional management comes from application of the economic model to cases where it does not fit well enough; by traditional I mean, "Native", indigenous, long-standing, non-western... I am judging "fit" of the model by the claims and arguments made by the non-western peoples themselves, and anthropological evidence of how they lived.

Not being an economist, all I can do is read some of the work, and in this paper I informally report some conclusions. The first one is that economics is much better than its reputation; if economists would adopt real rigor in their thinking about the whole story, they'd make a much bigger contribution to solving enormous problems. Theory is actually quite valuable, I think, if applied.

2. Who acts?

Taking the elements of the model in turn, the first assumption -- sometimes made explicit, usually not -- is that individual persons are the decision-makers. "Who" is always an individual, and there are very significant bodies of literature about how and why individuals will choose to participate in assorted kinds of relationships. The most formally elaborated are those in the vast literature on game theory, taking off from questions about how equilibrium in simplest markets will resolve, up through n-player, repeated/iterative games, and on into some very sophisticated analyses. Game theory has also been applied to group-group relationships, and in political science it is popular for international relations work.

Another whole line of work concerns the puzzling problem of the firm. Firms are groups of persons working for the firm's owner, or residual claimant, and there are a variety of explanations for why it is more economically desirable to maintain stable "settled" relationships --specialized division of labor and employment -- rather than frequent renegotiation. A remarkable effort has gone into explaining the firm, and more recently an additional set of work has been done on why some firms seem to "get more" from their employees. We have probably all heard of the Japanese "x-efficiency", and cultural advantage or whatever is on offer; there is a great deal of important inquiry into culture and business success, as well as political behavior.

The basic question of why some people put up with others making or having far greater amounts of wealth is a dead serious and valuable question, but for purposes of considering the management of natural resources before the market, and management using CPR (Common property regimes), the interesting aspect of this is that it is a majestically ethnocentric question.

Anthropologically, until very very recently, even in the 800 lifetimes since agriculture caught on widely (Toffler, Future Shock), humans would have laughed at the question of the firm, and told you that the really strange thing would be individuals living and acting economically and otherwise alone. Groups are the natural state of humans, judging by the anthropological and historical records.

So, if groups are normal, and groups are by definition (no surprises here, Ostrom 1990, Bromley 1992 orthodoxy on CPR is all I ask), the owners and users of resources, then the interesting question which Runge and Schelling and others approached is not "how do you form a group?" But "how does the group keep itself intact in the face of the market and incentives to defect/cheat/steal...". But before the market? Then, the question is easier: get out of line, you could be thrown out or if necessary killed. (In a formal treatment, Inuit and Alaskan Native ethnographies, etc. would be cited, since I know a bit more about these works than others).

Who? The group. The individual becomes an economic agent -- in the sense of a decision-maker -- only when there is some good reason to act differently, and without that, the group is the agent. There is a substantial literature about how group management provides for effective risk management for the individuals, throughout the life cycle, and so forth. I think, though it is hard to show, that one of the reasons for this being invisible to a lot of early analyses was fear of socialism/communism, and the Cold War. Whatever the case, in the traditional CPR, there are really two important kinds of property, which brings us to...

3. What?

What can be owned in the current Western legal systems is a rather amazing collections of left-over ideas that descend from the earlier notions of "God owned everything, delegated it to the King, and the King in turn delegated some parts to the nobility, who in turn could delegate some parts to others..." Property was "real estate" -- land, and "personalty", movable chattels, which could include people. The importance of the land-focus is entirely obvious when one considers current environmental law and problems: If what you can own is stuff, and ownership means being able to do what you want with it, even destroying it, and even cretaing what we now call externalities, then we are not talking about ownership of qualities of the environment, only identifiable pieces. Thus, we are struggling desperately to establish some control over ambient environmental qualities, since the starting point is that owners of things can do what they want, and you may have to literally buy them off to get them to stop.

