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MURRAY BOOKCHIN'S CONFUSIONS**

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SOCIAL ECOLOGY, DEEP ECOLOGY AND LIBERALISM: A Constructive Exploration of Murray Bookchin's Confusions

When environmental thought first began to attract a mass popular following, adherents of traditional political ideologies did not know what to make of it. Left and Right alike denounced environmentalists as woolly headed simpletons getting in the way of the more important issues over which they'd been fighting for decades. Obstinantly, neither environmentalists nor the issues which motivated them went away. Instead, they grew in numbers and intensity.

During the last two decades some advocates of traditional political ideologies have attempted to adopt environmental concerns as their own. This is particularly true on the left, where the environmental critique of modern society promised to be yet another club with which to beat the bourgeoisie. The right, broadly defined, has been less receptive, perhaps because so many of its advocates believe that if the left finds value in something, it probably isn't worth anything. Only recently have there been the beginnings of substantial friendly interest from that portion of the political spectrum. (1)

Is left wing thought capable of really grasping the underlying character of environmental concerns? I will argue that left-environmentalist analysis does not possess the intellectual tools to grasp even the rudiments of what one of its leading spokesmen, Murray Bookchin, terms "social ecology."

After explaining Bookchin's position as I understand it, I will first criticize it from a neo-liberal position. I will argue that Bookchin's shortcomings have little to do with his commitment to the environment. Indeed, environmentalist perspectives are largely untouched by the collapse of Bookchin's system. However, the second part of this paper will present a complementary "deep ecological" critique of Bookchin, and of many although not all neo-liberal views as well. I will conclude by arguing that "evolutionary liberalism" offers a sound foundation for ecological social theory. particularly when enriched with insights from deep ecology.

Perhaps more than any other leftist thinker, Murray Bookchin has sought to integrate environmental concerns into his critique of liberal

society. Unlike most, he is no newcomer to these issues, having written on them for decades, *Our Synthetic Environment*, his earliest book on the subject, even predating Rachel Carson's *Silent Spring* by a few months.(2) Bookchin terms the perspective he has developed "picks up the organismic thread in Western ontological philosophy that runs from Aristotle to Hegel, the social tradition initiated by Marx and Kropotkin, and the historical perspective opened by the age of democratic revolutions."(3) Many of the themes Bookchin has developed have since been adopted by other leftist environmental writers (4) Alas, they also usually adopt his errors as well. Consequently, a critique of Bookchin will also be a critique of left environmentalism generally.

Bookchin condemns modern liberal society on both moral and practical grounds. Modern society is deeply and irreversibly immoral and as a result of this immorality, it is ultimately destructive to life itself. Not surprisingly for a leftist thinker, the most insidious villain of modern life is the market, and all that is wrong with human existence can be traced to the types of relationships promoted by market institutions. Unlike most leftist thinkers, however, Mr. Bookchin traces the roots of our present crisis to the distant past, a past before the emergence of classes or the state.

Hierarchy and Domination

Unlike Marxist analysts, Bookchin does not focus on class relationships as central to the evils which underlie modernity. Instead, he targets hierarchy. He defines hierarchy as the "cultural, traditional and psychological systems of obedience and command".(5) Domination and hierarchy existed before either states or classes. It is here, Bookchin argues, and not in class struggle that our modern crises' deepest sources lie. Early "organic" hunting and gathering societies were egalitarian, he claims. But their primitive harmony was doomed to be overturned by population pressure, technological change, and manipulation by elders, shamans, and warriors. (6) These first social specialists "interposed themselves between people" and so "permanently mediated their relations" thereby establishing "the formal conditions for hierarchy and exploitation."(7) With the creation of sufficient surplus so that some could

live at the expense of others' labor, hierarchy became coupled with outright exploitation. The development of hierarchy appears all but inevitable, according to Mr. Bookchin., for the "violation of organic society is latent in organic society itself. [Its primal unity] is weakened merely by the elaboration of the community's social life - its ecological differentiation."(8)

Perhaps the critical step in hierarchy's development, Mr. Bookchin writes, was the loss of women's parity with men, for in the process hierarchy became established "not only objectively, in the real workaday world, but also subjectively, in the individual consciousness." (9)

Hierarchy's most insidious character is not its visible chain of command but rather the mode of consciousness which it fosters. Hierarchical orders force those on the bottom to repress their own basic character. To persist, this repression must be legitimated, even to some degree in the eyes of its victims. As a result, women and other oppressed groups come to accept the inevitability, and even desirability of toil, guilt, and sacrifice. This psychological deformation prepares the ground for material exploitation. As a mode of consciousness, Bookchin holds that hierarchy finds its earliest roots in the cradle "where infants are taught to deal with 'otherness' as potentially hostile, as 'objects' to be controlled. It is the breeding ground for those primary distinctions based on gender that are inculcated in the young. Finally, it teaches the young to accept their place in the social pyramid. . . ." (10)

With the rise of a hierarchical mentality the always present differences between people are now perceived in terms of inferiority and superiority. The strong and successful individual becomes the one who is *superior* to others. Rivalry becomes a constant in human relationships.

Initially hierarchy and domination existed within a network of personal relationships, as they do even today in some tribal societies. But over time personal status roles became rooted in and justified by tradition and ultimately by impersonal institutionalization. The modern state is an expression of this condition, in which domination and hierarchy have become so interwoven with our way of life as to blind us to the possibilities of its absence.

According to Bookchin, the principle of hierarchy characterizes both state and market. The state is usually conceived in hierarchical terms by most people. But what about the market? So long as freedom of entry is maintained, markets appear at first glance to be equalitarian. But Bookchin argues that resource use was initially governed by the principle of usufruct, "the freedom of individuals to appropriate resources merely by virtue of the fact that they are using them".(11) The concept of private property, which allows me to deny others the use of something while not using it myself, did not exist.

With the rise of hierarchy, and thereby a sensitivity to what was under my control and what wasn't, the usufruct status of property ceased to be taken for granted. When communal property became *consciously* chosen in the sense that people could imagine it being otherwise, a "first step" was taken towards private property. Private property, with its right to exclude others, thereby becomes a means for exercising control and domination over others.

Similarly, as social relations became hierarchical they also became more calculating. Reciprocity became a conscious choice rather than simply being taken for granted. This marked a "first step" towards exchange and the market economy and its instrumentalization of action in which others become means to my ends. (12) Presumably private property, - more accurately, private property rights - by legitimizing the ability of one person to exclude another from using something, is an exercise of "hierarchy," although Bookchin demonstrates no necessary connection between exclusion and instrumental action.

