ISSA Proceedings 1998 – Calculating Environmental Value: The Displacement Of Moral Argument

They took all the trees and put 'em in a tree museum
And they charged the people a dollar-and-a-half just to see 'em
Joni Mitchell

"Big Yellow Taxi"

Rather, money endangers religion in that money can serve as universal symbol, the unitary ground of all action. And it endangers religion not in the dramatic, agonistic way of a "tempter," but in its quiet, rational way as a *substitute* that performs its mediatory role more "efficiently," more "parsimoniously," with less "waste motion" as regards the religious or ritualistic conception of "works."
Kenneth Burke

A Grammar of Motives
In May, 1997, Robert Costanza and a group of colleagues published in *Nature* the results of a meta-analysis of studies designed to measure the economic value of the environment. Perhaps due to the dramatic nature of their findings – they estimated the annual value of ecosystem functions and services at probably around $33 trillion in U.S. dollars compared to annual global gross national product of about $18 trillion – the report received considerable publicity, including coverage in the United States on National Public Radio and in the *New York Times* (Costanza, et al. 1997; Stevens 1997). Though the figures are stark, and probably startling to most, the fundamental argumentative strategy, the justification of environmentalism on purely economic grounds, a striking and controversial departure from traditional appeals for the defense of the environment, is part of a quietly growing trend. Kenneth Boulding, in the 1960s, called for such an accounting as a way to talk about the "throughput" of what he

characterized as the “cowboy economy” (Boulding 1970: 97). Eric Freyfogle’s denominator is “free-market environmentalism,” and he identifies as its purpose “to structure resource-use decision making so that decisions respond, not to bureaucratic mandates, but to the more disciplined signals of the market” (Freyfogle 1998: 39). Costanza and his colleagues illustrate this purpose in the opening sentence of their report: “Because ecosystem services are not fully ‘captured’ in commercial markets or adequately quantified in terms comparable with economic services and manufactured capital, they are often given too little weight in policy decisions” (Costanza et al.1997: 253; sa Breslow 1970: 102-103).

The co-authors of the report in Nature, in their individual productions, represent a substantial voice on the academic side of this trend (Costanza et al. 1997: 260), but this is not arcane academic theory. Paul Hawken, co-founder of Smith and Hawken, makes precisely the same argument from a commercial perspective. “In order for a sustainable society to exist, every purchase must reflect or at least approximate its actual cost, not only the direct cost of production but also the costs to the air, water, and soil; the cost to future generations; the cost to worker health; the cost of waste, pollution, and toxicity” (Hawken 1993: 56). As for political manifestations of free-market environmentalism, Freyfogle points to the U.S.

Clean Air Act of 1990 as a watershed moment in which the U.S. Congress, in an effort to use market forces to control industrial pollution, made air pollution permits a tradable commodity, and to the support of environmental groups, notably the Environmental Defense Fund and the Sierra Club, in the Edwards Aquifer debates of 1997, for a permit system for water use, termed “water marketing” (Freyfogle 1998: 37-38). David Brower, first executive director of the Sierra Club, confirms the economic emphasis when he asks: “So what’s a tree worth? What’s a bird worth? What’s clean air worth? If we asked these questions, we’d get some startling answers – and if we had those answers we’d be careful to defend things that are so hard, so *expensive*, to replace” (Spayde 1996: 67, emphasis Brower’s).

The motives behind free-market environmentalism as argumentative strategy can be usefully considered in two broad categories:

first, in the best tradition of Western rhetoric, arguments based on markets capitalize, if you will, on predispositions and values already held by the audience committed to democratic capitalism, exploiting a rich repository of enthymematic

material;
second, especially in the form presented by Costanza and his colleagues, such arguments masquerade under the penumbra of precision, objectivity, and irrefragability associated with science. In other words, economics functions formally to ratify the scientific-mathematical-logical ideal, and it functions substantively in these arguments as agreeable confirmation of the values of capitalist culture. Both of these aspects are worth examining, particularly as they concern public argument of the most monumental importance.

1. False Economies and False Expediencies

Before turning to the form and substance of free-market environmental argument per se, it might be well to look directly at the nearly axiomatic general rhetorical wisdom that counsels meeting and beating the audience on its own grounds. Such a strategy is predicated on twin economies:

1. it is less difficult to persuade the audience of a conclusion based on premises they already accept than to have to persuade them of the premises and the conclusion that follows;
2. the resulting persuasion is most compelling when the danger that the premises can be denied or retracted is minimized.