That said, getting closer to CPR issues, the "what" you can own in our legal system is considerably different from the "what" you would own in the traditional CPR. Every person had the equivalent of ownership in the resources, however administered, through being a member of the group, and the really sticky point for us now is that people also had rights in each other and each others' labor and product. The family is closer to this than the firm, in terms of current groups; the family "contract" in essence was that roles and responsibilities were organized such that people took care of each other -- or died out or left. Rights in other people is taboo in anti-communist times.

And the other "what" that people could own, as groups, were the resources. Here, the analogy is the firm, because the group as a whole acted as an economic decision-maker. I showed that this was quite economically rational and in fact much more rational than individualized decision-making in a book chapter elsewhere (in Human Ecology and Climate Change: People and Resources in the North, Edited by D. Peterson and D. Johnson; Taylor and Francis 1995). The essential point is easily read off from Townsend and Wilson's chapter in The Question of the Commons (Acheson and McCay, Eds., 1987, U. of Arizona): Managing a resource for maximum economic yield -- the greatest difference between effort to harvest versus the results of the effort -- will not only get you the best result, it will also keep your harvest at a lower level than managing for maximum "sustained" -- meaning "biologically feasible"-- yield. This in turn provides important resilience for both the people and the prey species.

Use of some stuff without the right to destroy it, or destroy other resources, is what kept humans alive since they were humans. The limits on how much and what one could do were part of the what one could have; now, following that fantastic hogwash about why the King or his delegates should have the power to kill you or starve you, the what has been horribly muddled into letting people have the right to utterly destroy their property. As is abundantly clear, property is a social convention, but that correct understanding unfortunately does nothing to rule out social conventions that are completely unfair in any sense of the term, and completely destructive, in all senses of the term. The rules of use, the ethics, norms, cultural patterns, and accumulated traditional ecological knowledge and practises worked to provide adequate coordination and harvesting management. If not, those people left no descendants, and that brings us to...

4. When? What times are relevant?

Non-Europeans all over the world have been reported as claiming that they really do care about the long-term, and the conventional view of this is that they're either lying, speaking metaphorically in a fairly extreme sense, or just really stupid (although this is fading out with the disovery of rationality all over).

One of the really strange things in current economics is that economists very carefully derived the basis for their claim that everything works or should work with a "positive discount rate", and then apparently forgot where it came from and went on as if it was an absolute law of the universe. When things are valued is a terribly important question; I would guess that about one third of the thinking on "sustainability" in economics is wrestling with how to achieve stability while insisting that you have to have a fairly hefty positive discount rate. The discount rate is the rate at which one "discounts" a future value to reduce it to a present value; it is exactly like the rate of interest, only in reverse (and it is "positive" because it is bigger than zero and not negative).

An example: One million dollars that you get 70 years from now has a present value of 33,000 dollars, using a discount rate of 5 percent. At 2 percent, the very smallest commonly recommended discount rate, that million dollars in 70 years is worth $250,000 now -- bigger, but still only 1/4. Take this out for longer time periods and it gets really weird: A million dollars in 100 years, at 5 percent, is worth only $7,600 now.

In effect, almost everything in 500 years is worth almost nothing now, and so conventional economists who presume that everyone works with a positive discount rate, literally cannot see that seventh generation ahead that some people claim is relevant. If those people really are managing for the seventh generation, the conventional view goes, then no wonder they're savages living in poverty!

The problem is that the derivation of the positive discount rate takes you back to two sources for it: individual "impatience" and the fact that individuals have to live in the market and so the social setting provides a positive rate as well, regardless of whether a few nuts decide to live on twigs or whatever. The "who" argument above suggests that individuals are usually -- in terms of the human race, not the local/current mess -- not the economic agents. Recall the idea of the group agent, or "village as firm" (as I sometimes call it, when I want to relate this to the classic literature on fisheries Scott, Gordon, that was the real thinking behind the abusive tragedy of the tragedy of the commons). The qualities of a group are not the same as an individual, and may very effectively resolve the tensions that Sagoff and others from political science find between morals and interests as an individual versus morals and interests as a member of society and in the group's codes, norms, ethics, religious practises, TEK, etc. The classics include work such as Rappaport, Moore, and so on... in work carried on brilliantly today by Harvey Feit and others here now, may their paths be blessed...