According to Bookchin, the liberal conception of justice affirmed the "inequality of equals," liberal justice protects only the equality of inhuman abstractions while masking the inequalities persisting between concrete human beings. By contrast, organic societies tended "to operate unconsciously according to the *equality of unequals* " in the sense that everyone had access to the community's resources. Thus, inequalities were not denied, but they were compensated. "Equity, here, is the recognition of inequities that are not the fault of anyone and that must be addressed as a matter of unspoken social responsibility." (13) Everyone in organic society was guaranteed an "irreducible minimum." (Bookchin

admits that they made no real provisions for outsiders, but does not grasp this fact's serious implications for his position, as we shall see. (14)

The triumph of liberal society enshrined the principles of hierarchy, antagonistic competition and perpetual insecurity, and this drove people towards a never-ending desire to accumulate more and more power, property, and status. Hence, liberal society incorporated the principle of unlimited growth at its core, for only ever greater accumulation seemed to promise the security that was otherwise lacking. Bookchin admits that growth is needed to battle scarcity, but he argues that the roots of this scarcity lie in hierarchy and domination, not material insufficiency, and thus in liberal modernity and not in the human condition. "Just as capitalism leads to production for the sake of production, so too it leads to consumption for the sake of consumption." (15)

The impersonality of market relations, and their capacity to create needs which they can never fulfill, leads to their domination over all personal relationships. The ever present need to produce draws more and more of the world into market relations.(16)

By the middle of the present century . . . large-scale market operations had colonized every aspect of social and personal life. The buyer-seller relationship . . . became the all-pervasive substitute for human relationships at the most molecular level of social, indeed, personal life. [It] places the parties involved in the exchange process in an inherently antagonistic posture; they are potential rivals for each other's goods. The commodity - as distinguished from the gift . . . leads to rivalry, dissociation, and asociality.

Thus, "the bourgeois commodity system becomes the historical culmination of all societies . . . in which human relations are *mediated* rather than direct or face to face."(17)

In making this argument, Bookchin joins the long list of thinkers who argue that reason defined in purely instrumental terms is an inadequate, even irrational, conception of our highest faculty. There are two kinds of reason, he writes: Reason as an instrument to achieve our ends and reason as an instrument to define our ends. Modern society has enthroned the former, but ignored the latter. Further, "the current

ecological crisis . . . reminds us that the preemptive claims of instrumental reason *are failures in their own terms*[Instrumentalism's] quest for innovation threatens to tear down the planet itself."(18) By virtue of being divorced from the matrix of relationships which sustain life and creativity, instrumental reason becomes the enemy of both.

The human cost of the market's triumph is incalculable. Bookchin observes that "never before have personal relations become so impersonal and never before have social relations become so asocial."(19) Growing standardization, which he sees as stemming from the market's triumph, leads to a "hollowing out" of the community, and as its natural richness is dissolved there is a "concomitant hollowing out of personality itself. . . . The isolated, seemingly autonomous ego that bourgeois society celebrated . . . turns out to be the mere husk of a once fairly rounded individual." Thus, "simplification of the natural world has its uncanny parallel in the simplification of society and subjectivity."(20)

Standardization of human beings is both the result of and the fertile soil for the triumph of bureaucracy. Administrative agencies staffed by narrow professionals come increasingly to substitute for family, neighborhood, and town. People's spontaneous organizing capacities are increasingly shunted aside in favor of management by self-perpetuating corps of experts.

Because Bookchin believes he has found a profoundly destructive foundation for all market exchange relationships, he can argue that the market is inherently immoral. Even the seemingly innocuous process of price formation "is not merely an impersonal 'amoral' computation of supply versus demand. It is an insidious manipulation of both supply and demand - an immoral manipulation of human needs as part of an immoral pursuit of gain."(21)

A thin line of corruption subtly permeates all social relations and, as relations become more complex and interrelated, the potential for domination bred by hierarchy finally blossoms forth as a poisonous weed threatening to choke off all life - the kudzu of the soul. Thus, a nonhierarchical society needs "to alter every thread of the social fabric, including the way we experience reality. . . ."(22)

Ecological Rationality

An effective critique of capitalism, Bookchin argues, must include attacking the dominant conception of rationality underlying capitalist society. Organic society provides a starting point for his critique, for he argues that classical "techne" was "conceived holistically, in the sense that we today describe an ecosystem. Skills, devices, and raw materials were interlinked in varying degrees with the rational, ethical, and institutional ensemble that underpins a society . . . all were regarded as an integrated whole."(23) Consequently, "the technical imagination of organic society . . . exhibited an enchanted synthesis of creative activity. No subject and object were placed in opposition to each other . . ."(24)

Organic societies lived in an animistic world. Nature was not an inert force upon which human beings acted. Rather, men and women lived with a sense of reciprocal relationships with their environment. Consequently, in the realm of production, "both labor and the materials on which it worked were *coequally* creative, innovative, and most assuredly artistic."(25) Organic animism, Bookchin argues, provides a powerful corrective to today's simplistic scientism, which presupposes "that nature is orderly, and that this order lends itself to rational interpretation by the human mind, but that reason is *exclusively* the subjective attribute of the human observer, not of the phenomena observed." Bookchin suggests "that an orderly world that is also rational may be regarded as a meaningful world." To say that it is meaningful suggests the presence of "purpose, consciousness, intentionality, subjectivity - in short the qualities we impart to humanity as *distinguished* from nature, not to humanity as an expression of nature"(26)

Bookchin argues that if nature is seen as rational, it becomes "the *matrix* for an ethics, the source of ethical meaning that can be rooted in objective reality. . . . nature need merely be *fecund* and *creative* - a *source* rather than a 'paradigm'." When we finally understand ethics as growing out of and in harmony with nature, our "sense of incompleteness" will finally begin to be overcome.(27)

A good Hegelian, Bookchin believes he has grasped the meaning behind evolution, and therefore how to enter into harmony with

nature. There is "some kind of directionality toward ever greater differentiation or wholeness" in natural evolution "insofar as [nature's] potentiality is realized in its full actuality." (28) In evolution, "*an expanding whole is created by the diversification and enrichment of its parts* ." (29) While nature has an intrinsic tendency to develop in this way, things are "incomplete and unactualized in their development . . . (u)ntil they are what they have been constituted to become. . . ." (30) This inner dynamic of natural evolution provides his criteria for the good society. "Whether a society is . . . moral or immoral, for example, can be *objectively* determined by whether it has fulfilled its potentialities for a rational and moral society." (31)

A rational and moral society is a free society. Bookchin holds that "the degree of freedom in a society can be gaged by the kind of relationships that unite the people in it. If these relationships are open, unalienated and creative, the society will be free. If the structures inhibit open relationships, either by coercion or mediation, then freedom will not exist. . . ." (32) But what would such a society look like?

He suggests that a glimpse of such a liberated world comes from distinguishing between pleasure and happiness. Happiness, Bookchin writes, is "the mere satisfaction of *need*" whereas pleasure is "the satisfaction of our *desires*." Happiness is not enough. "The social quest for happiness . . . tends to . . . shrewdly devalue or repress the quest for pleasure" thus it is "precisely in the utopistic quest for pleasure, I believe, that humanity begins to gain its most sparkling glimpse of emancipation." (33)

In his magnum opus, *The Ecology of Freedom*, Mr. Bookchin provides a history of Western utopianism from its origins as a nostalgic look backwards to an early "Golden Age" to movements which increasingly find perfection a promise of the future. Throughout the Middle Ages these utopistic movements arose, only to be destroyed by the power of the rulers. Despite their failure they hold open a vision of a liberated world, and provide us a sense of the direction to travel in order to overcome the present.

