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Personal Perspectives on the Relations Between Humans and Nature

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Panel: Personal Perspectives on Humans and Nature



Photo: Larry Burgess

Standing: Brian A. Luke, Rev. John S. Putka, S.M., and Ralph R. Frasca
Seated: Terrence W. Tilley, Pamela L. Thimmes, O.S.F.

With Terrence W. Tilley (Chair, Department of Religious Studies) as moderator, four members of the faculty discussed their personal perspectives on humans and nature. As a preparation for their discussion, the participants wrote papers exploring their view of the topic. These papers follow.

Personal Perspectives on the Relations Between Humans and Nature

Ralph R. Frasca

I. Nature and Value

In academe we are rarely asked for our personal perspectives. Our colleagues prefer academic perspectives. These should reflect our considered judgement given the accepted methodology and current mainstream academic thinking. A “personal” perspective implies a release from constraints that is both liberating and scary. At a younger age I might have taken advantage of this freedom by reflecting on the romantic relationship between humans and nature. At my current age, however, I am like the bird who returns to its gilded cage. My personal perspective is the perspective of my discipline. My view of the relationship between humans and nature is very much the anthropocentric utilitarian view of economics.

The study of how a society allocates its scarce resources is the textbook definition for economics. As an economist, it might follow that I spend a lot of time thinking about the relationship between humans and resources. But I don't. At the heart of my world view is the study of relationships among humans. It is human wants that determine what is scarce and, even more fundamentally, what is a resource. Moreover, the interplay of those wants through both the market mechanism and the political infrastructure ultimately determine the human condition.

Nature is often defined through a juxtaposition with what humans have created. The conundrum is that humans have created the concept of nature. It seems strange then to ask, “What is our place in nature?” The answer must be, “It is whatever we define it to be.” In economics, nature like everything else has value only because humans give it value. This may be circular reasoning, but it does ensure that value emanates from that circle. If we strive to preserve nature it is because we perceive some present or future value from the natural state. If we trade off the preservation of the natural for other goods, it is because we place greater value on the alternatives.

II. Protecting the Natural Environment

Protection of the environment may include shielding the natural state from our intrusion. This would imply that nature has some intrinsic value separate from the benefits it provides humans. While such shamanistic notions of nature may be enticing, they have no viable policy consequences. A policy that asks us to do something that is not in our own self-interest is doomed to failure.

If we are to conserve the environment, there must be greater value in its conservation than in its present consumption. If I own a wooden table I can choose to use it each night for the family dinner or, as they have done in Sarajevo, I can choose to chop it up and use it to heat the family home. In either case the table creates value for me. How I choose to use the table is determined by what has the greatest value for me. The same may be said of the giant redwoods. We can let all or some of

them stand, in which case we might receive daily enjoyment from their presence, or we can cut them down for the production of alternative goods. There is no "right" choice that fits all situations. It depends upon how we value our natural environment and how those values are expressed.

We are familiar with placing values on apples, oranges, and TV sets, but how do we as individuals place a value on the California seal or the Alaskan salmon? Unless I have the experience of directly purchasing goods in the market place and directly evaluating the forthcoming benefits, can I really know what I am getting? Many environmental goods have benefits that are entirely removed from my personal experiences, and, therefore, highly uncertain. Although these goods may have an enormous impact on society as a whole, it is possible they may have only a marginal impact on any single individual. "Satisficing" behavior would suggest that it is simply not worth the time and effort to even consider such goods for which benefits are minimal and highly uncertain. For this reason, most of us would balk at making a direct out-of-pocket expenditure for benefits that are difficult to calculate and unpredictable.

But even if we could accurately value environmental goods, it still is highly unlikely that private markets would provide an optimal amount. The essential character of such goods, widespread public benefits, also conspires to make their private provision unlikely. If nature bestows benefits on all of us equally, regardless of contribution, then why should anyone contribute? Why should I be the one to pay? If I pay, you receive the benefits, even though you may have contributed nothing. Isn't it better that you pay and I free ride on your contribution?

When everyone thinks this way, nothing is contributed. In the end, we are all made poorer by our mistrust. Moral suasion may convince the better, or the less thoughtful, among us to provide public benefits that exceed any private return. However, policies that rely upon the voluntary goodness of each person's nature to protect nature will inevitably fail.

III. Collective Action

It is obvious that the allocation of public goods providing widespread non-marketable benefits can only be resolved through collective action. Through governmental action we must determine what is to be provided, how much is to be provided, and how it is to be provided. Valuations that may appear intractable to a single individual may take on form and substance when collectively provided through a representative government.

For this reason, the provision of collective goods is typically determined in the political arena. If this process is to be efficient, the quantity provided should create the greatest net benefit for society as a whole. There is no assurance, however, that the political process will generate a socially optimal amount. In politics, not all voices are equal. Vested interests tied to personal gain, whether it be monetary or nonmonetary gain, may dominate choices that are generally more preferred. Even in a democratic system of equal influence, the will of the majority does not necessarily produce an outcome that maximizes total social welfare. The private valuation of the minority may exceed the value to the majority. Moreover, as issues change and

majorities are realigned, we may be left with an allocation of resources that is in no group's self-interest.