There are, though, simple strategic reasons to be wary of the Siren song of momentary advantage when it calls us to change the bases of an argument. Because rhetorical traditions have been too little studied, we have a paucity of evidence regarding the ways in which public discourse becomes part of the context for future discourse (for notable exceptions, see McGee 1975, 1980a, 1980b, 1982; Condit and Lucaites 1993; Watts 1996; Darsey 1981, 1991, 1997; Jasinski forthcoming). Yet at least one incident in relatively recent U.S. political history suggests that the unrestrained urge to vanquish the enemy on its own ground in its moment of weakness may valorize principles that later, under altered conditions, arise to serve their original master's purposes with impunity, having publicly secured the assent of at least the two major parties to the debate.

No effective opposition was possible regarding the U.S. role in the Persian Gulf War because that role was so successful militarily. The political left, at the end of the war in Vietnam, surrendered grounds for moral criticism independent of military outcome when, relishing the moment of U.S. defeat in Vietnam, it raided the rhetorical arsenal of the political right and seized the equation of victory and God's will to humiliate proponents of the war; not only had the United States lost,

but by virtue of having lost, it had been wrong. The military defeat became, in the "God-on-our-side" logic that the Left had previously reviled, incontrovertible evidence of the turpitude of the effort. The strategy forsook a panoply of criteria, independent of the course of the war, that the Left had used with considerable success to create opposition to U.S. policy, in favor of a criterion that could only be applied post hoc and only for the purposes of punishing unregenerate "hawks." The equation, though, as the Left's co-optation of it demonstrated, is purely circumstantial. So almost two decades after the United States pulled out of Saigon, no one should have been surprised when George Bush, in an oddly unremarked on aspect of the rhetoric surrounding the Persian Gulf War, was able to declare that his one-hundred hour victory was, prima facie, evidence of U.S. rectitude, that the United States had finally recovered from its debilitating case of "Vietnam syndrome," and the Left was left with little to say. The logic had long been conceded.

The application to free-market environmentalism should be obvious. The environment is not protected by the general principle that good decisions should produce the greatest possible benefit for the lowest possible cost, rather once that principle has been acceded to, the fate of the environment hinges of the contingencies and vagaries of pricing at any given moment. The impact of such price variability on the argument presented by Costanza, et al. is evident when they propose that the value of environmental services should be calculated by comparison to what it would cost to duplicate them "in a technologically produced, artificial biosphere." Costanza and his colleagues conclude that, compared to our experience with manned space missions and with Biosphere II in Arizona, "Biosphere I (the Earth) is a very efficient, least-cost provider of human life-support systems" (Costanza, et al. 1997: 255). At whatever time, however, that we could produce those services more
economically with technological means, the water-filtering function of a wetland say, the natural wetland would, following Costanza's logic, necessarily be devalued, perhaps to such a degree that there would be no compelling reason to maintain it in the face of more economically viable uses. I believe the researchers may be acknowledging something like this when, in their caveat number twelve, they confess the following:
"Our estimate is based on a static 'snapshot' of what is, in fact, a complex, dynamic system. We have assumed a static and 'partial equilibrium' model in the sense that the value of each service is derived independently and added. This

ignores the complex interdependencies between the services. The estimate could also change drastically as the system moved through critical non-linearities or thresholds (Costanza, et al. 1997: 258, emphasis added)."

2. Economics and the False Allure of Science

Beyond questions of advantage, free-market environmentalism raises questions regarding the fit between the epistemological status of the question and the form of the arguments used to address it. In the *Topics* and elsewhere Aristotle distinguishes three types of reasoning: demonstration, in which "the premisses from which the reasoning starts are true and primary, or are such that our knowledge of them has originally come through premisses which are primary and true;" dialectic, which "reasons from opinions that are generally accepted;" and contention, which "starts from opinions that seem to be generally accepted, but are not really such, or … merely seems to reason from opinions that are or seem to be generally accepted" (*Topics* 100a27-100b26).