Mr. Bookchin's rational and moral communities will be ordered both internally and in their relations with one another along the fundamental

principles of organic societies, namely usufruct, complementarity, and the irreducible minimum.(34) Politically, this takes the form of a system of free communities federated together for common projects but each controlled directly by their citizens exercising their choices within a regime of public virtue. (35)

This vision returns Bookchin to some of his earliest interests as to how the quality of city life may be made more free and humane. Jobs would be "readily rotated" and "members of the communities would be disposed to deal with one another in face-to-face relationships rather than by electronic means. . . ."(36) Mr. Bookchin believes that such arrangements will enable us to achieve his ideal for human relationships: "that ineffable qualitative and disinterested sense of mutual welfare such as we expect in parental and sibling relationships."(37)

All this is very well and good, but what institutional foundations would make such a society possible? The Greek democratic city state seems to be Bookchin's ideal. He recommends that the citizens' assemblies of neighborhood self-government and small town meetings be resurrected. These assemblies then need to confederate into leagues. Further, political participation should school citizens into taking a wider view of issues than narrow self interest and promote republican virtue instead of bourgeois selfishness. Finally, the economy should be municipalized, thereby absorbing "the material means of life into communal forms of distribution." (38) But beyond this Bookchin says little. Like Marx before him, he leaves the details to the future.

A Neoliberal Critique of Bookchin

From a liberal perspective I will develop two basic criticisms of Bookchin's argument. First, he does not understand problems of scale. This failure takes many forms. He ignores differences between face-to-face interactions among people who know one another and those involving strangers and he appears unaware of the "coordination problem" and how it applies to his praise of a decentralized society. Second, his view of competition and cooperation, both as they occur in the market and in

nature, is much too simplistic. As a consequence, he understands neither markets nor ecosystems.

Organic society's virtues are quite real, and modernity has brought a great loss by diminishing their role in our lives. But to a significant degree the virtues of premodern society grow from its small scale. Informal means for keeping the peace and preserving social mores can easily operate in such an environment. Helping those who are poorly off through no fault of their own can also flourish under such circumstances. Friendliness and interest in the well-being of known others can predominate. Garret Hardin points out that the Hutterites, a growing group of small communal religious communities now numbering more than 50,000 members in the United States, deliberately limit the size of their communities to 150, for they have discovered that whenever a group grows larger than that, shirking of community work begins to increase faster than population. When population growth within a Hutterite community exceeds 150, it splits into two communities. (39)

But strong pressure for social conformity is usually the dark side of premodern society. This pressure, and the power of gossip and ostracism against the deviant, help maintain behavior in accordance with group norms, and enable such societies to dispense with the more impersonal means for enforcement characteristic of larger societies. Historically, it has usually been in large cities (relative to their societies) that creativity in the arts and sciences best flourishes. In the relative anonymity of big cities, people who march to the beat of a different drummer can, ironically, more easily find kindred souls and avoid social disapproval than in small homogeneous communities. In a word, the good things about small communities stem from everyone's knowing and being interested in one another, and so do the bad things. Advocates of smallness who refuse to address this do not deserve to be taken seriously. (40)

Not all small face-to-face societies appear inclined to breed conformism. Many, though not all, Native American cultures, such as the Dakota, honored individuality. They were also frequently highly competitive, which I doubt would please Mr. Bookchin. In fact, the variety of modes of life among Native American peoples suggests that Bookchin's

idealized image of organic societies is based at best on selective extrapolation from some peoples while ignoring others. (41)

For an analyst who continually writes of the advantages of holistic reasoning and an ecological perspective, Bookchin displays a peculiar inclination to pick and choose the social features he likes and dislikes without any awareness that societies cannot be constructed simply by combining together all the things we happen to like and eliminating those we dislike.

There is a deeper shortcoming in Bookchin's praise of the virtues of small societies. They have traditionally been hostile to or indifferent towards strangers. This is even true of the more individualistic Native American cultures. Bookchin acknowledges that they rarely made provision for the needs of strangers, but never pauses to ask why this "oversight" occurred. (42) When our relationships are intensely face-to-face we tend to mistrust those about whom we know little. Bookchin never analyzes how relationships depending upon personal knowledge of one another can be duplicated for humanity as a whole, where our knowledge of particulars must necessarily be small to nonexistent. All this has been well put by F. A. Hayek, and it is a great pity that Bookchin appears unaware of Hayek's work.

Face-to-face relationships, in contrast to impersonal market processes, promote intense human interactions. When friendly or loving, this is the greatest of blessings. But intensity is not always enjoyable because it is not always friendly. Wisdom and compassion, which would make it more consistently so, are rare. Historically a world of small face-to-face communities or tribes has been a world of countless feuds and petty wars.

Bookchin argues that we advance over the past "when we relate on the basis of a simple affinity of tastes, cultural similarities, emotional compatibilities, sexual preferences, and intellectual interests.(43) This situation appears to be most often attained within a large impersonal city where different groups can locate one another. It is extremely *unlikely* in the face-to-face societies he advocates. Similarities of this degree within a small group would require intolerable conformity.

Bookchin appears unable to perceive the existence of any type of relationship that falls between the extremes of deep intimacy and impersonal hostility. Buyers and sellers in market orders are "polarized against each other," whereas it is better for them "to care for each other's well-being, for them to feel deeply responsible to each other, and for them to be cemented by a deep sense of obligation for their mutual welfare" (44) This goes well beyond compassion and love for others. It is also impossible among people who do not know one another.

Further, the great gift liberal civilization gave to humanity, as Hayek and Popper so clearly explain, is that by making cooperation possible along purely abstract and procedural grounds, its scope was extraordinarily broadened. People no longer needed to agree about many specifics in order to benefit from peaceful cooperation (45) This extension of cooperation's scope came at the necessary cost of reducing the intensity of human relations.

In any society needing to provide for more than the needs of a relatively small population, widespread impersonal coordination of goods and services becomes necessary. Bookchin would presumably not want to do without railroads to move food in times of localized crop failure or antibiotics to cure bubonic plague. But to build a rail line or manufacture vaccines requires a very widely integrated economic sphere. Such a sphere *cannot* be based upon face-to-face relationships. It is simply too complicated.

Here enters the calculation problem first raised by Mises, a problem which has undermined every attempt to create a nonmarket economy above the village level. Bookchin appears unaware that such a problem exists - this time with less excuse not only because Mises first called attention to this matter in the 1920s and the subsequent discussion has generated an enormous literature, but because it has now become manifest in the fall of communist societies. (46)

We can now examine his proposal for replacing the nation state with a federation of small independent city republics. I agree with him, and writers back to Aristotle, that the political community provides a framework where the values of citizenship, that is, membership in a community of political equals, can be expressed. In many respects small

communities can do this better than can big. By contrast, the market as usually conceived provides a framework where narrower (but also legitimate) private values can be more easily and appropriately actualized.(47) On balance, market relations are biased in favor of instrumental values whereas democratic political relations are biased more in favor of noninstrumental values. (48)

That coercive means are available to democratic polities modifies but does not negate this point. A deep tension exists between the democratic political process and coercive state institutions. The hybrid liberal democratic state distorts the democratic process by virtue of its extra-contractual power of coercion.(49) But even so, liberal democracy is much more of an self-organizing phenomenon than it is an instrumental organization. (50)

In my view, the distorting impact of its coercive institutions prevents liberal democracy from being the optimal institutional expression for public values. Jane Jacobs argues convincingly that cities, not nations, are the modern world's fundamental political and economic unit. Larger units, such as states and nations, have largely arbitrary political boundaries. (51)

With this observation we return to Bookchin's advocacy of small cities as the ideal political form, but from a different perspective. Bookchin's error is not in his advocacy of municipal values, for here he may well be right (even if they are not quite the cure-all he seems to suggest.) Rather, his error lies in failing to discuss how such communities could cooperate together and in his apparant ignorance of the market's role in coordinating intricate relationships among independent entities.