The elimination of democracy and the imposition of a benevolent dictator would theoretically solve this predicament. But this choice only removes the solution from the realm of the possible. Who selects the benevolent dictator, and how can we be sure this individual is truly benevolent? A better alternative is to adopt rules by consensus that limit the ability of the majority to disregard the costs or benefits received by the minority. Once such rule might be that environmental regulations be based upon a mandated benefit-cost analysis and that there be reimbursement for environmental takings.

Economists have long suggested that all government programs be subject to a benefit-cost analysis. Only those projects for which the incremental benefits exceed the incremental costs are worthy of consideration. Such projects would increase net welfare by the difference between incremental benefits and incremental costs. With many worthwhile projects and limited governmental resources, projects could be ranked in terms of their respective benefit-cost ratios. Accordingly, projects that generate the greatest benefit for each dollar of cost would be those that were undertaken first.

The requirement that all regulations be defended in terms of a rigorous benefit-cost analysis would not necessarily lead to common agreement on what environmental regulations are optimal. It would, however, provide a common basis for disagreement by forcing competing sides to rationally approach the decision. With a common format both disagreements and agreements would be highlighted. The direction of the argument would move away from the *ad hominem* arguments so common in the daily press, and on college campuses, to an analysis of the factual issues.

A benefit-cost analysis requires that we first consider the probable consequences of our actions. This entails what is called a risk assessment that assigns probabilities to various outcomes, or states of nature. What is the probable harm from a given pollutant? An inadequate assessment of risk can lead us to needlessly waste resources on tasks producing few benefits while not having the resources to undertake tasks that are clearly beneficial. Indeed, a study the EPA's Science Advisory Board demonstrates that this is likely to occur when uninformed public opinion is used as a guide to probable environmental damages. The results indicate that public perceptions of risk differ significantly from that of knowledgeable EPA scientists. Accordingly, a political process that places undue emphasis on public perceptions of risk is likely to be highly inefficient. Mandated benefit-cost analysis provides a needed reality check.

The next step in benefit-cost analysis is the monetary valuation of both the probable benefits and costs. Even in the public sphere, this is not an easy process. How do we calculate the dollar value of an old growth forest, a blue whale, or a human life? These questions become tractable when we realize that we are not searching for an absolute measure of value. We only need a relative measure of value. In the jargon of economics, all values can be established in terms of opportunity cost. As long as choice is involved, value is defined by the foregone alternatives. At a minimum, the value of everything is determined by what we are willing to give up in order to have that something. Without some yardstick like opportunity cost to guide us, we

implicitly assume the extremes of either zero value or infinite value, neither of which is likely to be accurate.

It is unfortunate that environmentalists have been largely critical of benefit-cost analysis. They fear that benefit-cost analysis will not adequately value the benefits from environmental protection. Environmental benefits tend to be intangible and delayed; whereas, costs are generally tangible and immediate. Consequently, a benefit-cost analysis that steeply discounts future benefits and only values the marketable will not find many environmental projects or regulations worthwhile. This is an important concern to us all. Any methodology that miscalculates social benefits is seriously flawed.

The fears of the environmentalists must be addressed. They must be assured that the mandated methodology includes all benefits and all costs. The benefits should be measured by examining both market and non-market impacts. For example, water pollution may result in a direct market impact upon industries that are affected by water quality. This can be determined by examining damages suffered by the affected industries, such as fishing or recreation. It is the non-market, intangible impacts that present a more difficult problem. How do we value the enjoyment we receive from simply viewing a pristine waterway or by simply knowing that somewhere in this country salmon are spawning in free flowing rivers? How do we assess the cost of an oil spill that does not reduce some marketable output?

There are no easy answers to these questions. However, economists have been devising innovative strategies for measuring the non-market intangibles. These come under the heading of contingent valuation. One controversial procedure consists of simply asking people how much the benefits are worth. For example, the protection of the spotted owl is one case in which the costs of protection are clear but the benefits are intangible. In an attempt to evaluate the non-marketable benefits, the Florida Department of Environmental Protection conducted a survey to determine how much consumers would be willing to pay in order to protect the spotted owl. The questionnaire personalized the concept of opportunity cost by requesting respondents to assume that protection of the spotted owl would result in a rise in the market price of toilet paper. How much of a price premium would they willingly pay in order to protect this endangered species? Extrapolating from the price premium per roll to the number of rolls in all households over a year, the researchers estimated that the total willingness to pay for the nation as a whole is about \$81.3 million. It is easy to argue about what this figure actually represents. Do people really have an accurate idea as to what the spotted owl is worth to them? The spotted owl is only one of many endangered species. Would they be willing to spend the same amount on the kangaroo rat? Do their responses really reflect their attitude concerning resources devoted to saving the wildlife habitat rather than one single species? And even if they do, are they telling us the truth? It costs nothing to exaggerate your concern for the environment when your responses generate no financial consequences.