In *On Sophistical Refutations*, he makes clear that "demonstration" is treated in the *Analytics*, while "dialectical" argument is the subject of the *Topics* (165a38-165b10). He further emphasizes this distinction between apodeictic knowledge and the probable knowledge of argumentation in describing the province of rhetoric, in which subjects are addressed "such as seem to present us with alternative possibilities: about things that could not have been, and cannot now or in the future be, other than they are, nobody who take them to be of this nature wastes his time in deliberation" (*Rhetoric* 1357a1-8). For Aristotle, there is a clear distinction between demonstration and argumentation.

Within an Aristotelian framework, such questions as those posed by Paul Hawken, who wants to know the costs of the air, water, and soil in a product, or David Brower, who wants to know the worth of trees, birds, and clean air, are not susceptible to treatment by demonstration. Such values cannot be determined with precision; they can only be assigned provisionally through argument.

Kenneth Burke reminds us that distinctions, including the distinction between demonstration and argumentation, imply hierarchies, differences in valuation, and Burke recognizes how demonstration has, in the West, been associated with the valuable, masculine qualities of hardness and rationality, while poetic, at the other end of the discursive continuum, just beyond rhetoric and argumentation, has been correspondingly devalued as feminine and soft (Burke 1969a: 460; McCloskey 1989: 100). In recent work on the rhetoric of science, the puissance of

this division has been attested to even as its validity has been challenged (see, for example, Davis and Hersch 1987: 53-54; Rorty 1987: 38; Rosaldo 1987: 87-89; Toulmin 1958: 40-41). Yet, while this work may enjoy increasing recognition among scholars, in the pedestrian world of political argument, "scientific proof" continues to function with an authority that moral argument does not enjoy, particularly in an age when the foundation for a common morality seems to have crumbled. It is perhaps out of an intuitive understanding of these differences that contemporary social movements have tended to shift the ground of their argumentative premises from traditional morality to the "science" of economics (Darsey 1997: 122-27, 175-98). The environmental movement in particular has exhibited both thoroughness and savvy in taking its battles into the economic arena as illustrated by green consumerism ("Politics at the Cash Register" 1996: 8-10; Council on Economic Priorities 1989), the use of shareholder issues for environmental ends (eg, Chubb and Allstate regarding liability for global warming, International Paper regarding the use of chlorine, Xerox in recognition of its environmentally responsibility policies), and efforts to encourage green business practices (see, eg, *The Green Business Letter* and *The E-factor: Bottom-Line Approach to Environmentally Responsible Business*). The various tactics are all part of a common effort to replace the "soft" sometimes mystical languages of aesthetics and pantheism with the "hard" language of the spreadsheet.

Costanza and his colleagues are eager partisans of this economic model of argument, and they drape themselves in the language of scientific precision throughout their report. Note these examples: "Figure 1 shows some of these concepts diagrammatically. Figure 1a shows conventional supply (marginal cost) and demand (marginal benefit) curves for a typical marketed good or service. The value that would show up in gross national product (GNP) is the market price *p* times the quantity *q*, or the area *pbqc*" (Costanza, et al. 1997: 257). Davis and Hersch (1987) quote Neal Koblitz's reaction to a similar use of equations in Samuel Huntington's *Political Order in Changing Societies*: "Huntington never bothers to inform the reader in what sense these are equations. It is doubtful that any of the terms *(a)-(g)* can be measured and assigned a single numerical value" (p. 59). Even the surprisingly lengthy treatment by Costanza and company of "Sources of error, limitations and caveats," normally an argumenation liability, is intended to communicate to the reader the scrupulousness of the researchers' methods. Consider caveat number eleven (of twelve): "In general, we have used annual flow values and have avoided many of the difficult issues involved with

discounting future flow values to arrive at a net present value of the capital stock. But a few estimates in the literature were stated as stock values, and it was necessary to assume a discount rate (we used 5%) in order to convert them into annual flows" (Costanza et al. 1997: 258). Every detail, even those that may seem to the layperson purely technical and involving only "a few estimates," has been, literally, accounted for.

Finally, there is the proliferation of categories: seventeen ecosystem services, and sixteen biome types. The biome types are divided broadly into marine and terrestrial, with marine further divided into open ocean and coastal marine, and coastal marine further subdivided into five categories, and so on, such that Table II (p. 256), showing the value per year in trillions of U.S. dollars for the ecosystem services of each biome type, has 272 independent data cells. I suspect that someone before now has already called attention to what might be labeled the digital watch fallacy, the notion that highly segmented measurements are tantamount to corresponding accuracy. The simple empirical observation that, in the age of the digital watch, the world runs no more precisely than it did before, that people are still habitually late to appointments that tend still to be marked in five-minute increments rather than seconds or hundredths of seconds, is sufficient to address this bit of hocus-pocus.