The political cooperative, wherein the community's inhabitants are also its owners, may be superior to coercive democratic institutions for encouraging democractic and public values. But this is due *as much* to its being integrated into a catallaxy as to its municipal character. The cooperative structure combined with its owners also being its chief "consumers" prevents the one-sided bias towards maximizing insturmental values so characteristic of economic organizations. For these reasons, such cooperative relations will be fundamentally political, not economic. In such a case one of the most serious problems facing

Bookchin's proposal for small democracies can *only* be solved by means of the market he despises. (52)

Self-Organization

These considerations raise the question whether, for all his talk of self-organization, Bookchin really understands this term. For example, he writes critically of Ilya Prigogine, but does not appear to understand him. (53) He completely ignores the seminal work of Polanyi and Hayek. (54) He tells us that a "nonhierarchical society is no less random than an ecosystem." (55) But this makes no sense. His nonhierarchical societies are face-to-face affairs. People decide together what it is they will do. How can people take conscious control over their lives in this way, as Bookchin wishes, if the result is akin to an eco-system which, while not random, has an order attained without conscious intent by its members? Bookchin equates small group dynamics with how an eco-system works. He is simply wrong.

Self-organization, at least as it has been used by everyone I have encountered except Bookchin, refers to complex orders whose particular characteristics are *not* the intended outcome of actions by those who comprise that order. Such orders arise when participants follow, consciously or unconsciously, rules capable of coordinating their interactions in ways too complex for them to grasp. Ecosystems are an excellent example, for the principles generating ecological order are completely unknown to most of those following them, let alone the order itself. So, in human society, is language where many do not consciously know the rules of their grammar, let alone comprehend their language and its growth in its entirety. Market prices, which are established largely impersonally in the sense that no person or group controls them, are another example. How a process like price formation, which in the long run no one controls, can be "insidiously manipulated" Bookchin never bothers to explain.

Small, face-to-face groups can be termed "self-organizing" only at the cost of obscuring a vital distinction. A perfectly good term for what Mr. Bookchin means is "self-governing." It is old, clear, and simple. In the absence of those mediating institutions of the extended order which he so

dislikes, people can see perfectly well what is happening. Their action, when they choose to act, is akin to the actions performed by members of an instrumental organization wherein all cooperate to achieve a common goal. This is the opposite of self-organization, where order arises out of beings pursuing self-chosen goals in ignorance of what most others are doing.

Bookchin's failure to understand self-organization is linked to his Promethean ideal of humankind's taking control of its own evolution and his opposition to mediation of any sort between one person and another. The problem with this position is that human relations are *always* mediated in one way or another.

Hayek writes(56)

It is . . . misleading to represent the individual brain or mind as the capping stone of the hierarchy of complex structures produced by evolution, which then designed what we call culture. The mind is embedded in a traditional impersonal structure of learnt rules, and its capacity to order experience is an acquired replica of cultural patterns which every individual mind finds given. . . . To put it differently, mind can exist only as part of another independently existing distinct structure or order, though that order persists and can develop only because millions of minds constantly absorb and modify parts of it.

In an important essay the late W. W. Bartley noted that once made public, knowledge takes on a life of its own, existing independently of even its creator. A book, for instance can be *potentially* understood in some way not yet imagined. Such a potential may never be discovered. Even so, it is there. We know this because when a new implication is discovered, in retrospect it is seen to have been there all along.(57) Knowledge in this sense helps to constitute what we call the human mind, as Hayek argued. Our minds exist solely by virtue of our "mediated" relations with our world, and we can never control the implications of our own thoughts, which exist independently of our wills. Consequently, Bookchin's values of autonomous unmediated relationships with other people are *in principle* impossible, short, perhaps, of Zen Enlightenment, of which he is hardly a proponent.

As we shall see below, Bookchin's concept of ideal relationships as unmediated states of affairs between two objects is the opposite of the ecological perspective he claims to champion. From ecological insights it appears that everything is both related to everything else and mediated by everything else!

Given the necessary ubiquity of mediation, it is hard to comprehend Bookchin's antagonism to exchanging commodities. His hero, Hegel, had a much sounder appreciation of such things, as argued Bartley: "For Hegel, the act of turning something over to another, and thus 'alienating' it from himself, may be *simply giving it up* . For Hegel, nothing essential is lost . . . "(58) This is, I suspect, the common human experience of the relationships Bookchin finds so troubling.

Competition and the Market

When Bookchin writes about market relationships, he presents them in starkly dualistic terms: the market is competitive *rather than* cooperative. In this he is joined by many others who are equally confused, whether they favor or oppose market orders.

Market orders are neither uniquely nor unusually competitive. This claim is very misleading. Competition as *rivalry* is hardly unique to the market. At the same time, cooperation is a very important, and perhaps even dominant, feature of successful action within a market order.

Competition in a market order occurs at many different levels. First, there is the general competition of all goods vying for the buyer's dollar. In this sense there is competition between cans of sardines, camp grounds, parka coats, porno movies, books about philosophy and automobiles as well as between different types of capital investment. Once we are past the point of seeking physical survival, we have the opportunity to choose among competing possibilities for our time and resources.

Second, we have competition between different goods which meet roughly the same needs or wants, from the buyer's point of view. For example, faced with the need for transportation a buyer may consider the relative merits of different model cars, new and used, bicycles, trains, motorcycles, buses, taxis, airplanes, and different combinations of these. How their merits are evaluated will vary from person to person.

Third, we have competition between producers of similar goods: Plymouths, Fords, and Chevys.

Fourth, we have "Schumpeterian" competition, where an entrepreneur develops an entirely new good which can render obsolete whole classes of older products. Hardly anyone today buys slide rules now that pocket calculators are so inexpensive.

Fifth, we find competition among businesses to attract and keep the best employees, and among employees to get and keep the best jobs.

All these types of competition are important in market orders, but those forms which are most *unique* to them (and other social self-organizing systems) are largely impersonal and anonymous. By contrast, the fifth form of competition, which is often the most irksome, is hardly unique to market institutions. Political parties, bureaucracies, and academic departments all have more than enough of it. It is not competition which is unique to markets, it is a particular *type* of competition which is unique: that depending upon free access to willing buyers.