I want to argue that the exact number is not as important as the process. By being forced to place a price on intangibles, we are forced to consider the trade-offs that must be made. It compels the vested interests to reveal their preferences. A colleague of mine who prepared benefit-cost studies for the Army used to state that the hardest

part of benefit-cost analysis was finding out how the general wanted it to turn out. But regardless of how the study turned out, the benefits and costs had to be laid out as line items for all to see. Whether these reflect the objective estimates of the staff or the personal preferences of the general was less important than the fact that it gave others the opportunity to review the decision and pinpoint disagreements or weaknesses in the analysis. If we choose not to squander our resources, we must come to some common agreement that the benefits exceed the costs.

IV. Private Freedoms

If we as a society decide that some resources must be devoted to the protection of the environment, we must also determine who is to pay for these resources. As stated previously, voluntary provision of public goods fails because each of us wants to rely upon the expenditures of others. We must not fall into the same trap in the public sphere. Governmental action can be financed by the support of many or the coercion of a few. Unfortunately, questions of equity are never decided under a Rawlsian veil of ignorance. Common agreement, however, might suggest that those who receive the benefits should also be the ones who pay. Therefore, environmental programs and regulations that provide wide spread public benefits should be financed through broad based public taxes. When we pass environmental regulations that limit the use of private property, such as the Wetlands Act, we reduce the value of that property. When the government does not provide compensation for that loss, it engages in an environmental taking.

Environmentalism must respect the requirements of a private enterprise economy. We must not permit it to be used to attack the foundations of private property. It is easy to let the few pay for the benefits of the many. By doing this, however, we willingly accept a level of unfairness that will extend beyond environmental decisions. Governments must change as the technology of our economic system progresses. The rules that govern horse buggies cannot be applied to horseless carriages. As a consequence, technological change may often require new regulations that create transfers of income and wealth. However, if this process becomes too rapid and if the uncompensated takings of the government become routine, then the enhanced level of uncertainty in the economic system will affect us all. To the extent that my rights to private property become more uncertain, those rights are destroyed. Risk and uncertainty are not costless. We will all pay for these inefficiencies through reduced productivity and innovation.

The destruction of private property does not serve the environmental cause. Some of the worst cases of environmental degradation have involved common property resources. The tragedy of the commons was resolved through the assignment of private property rights. We can find many cases in which well-defined property rights in conjunction with the workings of the market have both conserved resources and provided the basis of sustainable development.

It wasn't just our desire to extend the celestial daylight by lighting our lamps with whale oil that led to the near extinction of the sperm whale in the 19th century. It is true that the high value placed upon the clean clear flame of sperm oil provided the economic incentive. However, markets can also contain incentives for conservation and preservation. Resources will be reserved from the market today if it appears their

sale would be more profitable tomorrow. This requires that property rights be well-defined. To protect a resource and reserve it from the market today, someone must first clearly own it. The sperm whale was a common property resource, exploited by all, but owned by no one. The market failed to protect the whale, because it lacked the proper human relationships and the proper political infrastructure.

It was also the market, however, that created incentives for innovators to find cheaper clean burning fuels that reduced the demand for whale oil. With the discovery of petroleum in 1859 and the sale of kerosene to light lamps, there was no longer the profit to support massive ships on extended journeys in order to produce a few hundred casks of oil. Now thousands of barrels could be pumped out of the ground in a single week at minimal cost.

A little over one hundred years later, the demands on this new resource seemed to have created another shortage with the hope that some new fuel source, perhaps atomic energy, would be the new alternative. Former president Jimmy Carter spoke to the world and told us that unless we changed our wasteful ways, we would run out of petroleum by 1984. But 1984 passed with no shortage in petroleum nor the coming of other dire consequences associated with that ominous date. We now have a world with historically cheap petroleum. Moreover, this good future was not the result of either a new found alternative fuel source or government support. Unlike the sperm whale, petroleum was not a common property resource. It could be owned and traded. This meant there would be returns to those who could discover new sources or more efficiently exploit existing ones. More importantly it meant that rising market prices, spurred on by scarcity, would result in an incentive to leave some of that oil for future generations. No such thought would ever come to a whaler who spots a pod of whales. An individual whaler would not leave the whales unharvested with the thought that he might come back next year when prices are higher. Given no future rights, if he does not take them now someone else will. Even when the harvest is nonsustainable, there is still no individual incentive to refrain from the taking.

Our interaction with the environment must be tempered by our judicious use of both government intervention and private markets. Extremism on either side threatens our freedoms and our welfare. We must be careful that the old ideological battles that once took place between capitalism and central planning do not reappear on the environmental front. We cannot allow those with a hidden agenda to control the environmental movement. Environmentalism should not be used as a divisive force to separate the north from the south, or the rich from the poor. Political freedom and economic freedom are codependent concepts. The challenge that we face is to find solutions to environmental problems that exploit the dynamics of the market system without unduly restricting individual choice.

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