Nonetheless, it is difficult to refute Costanza and his colleagues when they conclude the total annual value of ecosystem services to be between $16 trillion and $54 trillion with a likely average of $33 trillion. "This is not a huge range," they assure the reader (Costanza et al. 1997: 259). Perhaps not – a few trillion here, a few trillion there. Costanza and his fellow researchers have a certain advantage of scale here. It is the same advantage that allows the housepainter to use a twelve-inch roller while the miniaturist is restricted to the single-hair brush, the same advantage that allows the jet engine mechanic to use a hammer to loosen a part while the jeweler is restricted to tweezers. A misplaced word in *War and Peace* passes beneath notice, but it would destroy a haiku. Precision may certainly be relative, but magnified to some unspecified degree, it ceases to be precision in any common sense of the term, Hegel's transmogrification of quality by quantity.

The question here is really whether or not Costanza and his colleagues have achieved a degree of precision adequate to any significant level of prediction and control. The relatively modest disclaimer that "there are differences between total

value, consumer surplus, net rent (or consumer surplus) and $p \times q$, all of which are used to estimate unit values," its impressive display of rigorous-looking jargon aside, is inconsequential next to the defect of a tenet central to this and all other attempts to apply econometric exercises, the notion that human beings will respond to conditions as "rational" actors. Bertrand Russell, one of the founders of scientific positivism and hence one of the forefathers of behaviorism, confessed in his "Outline of Intellectual Rubbish," that he had failed to see any evidence that humankind was inclined to behave as a calculating machine, and Arjo Klamer pointedly brackets in the subjunctive "condition contrary to fact" the notion that economists and their subject are rational (Klamer 1987: 163-83). It is not so much the calculations of Costanza and his colleagues that stand or fall on this bit of fancy, but the consequences of those calculations.

There is a certain charm and generosity, a holdover of Enlightenment liberalism, in the faith of Costanza and his colleagues that human beings, provided with accurate, high quality information, will look at the balance sheet and make economically rational decisions to preserve the environment; it is the same vision of human rationality that supports game theory. Costanza and his colleagues are hopeful that their project will help to "modify systems of national accounting to better reflect the value of ecosystems services and natural capital" (Costanza et al. 1997: 259). Modifying systems of national accounting is, in itself, a matter only of interest to national bookkeepers, but this is not the end Costanza and his colleagues have in mind. It is their conception of *homo economicus* that allows Costanza and his colleagues to assume both that their audience will enthymematically complete the argument and provide the conclusion that properly modified systems of national accounting will yield better environmental policies and that the conclusion would, in real-world decision making, maintain. This mechanistic causality is made explicit in the statement of the second application of the project: to provide a model for project appraisal "where ecosystem services lost must be weighed against the benefits of a specific project. Because ecosystem services are largely outside the market and uncertain, they are too often ignored or undervalued, leading to the error of constructing projects who social costs far outweight [sic] their benefits" (Costanza et al. 1997: 259). Bad decisions are the result of bad or inadequate information; good information yields, mutatis mutandus, good decisions. Appealing as such an equation might be, it requires subscribers to grant plausibility to the proposition that, thirty years after the first Earth Day raised our collective awareness of environmental factors, current corporate practices reflect simple innocence of environmental issues, that

what might appear to be cupidity is really a manifestation of ignorance.

Economists have sought, over the years, to recover an increasingly unruly economic actor by creating increasingly inelegant equations, extending the variables that must be incorporated to the point of incalculability (Klamer 1987). Inasmuch as this effort seeks to rescue human conduct from the odious charge of irrationality, to provide some veneer of reason to the welter of activity, it is not so far from Michael Billig's argument extending social psychological notions of rationality. But the two projects are, in fact, quite different. While the economists seek to incorporate an ever-larger range of behavior under immutable reason, Billig criticizes the defalcation of reason by science and seeks to restore the artistic dimension to reason by restoring the integrity of the ancient rhetorical canon of invention, which Billig, following the sixteenth-century example of Ralph Lever, refers to as "witcraft" (Billig 1996: 9, 113, passim). Billig gives the lie to the hope of Costanza and all others who wish for a predictable human being, one who makes decisions based on the rationality described by the ratio of cost to benefit. In the manner of his muse, the ancient sophist and "father of debate," Protagoras, Billing reminds us that "witcraft involves reasons being framed cunningly to answer, and thereby contradict, other reasons" (Billig 1996: 115). For Kenneth Burke, the difference between Billig's project and the desperate stubbornness of the economists is the difference between a vocabulary of "positive terms" and one of "dialectical terms." Positive terms, the terms of demonstration, reduce "reference to terms of *motion*" (Burke 1969b: 183, emphasis Burke's). Human activity, however, is not about mere motion; it is about action and can only be fully comprehended, in Burke's view, through a complete account of each of the five terms of the dramatistic pentad.