Where there is effective group ownership, and effective group membership, such that individuals have rights and responsibilities in and to each other, at least before the market and external trade, why cheat? Why harvest more moose when you are much better off to let them grow, reproduce, and be harvested as needed -- this is especially handy without refrigeration! There is absolutely clean logic in those statements that "The land is our bank" -- and so forth. Individuals will certainly be impatient -- to be a "big kid", to do "grown-up work", to find out... for all kinds of things, and I am emphatically not peddling some silly romantic fantasy; among the Inuit, for instance, there is plenty of evidence of very lethal and quite unpleasant relations excluding others from territories, treating dissent, and responding to violations of norms (Fienup-Riordan in Burch and Ellanna, etc). There is just no incentive to overharvest until something upsets the basic human arrangements. Everyone works less and eats more keeping harvest at the maximum economic yield levels, as was empirically argued by the early Hunter-Gatherer work (Lee and DeVore 1968, and following Leacock and Lee, etc etc), and extrapolated by Sahlins in Stone Age Economics. What on earth are you going to do with more than you can store and exchange for other things?

The other term from which people are said to have a positive time preference (now rather than later) is the growth of the economy. Obviously, if the economy is not growing, and maybe not even growing in perceptible average, this term may be zero. If your group is the people of the Where, and they live on the What, and Where produces about the same amount of What every year, less in bad years, more in good years, there are three choices: (1) your group comes up with effective stabilization and somehow stays reasonably adjusted to the resources, improving them or not, and growing or not; (2) your group fails to adapt effectively, and this is to the bad times, (Vayda and McCay 1975), and you leave or die out; or (3) your group adapts well enough to "mine out" the resources, accumulate a big surplus capacity, and uses that surplus to go screw up other places; historically, this is the European model, although to be fair Europeans have also done some genuine sustainable adaptation as well as the more common improved and accelerated destructive exploitation.

The whole notion of a positive discount rate is quite powerful in legitimating the current dominant view, "harvest it all now!", and blaming that on human nature, (see Clark's brilliant little proof, "clear-cut economies", The Sciences 29(10): 17-19, 1989). This is in fact either very naive about the realities of most of our history, or malignantly sycophantic to the status quo (which is most obviously characterized by an amazingly unequal dsitribution of goods, wealth, and income as well as by obviously unsustainable and absurdly destructive practises). There are certainly a few other points we have to note: the dominant fantasy pretends "capital is mobile" -- meaning you can buy anything, if you have enough, such that enough of any commodity will allow you to substitute it for any other, literally. Get "fair market value" for anything, and you can get it back if you want it bad enough; there are no irreversibilities. And there are no systemic properties, no lumpiness, no thresholds, etc. Plenty of literature makes these critical points.

Here, the main argument is that by using rules for evaluation that are based on either an assumption about human nature, an assumption about the nature of the economy, or just rationalized after having been proved extremely useful as tools for the exploitation of others, the future is literally devalued, a conceit which we are making very frightfully real.
And that brings us to "why?"

5. Why do we use resources? How do we decide?

I want to understand what worked well enough for us to live here, where we evolved, for a very long time before "civilization". It seems clear to me that the group in our stylized discussion subject would have been living in ways I can hardly imagine, so I have no concrete answer to "why" they used resources, except to suggest that it is a lot like asking, "why live?"