When competition and conflict of interest do exist, in the market or in any other self-organizing system, it is precisely the role of impersonal procedures and processes to ensure that it stay within bounds, tending to benefit the system as a whole, in the sense of promoting the general well-being of most of its participants most of the time. When those threatened by competition were able to personalize the principles and rules under which they operate, they usually do so in order to shield themselves from unpleasant effects which benefit others. Tariffs and occupational licensing requirements are examples of such actions. But in so promoting their personal interest, these people undermine the system's long term viability. (59) If animals could alter ecological rules in their individual favor, this problem would be as pressing for an ecosystem as it is of social self-organizing systems. If deer could vote, it is likely that all wolves, cougars, and coyotes would be imprisoned. Some deer - those who otherwise would have been eaten - would be better off as a result. In the short run, perhaps all would be, since they now need not *worry* about being eaten. But these benefits would be short-lived and at the ultimate expense of the community as a whole, including future generations of deer. In the

absence of predators, overpopulation would - as it frequently has - devastate the land's capacity to carry even the original population in good health. (60) Bookchin's breezy dismissal of competition is necessary if his utopia is to sound plausible, but in fact it is bad ecology and bad social science.

Cooperation and the Market

Even most market advocates insufficiently acknowledge that high levels of cooperation are also necessary in order to be able successfully to compete in the first four ways I listed - forms of competition largely unique to the market order. This includes cooperation between suppliers of raw materials and those who produce goods from those materials, as well as increasingly important issues of cooperative relations within a firm's internal organization.

The reason for this oversight is, so far as I know, barely explored. Perhaps part of the explanation rests with economic theory. Beginning with a one-sided reading of Adam Smith, economic theorists have generally argued that the market's virtues arise from people serving the wider interest by pursuing their self-interest (61) Self-interest is generally defined narrowly, the narrowest conception being that theoretical and empirical monstrosity, "economic man."

Traditionally, economics has developed its analysis by teasing out the logical implications inherent in the concept of economic man. Such a being is defined as "self-interested." Only a few economists, such as Hayek and Ludwig Lachmann have perceived that "economic man" is an *unnecessary* element of economic theory. (62)

To be sure, if economic men existed, they would generate the same sort of price system as exists in a market economy. But if we had a similarly complex economy populated by altruists with equally limited knowledge of the impact of their choices, equally impersonal market processes would be generated. Altruists and egoists would choose different mixes of consumer goods and would likely choose different means for organizing enterprises, but the market *process* would be similar (although it would probably operate more satisfactorily with the altruists).

Impersonality is generated by the system and cannot be directly traced to the character of the human beings operating within it.

Economic man is in fact a sociopath, very unlike almost any living human being. For such a person everything and everyone is a means to his or her ends. Because a society consisting of such creatures could generate a market, if they followed laws of contract, simple minded theorists accepted this abomination as an adequate basis for "social" theory. They assumed that because most of our actions have an instrumental *aspect* they could without serious distortion be analyzed as if they were completely instrumental (63)

In fact the empirical evidence strongly suggests otherwise. Psychologist Kenneth Lux points to a large body of research indicating that purely instrumental motivation has a *negative* impact upon human creativity. For example, he cites studies in which one group of college students was told they would receive monetary awards for creating good collages. A second group received no such promise. "When the artistic performance of the two groups of students was judged in blind ratings by artists, the first group was consistently found to be less creative than the second." (64)

The economic man construct has blinded most economists to many of the cooperative possibilities within the market. The successes of worker-owned firms in a variety of businesses further indicates that internally highly cooperative businesses relying on motivations more complex than the merely instrumental can compete successfully with more traditionally organized ones. Indeed, a major problem with many worker-owned cooperatives has been that they were so *successful* within the marketplace that their shares became too valuable for new workers to be able to afford. Spanish cooperatives have apparently found a way around this stumbling block; the worker-owned Mondragon cooperatives which began in 1956 with twenty-four worker-owners now employ 20,000 and its bank, begun in 1959, was thirty years later one of the two dozen largest banks in Spain, with assets of over \$2 billion. Since its inception, over one hundred independent worker-owned businesses have been started, only three of which have failed. The equivalent failure rate for new businesses in the U.S. is 80 percent. (65)

Clearly there can be more cooperation in the market than acknowledged by most economic theory, and the potential for even greater

cooperation has only begun to be investigated. In this respect, theorists whose cramped and inhuman models prevented them from appreciating the full possibilities of the market order they praised will in retrospect be seen to have seriously impeded our understanding and appreciation of this institution.

What is unique about market competition is that anyone is free to enter into any market if he or she can obtain the funding to do so. Exclusion is not legally enforced. It is hard for a few to exclude others from a market except by keeping their prices low and/or their quality high. Large size is no guarantee of freedom from unexpected competition, as GM and IBM have found. Impersonal competition helps protect the many from the monopolistic cooperation of the few. Cooperation and competition do not exist along a continuum. They are not opposites. Their relationships are much more complicated, and paradoxical. *Who* competes, *who* cooperates and *how* are the relevant questions when examining *any* social institution, not whether or not "competition" or "cooperation" exist. Both do and probably always will.

Bookchin and many other leftist critics cannot be seriously faulted for failing to have a balanced view of market cooperation and competition when even most economists fail to do so as well. But his failure in this regard, however excused, is paralleled by a similar failure for which I can find less excuse. While claiming to write from an ecological perspective, he also misunderstands competition in nature. For example, he writes that "seen from an ecological standpoint, life-forms are related in an ecosystem not by the 'rivalries' and 'competitive' attributes attributed to them by Darwinian orthodoxy, but by the mutualistic attributes emphasized by a growing number of contemporary ecologists - an image pioneered by Peter Kropotkin"(66)

But he then quotes, *in support* of this assertion William Trager's statement that (67)

The conflict in nature between different kinds of organisms has been popularly expressed in phrases like the "struggle for existence" and the "survival of the fittest." Yet few people realized that mutual cooperation between organisms - symbiosis - is just as important, and the "fittest" may be the one that helps another to survive.

Clearly, Trager does not intend to imply that cooperative natural relations are the only kind.

Bookchin's confusions about the relationships between competition and cooperation are important in understanding the inadequacies of his social theory. His one-sided reading of the market as purely competitive and of natural ecologies as overwhelmingly cooperative blind him to the fascinating similarities between them. One of the most astute environmental philosophers, Holmes Rolston III, more clearly portrays competition and cooperation in the natural world (68)

Like business, politics, and sports, ecosystems thrive on competition. In a natural community the cougars are the critics (if we may put it so) that catch the flawed deer, and thereby build better ones, as well as gain a meal. Alternatively, the fleet footed deer test out any cougars slow enough to starve. . . . In both [human and natural] communities, helping is subtly entwined with competition. There is a biological, though not a cultural, sense in which deer and cougar cooperate, and the integrity, beauty, and stability of each is bound up with their coactions.

These relationships are often extremely subtle. For example, Prof. Rolston notes that: (69)

insects (even outbreaks of them) seem often to provide benefits of which we are yet little aware, as we once were unaware of the benefits of fire. Aphids secrete sugars that stimulate nitrogen-fixing bacteria in the soil, and short lived insect grazers permit to long-lived plants rapid nutrient recycling, something like that accomplished more slowly by seasonal leaf-fall and decay. Some species of grasses coevolved with grazing ungulates; neither can flourish (or even survive) without the other. Selection pressures will routinely drive adaptation and counteradaptation toward minimum disturbance, that is, to check competition by forced cooperation.

The Hobbesian "state of nature" looks no more accurate as a description of the natural world as of the social. What looks like a war becomes akin to those marvelous East European and Balkan dances in

which individual dancers strive to outdo one another, but always within the context of the dance as a whole.