One concrete instance suggestive of the interplay particularly of agent, scene, and purpose and revelatory of the inherent weakness of Costanza and company's econometric and scientific assumptions regarding human decision making lies in the incommensurable orientations in their study toward time. Value in the Costanza paradigm, even economic value strictly considered, must be calculated for two scenes: the here and now in which the agent and the agent's purposes exist, and the infinite and unforeseeable future, in which the agent will not exist and will have no purposes.

"We must begin to give the natural capital stock that produces these services adequate weight in the decision-making process, otherwise *current and continued*

future human welfare may drastically suffer" warn the authors (Costanza et al. 1997: 259, emphasis added). Regarding our obligations to posterity, Kenneth Boulding admits "It is always a little hard to find a convincing answer to the man who says, 'What has posterity ever done for me?' and the conservationist has always had to fall back on rather vague ethical principles postulating identity of the individual with some human community or society which extends not only back into the past but forward into the future. Unless the individual identifies with some community of this kind, conservation is obviously 'irrational'" (Boulding 1970: 99). But the problem of rationality is not solved simply by the identification by the agent of purposes in some future scene. Surreal as some theories of postmodernity or queer theory or other academic enterprises may be, Fellini would have found them no more marvelous, and undoubtedly far less cinematic, than the activity of the trader in Chicago in 1998, buying and selling baby pigs as yet unborn and corn that will not be planted until 2006.

3. Economics as False Environmentalism

The pretentious form of free-market environmental argument may, in the final analysis, be guilty of little more than an inability to deliver on its promise, of holding out the false hope that decisions regarding the use and management of the environment can be rationalized in ways that provide the greatest possible commonwealth for the longest possible term. The substance of economic argument may be more invidious.

Free-market environmentalism has been criticized for selling short moral appeal, of betraying the proper grounds of environmental argument in favor of a momentary, and ultimately false, expediency (Freyfogle 1998, 42-43). Costanza and his colleagues respond that "moral and economic arguments are certainly not mutually exclusive. Both discussions can and should go on in parallel" (Costanza et al. 1997: 255). It is not at all certain, however, that the two arguments can proceed happily in tandem, that particular argumentative grounds might simply be inapplicable to particular questions, nor on what basis we would chose between two differently grounded arguments should they come to different conclusions. The good "green" intentions of the global ecological accounting project are amply evident, but what would the Costanza and his colleagues say if the economic data refused to support "the right course"?

The tendency of economistic predictors of human activity to reduce action to motion in itself diminishes the possibility of ethical intervention (Burke 1969b: 185). The relentless language of commodity capitalism applied to environmental

issues works to ensure that the diminished possibility of ethical intervention would not even be noticed. The shift from a conception of *elocutio* as the post hoc dressing for ideas to an integrated vision of invention and elocution is one of the great distinctions between classical and contemporary theories of rhetoric, and the relationship between language and perception has occupied some of the foremost minds of the twentieth century. For Kenneth Burke, language is symbolic action; it is the expression of an attitude; "and its essential function may be treated as attitudinal or hortatory" (Burke 1966: 44). It is worthwhile to note what attitudes are inculcated and waht actions are implied by the language of Costanza and his colleagues.

There is no mention in the "The Value of the World's Ecosytem Services and Natural Capital" of the grandeur of sunsets, the beauty of flowers, the adorability of baby koalas, or the exoticism of life on a coral reef, none of the verbal equivalent of Sierra Club calendar photos or World Wildlife Fund greeting cards. Instead, there is the unwavering focus on "the services of ecological systems and the natural capital stocks that produce them" (Costanza et al. 1997: 253). "Changes in quality or quantity of ecosystem services have value insofar as they either change the benefits associated with human activities or change the costs of those activities," the authors write, sounding as if they were writing a pamphlet on retirement annuities. "These changes in benefits and costs either have an impact on human welfare through established markets or through non-market activities," they continue (Costanza et al. 1997: 255). "A large part of the contributions to human welfare by ecosystem services are of a purely public goods nature. They accrue directly to humans without passing through the money economy at all," the reader is informed two pages later. (Costanza et al. 1997: 257).