And now, why do we use resources? One thing that cannot be overlooked is the fantastic level of connection in flows of information, power, and resources. There is plenty of speculation and cogitation about the destructive consequences of decisions taken without reference or regard to their consequences. If economists were serious about the property rights paradigm, as early argued by Demsetz, they would follow it: their claim was that we'd get optimal use of resources when all of the "spill-overs" or externalities were internalized. If a land-use injures people down stream, that cost should be internalized and then the injury would be paid for if worth going ahead, or one would stop. But, instead, ruefully explain that while this is correct, there are technical problems in measuring the costs, and so, aw shucks, we won't. Because of our strange property rules, and a legal system devised by the owners of such property, the burden of proof is on the injured, and the majority of ecological or environmental injuries are legally invisible, since they do not occur to legally recognized property; as Stone put it, trees do not have standing. So it's business as usual until they make you stop (and if the damage is irreversible, too bad). How to reconcile the property rights paradigm with anti-national diffuse-ownership management-dominated corporations is completely beyond me, unless there is no reconciliation, and merely silence or legitimation of the status quo. The essential process of globalization is externalizing as much of the costs of everything as possible; why do economists like that?

A more answerable small form of the "why" question takes me to why does a group persist, why does it defend its resources or suffer defeat, and what is the meaning of group and common ownership? This loops, by no accident, directly to the huge range of discussions here and at every other IASCP meeting about the idea of community, the cultural and spiritual meanings, and how deeply social humans historically are. Personally, I need go no farther than considering language itself: my thoughts are socially-created and influenced because I think in language; it is the medium and the outcome in Giddens' terms, and "I" exist in and through them, in Whorf's terms (and indeed, the essence of Buddhism and many smaller local traditions is that this is not an entirely cost-free state of being, but that's another story).

Why bother trying to look to CPRs to see something about how economies and humans used to work? Because we will not get past our own absurd obsession with trying to create an infinitely expanding economy for an infinitely expanding level of demand for things for an exapnding population unless and until we stop wearing this bizarre blindfold... we assumed human nature was thus, as a formal analytic convenience, and then made this assumption an ontological premise about who we have to be! This starts long after the derivation of the positive discount rate, long after the commerce based on manufacturing created the firm as successor to feudalism, long after the distribution of resources, wealth and income was established, and then, only then, they say, "this is how it must be."

That last point was important: efficiency is explained in the beginner classes as an adjective -- it is the quality of transformation of resources into other things, or the exchange or trade-off relationships. When you get more "output" for a given "input", you are being more efficient. As Bromley pointed out (1990), what that means is that using efficiency within the status quo distribution by definition limits and prescribes the outcome. Economists claim they are being objective and value-free when in fact they measure everything in terms of how things are now -- as usual, starting in the middle.

This becomes clear in considering benefit cost analysis. How to decide what to do, or "why" to do something? Because you're better off, and you know this by starting... where? With the status quo, and in the middle of the story. Start with the current distribution of wealth, and no wonder evicting hundreds of desperately poor people carries the same weight as enriching the oligarchy further; the rules are supposed to work that way. Start with that "God to King to nobles to.... eventually, corporations" idea of property -- what can be owned -- and you end up with "we'll count this, this, and this, and we either won't count that or we'll scratch our heads and say it certainly has some aesthetic value, the Glen Canyon or whatever, clean air, etc, but seriously, we don't know how to value it, so it doesn't really count." Since no one owns clear water, or perhaps worse, the state has succeeded the King as owner, no one can defend it, no one can count it, and the owners of "real property" (the joke is on us) do have something they can count.

My point, as you've probably discerned by now, is foundational critique of the misapplication of the economic model. Wrong presumptions about who we are, what we can own, when we can or should consider, and finally why we should choose a given course over another, are much more effective at legitimating the current mess, blaming it on some insoluble nastiness of character, and assuring that serious change is technically and effectively unthinkable.

A final note: because I originally submitted the essay for the UNEP book, expecting only to present a little of the argument, the surprise chance to submit for electronic posting turned out to be the chance to do a very hasty draft so as to avoid infringing on the other work. Thus, I apologize for bad writing in order to meet the deadline. Common property, I believe, is just as important for what it teaches about managing humans as about managing resources. I suggest, however clumsy I am in this draft, that we need some serious rethinking about how we run things, based on what the common property movement revealed.