Darwin correctly perceived the strong similarities between the natural world and the human. Hayek has pointed out Darwin's debt to Hume's theory of social evolution, which was most assuredly neither egoistic nor one-sidedly competitive.(70) Unfortunately, Darwin also got his initial inspiration for natural selection after reading Malthus, a far more simple-minded writer. Thus, while far from denying the importance of cooperation, the initial Darwinian theory of evolution, and social Darwinism as well, seriously overemphasized competitive relations. Even so, like Hume and Adam Smith, Darwin held that altruism was as fundamental to human nature as egoism.(71)

The procrustean bed of Bookchin's "Social Ecology" stretches the processes of nature and mutilates those of the market in order to fit them into the facile categories of "dialectical naturalism." In attempting to clarify and refine the overly competitive evolutionary conception developed by Darwin and his mainstream successors, Bookchin has managed to lose sight of the truths they found while hopelessly muddling his own understanding of society and ecology. Yet despite the advantage of over a hundred years Bookchin's treatment of society and nature is far worse, for he loses sight of similarities between each which the earlier thinkers grasped, however much they may have oversimplified them.

Ecology, Catallaxy, and the Market

In comparing ecological and market processes we open up another fascinating question: what kind of market? The dominant reductionist approach to scientific ecology, termed "bioeconomics," is similar to the neoclassical view of the economy as allocating a given set of resources so that as many competing ends are served as possible, with the most important being served first. Such an economy can be viewed as operating efficiently or inefficiently, like the economy of a household or a business. Thus, ecosystems are analyzed in terms of their "net production," that is, how many calories of energy are left over after the energy/matter consumed in respiration is deducted. Such a conception studies the "energy budgets" of plants and animals under various circumstances. Its

language is characterized by the theoretical importance of "productivity," "efficiency," "yield," and "crop." Natural ecosystems are analogized to industrial concerns.

Prof. Hayek has distinguished between an economy in the sense of a firm's budget and what he terms a "catallaxy." The difference is that while an economy serves a single set of ends, a catallaxy "serves the multiplicity of separate and incommensurable ends of all its separate members." (72) This same distinction proves crucially important in determining how we think about ecology.

Discussing the implications of bioeconomics, Donald Worster argues that: "... it is not fanciful to attribute to the mechanistic, energy-based bioeconomics of the New Ecology a built-in bias towards the management ethos, and even toward a controlled environment serving the best interests of man's economy." (73)

Just as the traditional model of an economy encouraged the delusion that central economic planning was both possible and desirable, so the bioeconomic model encourages, and for the same reasons, the belief that central environmental management is desirable. In each case the system is conceived as a production organization which should operate efficiently in attaining some goal or set of goals. But how justified is this view?

It is perhaps significant in this regard to observe that calorie production need make no reference to *living* processes, this standard is so reductionistic that it abstracts from life itself. Its inspiration was modern thermodynamic physics. Ironically, later developments in physics, even within a Newtonian framework, have undercut this mechanistic and reductionistic ideal. (74) Biological reductionism has been shown to face serious theoretical barriers to the successful completion of its program. Instead, as physicist Paul Davies observes, "each new level in the hierarchical organization of matter brings into existence new qualities that are simply irrelevant at the atomistic level." (75) Equilibrium thermodynamics is apparently a deeply misleading framework for comprehending living systems. (76) These discoveries and arguments at the leading edge of science bring us back to insights developed by Michael Polanyi, perhaps the first theorist of social self-organizing institutions. While society cannot be reduced to biological processes, both society and

ecology are examples of self-organizing systems, or spontaneous orders. (77)

They also bring us back to earlier more holistic ways of viewing ecology, in which processes, not structure and function, merit the most theoretical attention. (78) Most spectacularly, recent years have seen the rise of the "Gaia Hypothesis," developed by James Lovelock and Lynn Margulis, which resurrects the holistic argument on a far vaster scale than before, arguing that the earth itself is best conceived as a living entity. (79)

The holistic or organismic views of ecology had not attempted to reduce the natural world to any single set of standards. They were instead focused upon the incredible intricacy of environmental relationships and, after Darwin, the extraordinary creativity of evolutionary processes. Indeed, when we take our eyes away from the lifeless abstraction of calorie production, in order to encompass the multitude of life forms around us, we no longer know how to make such a system "efficient" because no single goal or scale of goals exists.

In a discussion of ecological ethics, Rolston notes that: (80)

There is a kind of order that arises spontaneously and systematically when many self-concerned units jostle and seek their own programs. . . . In culture, the logic of language and the integrated efficiency of the market are examples. . . . In nature, our ecosystem systematically generates a spontaneous order, an order that exceeds in richness, beauty, integrity, and dynamic stability the order of any of the component parts, an order that feeds (and is fed by) the richness, beauty, and integrity of these component parts. The organismic kind of creativity (regenerating a species, pushing to increase to a world-encompassing maximum) is used to produce, and is checked by, another kind of creativity (speciating that produces new kinds, interlocking kinds with adaptive fit plus individuality and looseness).

The attentive reader cannot help but be impressed with the similarity of Rolston's conception of an ecology with Hayek and Polanyi's concept of spontaneous order.

Hayek writes that "A policy making use of spontaneously ordering forces . . . cannot aim at a known maximum of particular results, but must aim at increasing, for any person picked out at random, the prospects that the overall effect of all changes required by that order will increase his chances of attaining his ends." He adds that "the goal of such a policy must be to provide a multi-purpose instrument which at no particular moment may be the one best adapted to the particular circumstances, but which will be the best for the great variety of circumstances likely to occur." (81) This is Rolston's "integrated efficiency." Interestingly, a variant of Hayek's standard for good public policy provides a good test of ecological policy. How might the greatest variety of organisms be most encouraged? Or, closer to his way of phrasing it, how to encourage circumstances such that any particular variety of organism, chosen at random, will be most likely to flourish? The variety of organisms is analogous to the variety of unknown plans which the market process can accommodate. A type of organism, as distinguished from an individual, is, in a sense, a plan for living. Each separate type offers a different approach to how life can be lived.

Such a standard, unlike efficiency, is also in harmony with long-term evolutionary processes. Stephen Jay Gould has made some wise observations about the role of efficiency and creativity in evolution. He argues that "the watchwords for creativity are sloppiness, poor fit, quirky design, and above all else, redundancy." He continues that: (82)

bacteria are marvels of efficiency, simple cells of consummate workmanship, with internal programs, purged of junk and slop, containing single copies of essential genes. But bacteria have been bacteria since life first left a fossil record 3.5 billion years ago - and so shall they probably be until the sun explodes.

If evolution operated primarily on the basis of efficiency, "evolution would generate no structural complexity, and bacteria would rule the world." (83)

Despite at least five widespread periods of mass extermination, along with our present quite differently caused one, life on earth has been most spectacularly characterized by an ever increasing variety of species. As Rolston puts it: (84)

Regularly in ecosystems . . . order may be a more comprehensive, complex, fertile order just because it integrates (with some looseness) the know-how of many diverse organisms and species; it is not an order built on the achievements of any one kind of thing. A culture is richer, more diverse, more beautiful because it is the product of tens of thousands of minds . . . Analogously, ecosystems are in some respects more to be admired than any of their component organisms, because they have generated, continue to support, and integrate tens of thousands of member organisms. The ecosystem is as wonderful as anything it contains. Producing adaptive fits and eliminating misfits, it is the satisfactory matrix, the projective source of all it contains. It takes a great world to breed great lives, great minds.