The commodification of such basal things as "clean air and water, soil formation, climate regulation, waste treatment, aesthetic values and good health" (Costanza et al. 1997: 257) raises serious questions. By what theory of property, for example, do we privatize and parcel out these resources? Can anyone claim, in some Lockean sense, proprietary rights to some portion of the Earth's clean air by virtue of having mixed with it the sweat of their brow, thus making it an extension of themselves? And if this were the case, how would this be reconciled with the rights of those who have mixed the sweat of their brows with the Brazilian rainforests, a significant source of the world's breathable oxygen, in the process of cutting those rainforests down?

Such legalistic conundrums, though, are dwarfed by the fundamental contradiction between the language of free market environmentalism and its professed aims. Economics is about choice, and choice is made necessary by scarcity; the ratio of scarcity to demand indicates value. Costanza and his colleagues summarize their economic interest in the environment in the following statement from the conclusion of their report: "As natural capital and ecosystem services become more stressed and more 'scarce' in the future, we can only expect their value to increase" (Costanza et al. 1997: 259). "Natural capital stocks," by this logic, only achieve the value necessary to come under the purview of free market principles through consumption, by which they are made scarce. Free market environmentalism, then, would seem to encourage crisis management of ecological resources. At moments of threatened scarcity and relatively high demand, and only at such moments the mechanisms of the free market would presumably exert some regulative power. (Though just how much depends on the ability of the science to predict empirical behavior, the subject of the previous section.) At moments of amplitude relative to demand, natural capital stocks would have little value and would thus have little impact on the operations of market systems; they would in effect, be irrelevant.

This criticism of free market capitalism is synecdochical to socialist criticisms of capitalism generally, but I am less concerned with the irrationalities of an economic system than with the vocabularies of use and consumption applied to the environment as part of an ostensible attempt to preserve or sustain it. If language is, as Kenneth Burke claims, symbolic action, reduction of the environment to "natural capital stocks" fairly begs us to buy low, sell high, and to demand a good dividend on anything we hold, which means to make it available to someone else for a price that reflects it scarcity. Such a vocabulary has the capacity to overshadow any parallel vocabulary. Though Costanza and his colleagues include "cultural services," services "providing opportunities for non-commercial uses," including "aesthetic, artistic, educational, spiritual, and/or scientific values of ecosystems" (Costanza et al. 1997: 254), the gesture is lost even as this category is subsumed under the heading "Ecosytem services and functions used in this study." About the propensity of vocabularlies of commerce to become monolithic, Burke notes: "But since purposes indigenous to the monetary rationale are so thoroughly built into the productive and distributive system as in ours, a relatively high proportion of interest in purely 'neutral' terminologies of motives can be consistent with equally intense ambition. For

however ‘neutral’ a terminology may be, it can function as rhetorical inducement to action insofar as it can in any way be used for monetary advantage” (Burke 1969b: 96).

The tendency of economic vocabularies to dominate is intensified as the consideration of environmental issues becomes increasing global. In the international arena, money becomes the lingua franca through which competing local valuations are adjudicated. We have begun to see such exchanges as First World countries try to provide incentives for preservation of one-world, spaceship earth, ecosystem resources. Again turning to Burke: “The incentive of monetary profit, like the One God [or the One Good, Burke would be the first to point out], can be felt to prevail as a global source of action, over and above any motivations peculiar to the locale. And it serves the needs of empire precisely because it ‘transcends’ religious motives, hence making for a ‘tolerant’ commerce among men whose religious vocabularies of motivation differ widely” (Burke 1969a: 44).

With the reduction of environmental resources to economic commodities, there is a concomitant reduction of criteria for the valuation of those resources. Stephen Toulmin has warned against the temptations of allowing a single criterion in any judgment to become sufficient: “accordingly [we may] be tempted to pick on the criteria proper for the assessment of things of some one sort as the proper or unique standards of merit for all sorts of thing, so dismissing all other criteria either as misconceived or as unimportant” (Toulmin 1958: 34). The force of an argumentative statement (“We should not squander our environmental resources”), Toulmin maintains, is field invariant, but the criteria (“because it will lead to increasing hardship” “because they are valuable in themselves” “because we are merely trustees of a divine gift”) are field dependent. (Toulmin 1958: 36)**[i]** Given the trend I have suggested here, toward increased authority of the field of economics in environmental matters, economic criteria tend, ultimately, to crowd out or delegitimize all others, so that it is not longer a case of force being field invariant and criteria being field dependent, but rather of the force dependent on the single field with the authority to provide it with criteria. Freyfogle finds just an instance in the deification of efficiency over the communal deliberative process on environmental issues. “In practice,” Freyfogle writes, “market mechanisms compete directly with other methods of communal decision making, particularly those in which citizens make collective plans for their shared landscapes” (Freyfogle 1998: 42). Burke provides some insight into why, in such cases, “monetary reduction” wins: “In both monetary and technological

rationalisms (the two major interwoven strands of industrial rationalism), we see an 'heretically efficient' overstressing of the rationalistic element that was in Christian theology. And this rational element underwent a progressive narrowing of circumference, in proportion as men became more exacting in their attempts to be 'empirical,' and developed the information and the concepts with which to be 'empirical' in this sense" (Burke 1969a: 91).

Not even Costanza and his colleagues are ready to live in the world their logic implies. For all of their quantification and quasi-scientific precision, the authors of "The Value of the World's Ecosystem Services and Natural Capital" cannot escape their own version of Gödel's ghost. A priori assumptions regarding the value of the effort announce themselves as "the sustainability of humans in the biosphere," "human welfare," "social fairness, ecological sustainability and other important goals," (Costanza et al. 1997: 253, 255, 258, 259). I am not ready to live in the world that follows from the form and substance of free-market environmentalist argument either. If we raise the argument back to the level of philosophical grounds, Costanza and his colleagues must give some credence to my empirical claim that their accounting of the environment does not comport with my experience of it. When I drive through the farm country of the midwestern United States, an area largely deprived of the geological, topographical and geographical features that attract great tourism, my sense is not of scarcity (though there is recognition in some areas of the disappearance of farmland) – if anything, the landscape suffers from a surfeit of commonness – but this in no way devalues the realization that Grant Wood, in his landscape paintings, got it absolutely right; there is a subtle but profound beauty here, of color and shape and texture, and the intersection of the agricultural and the industrial. Nor am I ready to concede that every act of demystification represents progress. The thoroughly sterile language that Costanza and his colleagues provide me to defend the environment seems shabby and impoverished compared to the ancient and deeply satisfying, if thoroughly unenlightened, language used in naming the Cathedral of Redwoods in Muir Woods north of San Francisco or St. Marks Wildlife Sanctuary in the Florida panhandle. The language of sacred space fits my experience in these places far better than does the language of air and water filtration values. Given what would be lost, Costanza and his colleagues have not convinced me that their language would be, in the end, any more effective than this older language in preserving such space and might well be less so.

NOTE

i. At one point, Toulmin seems to equate the force of a statement with its moral (Toulmin 1958: 32), and cautions against the confusion of force with criteria (Toulmin 1958: 80-81), but he later refers an argumentative warrant as "a general moral of a practical character, about the ways in which we can safely argue in view of these facts" (Toulmin 1958: 106, emphasis Toulmin's).

REFERENCES

Billig, M. (1996). *Arguing and Thinking: A Rhetorical Approach to Social Psychology*, new edition. Cambridge: Cambridge University Press.

Boulding, K. E. (1970). The economics of the future spaceship earth. In: G. DeBell (Ed.), *The Environmental Handbook: Prepared for the First National Environmental Teach-In* (pp. 96-101). New York: Friends of the Earth and Ballatine Books.

Breslaw, J. (1970) Economics and ecosystems. In: G. DeBell (Ed.), *The Environmental Handbook: Prepared for the First National Environmental Teach-In* (pp. 102-112). New York: Friends of the Earth and Ballantine Books.

Burke, K. (1966) *Language as Symbolic Action: Essays on Life, Literature, and Method.* Berkeley and Los Angeles: University of California Press.

Burke, K. (1969a). *A Grammar Of Motives*, California edition. Berkeley and Los Angeles: University of California Press.