PART II

A Deep Ecological Critique of Bookchin

At this point, many readers will conclude that we no longer need concern ourselves with "Social Ecology." Ecological insights, they may suspect, offer little new to social science. Traditional liberalism, they will argue, easily demonstrates the fallacies underlying much of Bookchin's social and political analysis. The environmental movement, to the degree that it has legitimate complaints, can be easily integrated into neoliberal thought.

In my view this judgement is premature. In fact, Bookchin's "social ecology" has also been strongly challenged among environmental thinkers by those who been variously termed "deep," "holistic," or "transpersonal" ecologists. The issues they raise are of interest to neoliberal social theory, for they concern humankind's proper place in the world. Further, the holistic critique supports one stream of neoliberal thought even as it undermines another.

Modern Western thought has been fairly consistently "Promethean" in its orientation, seeking to exalt the human at the expense of the nonhuman. Nineteenth-century socialist, anarchist, and liberal thought, particularly in their most optimistic, individualistic, and technocratic modes, are Promethean in this sense. One of the things which makes

Bookchin's work interesting is his attempt to incorporate ecological reasoning into a utopian, Promethean ethos. Deep ecologists, by contrast, argue that ecological reasoning is a radical challenge to Western Prometheanism, for it promises to reintegrate humanity into the natural world. In this sense deep ecology is biocentric rather than anthropocentric.

Except for his attacks on deep ecology, a superficial reading of Bookchin suggests that he is one himself. He consistently praises holistic and organismic reasoning. He argues for "a distinctive - albeit by no means hierarchical - place for humanity and society in natural evolution.(85) In his ideal world, humanity would "neither give nor take, it would actually *participate* with nature in creating the new levels of diversity and form that are part of a heightened sense of humanness and naturalness." (86) All this sounds harmonious with deep ecology.

A closer reading shows that it is not. Bookchin's concept of "participation" is rather one-sided. "Humanity's awareness of itself, its ability to generalize this awareness to the level of a highly systematic understanding of its environment . . . and finally its capacity to alter itself and its environment systematically by means of knowledge and technology, places it beyond the realm of the subjectivity that exists in 'first [prehuman] nature'." Thus "humanity has been *constituted* to intervene actively, consciously, and purposively into 'first nature' with unparalleled effectiveness and alter it on a planetary scale. . . . [Thus humanity] has given rise to a 'second nature,' a cultural, social, and political nature that has all but absorbed 'first nature' " (87) Through humanity, nature "knows itself and can guide its own evolution." (88)

Interestingly, he also writes that (89)

I do not believe that humans, owing to a "commanding" place in a supposed "hierarchy" of nature, can "exploit" nature. Words like *commanding*, *exploitation*, and *hierarchy*, are actually social terms that describe how people relate to each other. Insofar as people and the means by which they ostensibly try to command, exploit, or dominate nature are in fact natural phenomena themselves, one begs questions whose answers are already implied in the query itself.

If I understand Bookchin correctly, according to him it is conceptually impossible to command or exploit the natural world because such actions cannot be done to nonhuman beings. He has defined the problem away by denying our ability to think about it. In doing so, Mr. Bookchin has relegated all nonhuman nature to simple means for human ends. There is nothing new here. James Watt, Ronald Reagan's first Secretary of the Interior, would have little with which to argue on *this* point. (90)

But what of the merit of Bookchin's argument? Certainly as I interpret him, he is in the mainstream of Western views on these matters. To explore the shortcomings of Promethean modernity I will begin with two images. Evolution, from Bookchin's perspective, is a pyramid at whose apex stands the human race. From a deep ecological perspective we are looking instead at a bush, with branches growing out in many different directions. One of these branches is the line which has thus far culminated in *homo sapiens*. A bush has no central trunk which is going somewhere. Nature is creative *in many directions at once*, not simply in bringing forth humanity. Second, each branch contributes to the overall well-being of the bush itself. To be sure, some can be pruned, but prune too much and the bush is weakened, or killed. *In this sense* there is a kind of equality among the branches. Each contributes to the well-being of all.

Connection and Relationship

Central to deep ecology is a strong sense of interconnectedness. Boundaries between entities are tentative, shifting, and always based upon partial criteria. They are useful approximations for particular purposes, but are not "out there" objectively in the world. In a radical sense, human beings are not separate from other things, so any *purely* instrumental attitude impoverishes and distorts perception and any destruction of a significant part of an ecosystem carries with it the very real threat of impoverishing all future generations. To some degree these *words* can also be found in Bookchin, but they remain just words. They play no role in his thought except to bash the bourgeoisie.

Interconnectedness is more than a nice metaphor. It is meant in a strong sense to describe the character of our world. In this claim

ecological thought counts some impressive allies. For example, modern physics support the primacy of relationships over objects. Physicist Henry Stapp has written that a subatomic or quantum particle is "in essence, a set of relationships that reach out to other things." (91) Another physicist, Fritjof Capra, explains that not only are these particles "interconnections between things . . . these 'things' are interconnections between other things, and so on." (92) Physicists agree that every material thing is composed of quantum "particles" so if such "particles" do not exist except as sets of relationships, then *fundamentally any thing is constituted out of the relationships it has with other things.*

Interconnections between "things" is apparently also unaffected by space. In 1964 physicist John Stewart Bell proved a theorem which rejected all models of reality which possess "locality." Locality is the comforting thought that in order to affect something there must be either direct contact, like hitting a ball, or a *chain* of connections most amusingly illustrated by Rube Goldberg "inventions." Nonlocality is unmediated action at distance. Of course, a skeptic can argue that a formal proof is one thing, actual experience is another. To the skeptic's dismay, Bell's theorem has been sustained experimentally since 1982. Physicist Nick Herbert observes that these successes demonstrate that the world we perceive "is in actuality supported by an invisible reality which is unmediated, unmitigated, and faster than light." (93)

But what relevance does the quantum world have for the perceptual world within which we live? I think quite a lot. Herbert, notes that "Since there is nothing that is not ultimately a quantum system, if the quantum phase connection is 'real,' then it links *all the systems that have once interacted at some time in the past . . .* into a single waveform whose remotest parts are joined in a manner unmediated, unmitigated, and immediate." (94) Further, biological and even perceptual processes appear to depend directly upon quantum level phenomena. (95) None of these considerations reduce the macroworld to the subatomic, but they emphasize its dependence upon it. To hold that the macro world cannot be reduced to the quantum is not to say that it contradicts it.

If objects are constituted out of their relationships then individuals, as objects, are also so constituted. But this means that neat boundaries

between subjects and objects and between objects and objects have been dissolved. They are revealed as theoretical constructs rather than fundamental attributes of reality (like Martian "canals" which were observed for centuries, only to disappear upon closer examination).