Burke, K. (1969b). *A Rhetoric Of Motives*, California edition. Berkeley and Los Angeles: University of California Press.

Condit, C. M. and J. L. Lucaites (1993). *Americanuality: The Anglo/ African Word*. Chicago: University of Chicago Press.

Costanza, R., R. d'Arge, R. de Groot, S. Farber, M. Grasso, B. Hannon, K. Limburg, S. Naeem, R. V. O'Neill, J. Paruelo, R. G. Raskin, P. Sutton, and M. van den Belt. (1997, May 15). The value of the world's ecosystem services and natural capital. *Nature*, 387, 253-60.

Council on Economic Priorities. (1989). *Shopping for a Better World*, New York: Ballantine Books. updated annually.

Darsey, J. (1981). From 'commies' and 'queers' to 'gay is good'. In: J. W. Chesebro (Ed.), *Gayspeak: Gay Male and Lesbian Communication* (pp. 224-47). New York: Pilgrim Press.

Darsey, J. (1991) From 'gay is good' to the scourge of AIDS: The evolution of gay liberation rhetoric, 1977-1990. *Communication Studies*, 42, 43-45.

Darsey, J. (1997). *The Prophetic Tradition and Radical Rhetoric in America.* New

York: New York University Press.
Davis , P. J. and R. Hersh. (1987). Rhetoric and mathematics. In: J. S. Nelson, A. Megill, and D. N. McCloskey (Eds.), *The Rhetoric of the Human Sciences: Language and Argument in Scholarship and Public Affairs* (pp. 53-68) Madison: University of Wisconsin Press.
Freyfogle, E. (1998, Spring). The price of a sustainable environment. *Dissent*, 39, 37-43.
Hawken, P. (1993, September/October). A declaration of sustainability. *Utne Reader*, 54-61.
Jasinski, J. (forthcoming). *A volume of essays from the 5th biennial conference on public address*, Urbana, IL, 1996, which has as its theme a rhetorical exploration of Russell Hanson's discussion of the democratic tradition in America.
Klamer, A. (1987). As if economists and their subject were rational. In: J. S. Nelson, A. Megill, and D. N. McCloskey (Eds.), *The Rhetoric of the Human Sciences: Language and Argument in Scholarship and Public Affairs* (pp. 163-83) Madison: University of Wisconsin Press.
McCloskey, D.N. (1989). The dismal science and Mr. Burke. In: H.W. Simons and T. Melia (Eds.) *The Legacy of Kenneth Burke* (pp. 99-114). Madison: University of Wisconsin Press.
McGee, M. C. (1975). In search of 'the people:' A rhetorical alternative. *Quarterly Journal of Speech* 61, 235-249.
McGee, M. C. (1980a). The ideograph: A link between rhetoric and ideology. *Quarterly Journal of Speech* 66, 1-16.
McGee, M. C. (1980b). 'Social movement:' Phenomenon or meaning? *Central States Speech Journal* 31, 233-244.
McGee, M. C. (1982). A materialist's conception of rhetoric. In: Ray E. McKerrow (Ed.), *Explorations in Rhetoric: Studies in Honor of Douglas Ehninger* (pp. 23-48). Glenview, IL: Scott Foresman.
Politics at the cash register. (1996, March-April). In Working Assets [sic] guide to making a difference. *Utne Reader,* special advertising section.
Rorty, Richard (1987). Science as Solidarity. In: J. S. Nelson, A. Megill, and D. N. McCloskey (Eds.), *The Rhetoric of the Human Sciences: Language and Argument in Scholarship and Public Affairs* (pp. 38-52) Madison: University of Wisconsin Press.
Rosaldo, Renato. (1987) Where objectivity lies: The rhetoric of anthropology. In: J. S. Nelson, A. Megill, and D. N. McCloskey (Eds.), *The Rhetoric of the Human Sciences: Language and Argument in Scholarship and Public Affairs* (pp. 87-110)

Madison: University of Wisconsin Press.
Spayde, J. (1996, March-April). What the world needs now: 1996 visionaries. *Utne Reader*, 62-77.
Stevens, W. K. (1997, May 20). How much is nature worth? For you, $33 trillion. *New York Times*, sec. C, pp. 1, 5.
Toulmin, S. (1958) *The Uses of Argument.* Cambridge: Cambridge University Press.
Watts, E. (1996). *Doctoral dissertation*, Northwestern University.