Ecological science has developed a similar perspective. Biophysicist Harold Morowitz has written that(96)

each living thing . . . does not endure in and of itself but only as a result of the continual flow of energy in the system. . . . From this point of view, the reality of individuals is problematic because they do not exist per se but only as local perturbations in this universal energy flow. . . . An example might be instructive. Consider a vortex in a stream of flowing water. This vortex is a structure made of an ever changing group of water molecules. It does not exist as an entity in the classical Western sense; it exists only because of the flow of water through the stream. If the flow ceases, the vortex disappears. In the same sense the structures out of which the biological entities are made are transient, unstable entities with constantly changing molecules dependent on a constant flow of energy to maintain form and structure.

The similarity between quantum mechanical and such ecological perspectives on the world has not been lost on either physicists or ecophilosophers. (97) In both we see that the concept of individual objects, so central to the Western Promethean ethos, has been relegated to secondary status. Boundaries are permeable. Individuality is real (as is the vortex) but partial. Individuality arises only out of relationship. Connectedness and relationship are primary.(98) These perspectives are very much in the spirit of Hayek's discussion of mind, only they carry his insight even more deeply. (And of course render Bookchin's ideal of unmediated relationships even more hopeless.)

But how are we to make practical use of these insights? How do they matter in terms of our daily lives? If we cannot help being interrelated, why be concerned? It turns out that they may matter quite a lot.

Perception, Value, and Gestalt

Norwegian philosopher Arne Naess, the founder of "deep ecology" as a self-conscious philosophical perspective, has proposed one of the clearest ways of conceiving human experience in such a relational reality. He suggests that instead of thinking of the world as made up of matter we think of it as a "relational field." In such a world "there are no completely separable objects, therefore no separable ego or medium or organism. . . . Within such a field, any *concrete content* can only be related one-to-one to an indivisible structure, a *constellation* of factors." (99)

When we experience reality spontaneously we experience countless relationships making up innumerable gestalts. Some gestalts are experienced as subordinate wholes, but are in fact subordinate gestalts. Spontaneous experience is of a "vast hierarchy" of "lower and higher-order gestalts." Thus, for Naess, the "gestalt of a complex piece of music is subordinate to the experience of that piece in a particular situation. . . . No part of the experience stands entirely alone." (100)

When two gestalts are synthesized "into a higher (more comprehensive) unit, and at least one such unit is from a sensory area and at least one from a normative and/or sensitive area" Naess calls it an "*apperceptive* gestalt." He notes (101)

When one's attention is not deliberately focused upon perceptual gestalts, all experience is apperceptive. Its units are apperceptive gestalts, not sensory elements, not intellectual elements. *The distinction between 'facts' and 'values' only emerges from gestalts through the activity of abstract thinking.* The distinction is useful, but not when the intention is to describe the immediate world in which we live, the world of gestalts, the living reality, the only reality known to us.

With the breakdown of sharp distinctions between subjects and objects, the distinction between fact and value also breaks down, for value is supposedly "subjective" and prely internat to the perceiver who exists as an object situated among other objects, each fundamentally separate from the other. (102) Values are not subjective, isolated within the heads of their perceivers. Rather, they are an intrinsic aspect of the relationships which constitute who we are. Values arise out of the quality of relationships

which exist in a person's apperceptive gestalt. Of course, a relationship's quality is itself the result of the gestalts within which it participates. Value is in the world in the deepest sense. Such a world is far less certain, tidy, and manipulable than the objectivist ideal, but it conforms to our experience.

Analytic thought breaks down gestalts, particularly complex ones. In the process it severs us from reality as spontaneously experienced. Thus, perceiving the world "objectively" is to perceive it in isolation from some of the relationships which serve to make it what it really is. If scientific analysis provides access to one kind of knowledge, it also forecloses another. It increases our instrumental power but at the same time hides from us that power's full significance.(103)

Naess's analysis carries interesting implications for our relationship with nature. When describing a " . . . high, dark, sombre tree." he writes, "Little is gained by placing the darkness or sombreness in the person's consciousness or brain, while the height is allowed to be the tree's own. The tertiary qualities of things have an ontological status which is best expressed by complex relations."(104) If value exists in the experience of relationship, and not simply within our minds, then an attempt to discover "value free" knowledge can *never* give us a full understanding of the world. Naess and other deep ecologists have developed profound arguments to the effect that purely technical ways of relating with the natural world not only do extraordinary damage to it, such damage is also done to ourselves for we, like everything else, are constituted out of such gestalts. Nature has intrinsic value and it is deeply mistaken to ignore it.(105)

This argument suggests that attempts to objectify our knowledge invariably distort it. Sometimes this is a price worth paying, but the criteria which make something "objective" also narrow the context within which it is experienced. It participates in fewer gestalts, as it were, and so cannot help but provide a impoverished and fragmentary perspective on its subject.

Poets, painters, and other artists have often claimed to be able to illuminate aspects of reality left untouched by attempts to understand it "objectively." One implication flowing from Mr. Naess' argument is that

at least sometimes they are correct, for art can reach out to us in many ways whereas the objective ideal strictly delimits its means for influencing others. Consider a scientific description of a rainbow compared with a painting of one. Once the subject/object dichotomy dissolves, the realm of the real widens immensely for the mind is no longer separate from the world within which it finds itself. Again, this point appears to me to be an extension of Hayek's earlier insight on the nature of mind.

Deep ecologists have continually bumped up against the problem of describing such a perspective with philosophy's traditional analytic tools when trying to write traditional philosophical defenses of their views. Bill Devall notes that (106)

Poetic language resonates, evokes, expresses. And I think deep ecology is best expressed, not explained. Poetic words come alive with imagery and metaphor. Metaphors, especially, allow the listener to make connections which may be difficult to express in precise, analytical words.

Read superficially, Devall's argument can seem irrationalist. It is not. His point is that when addressing who we are and what it is to live within the world, any mode of discourse which closes itself off to these other types of experience will *necessarily* be inadequate to its task. It is also the case that closing oneself off to scientific knowledge will *also* be inadequate.

The Promethean Error

If these arguments are sound, and I believe they basically are, the Promethean ideal is based upon a perceptual confusion. In some respects it has led to great goods, such as modern science. But attempts to universalize its assumptions have carried increasingly high costs as our power to act has grown. We live in a world where we are inextricably related to everything else, and where scientific knowledge, in the very act of expanding our understanding of reality in one respect, *automatically* carries us away from reality in another sense. Unfortunately, the farther down the Promethean road we travel, the more estranged we become from the world which makes any path, including the Promethean, possible.

Particularly, as our power to affect the world expands, our capacity to comprehend it is distorted. The reason is that techniques of power instrumentalize our relationships into pure resources, that is, into things separate from us. In such a world we can *never* have the wisdom to try and take, in Bookchin's terms, "conscious control" over our material existence. We cannot avoid error, and as our power grows the seriousness of potential errors grows with it. (107)

We now have a different but complementary reason to the one given by Bartley for abandoning the Promethean ideal. Not only in a strict sense do we never know what we are talking about or what we are doing, in addition, any effort to expand our power to do something purely instrumentally within the world also guarantees that we will begin losing touch with the world itself. In a subtle irony, the greater our powers, the poorer our vision in using it.

Deep ecology points towards a reenchantment of daily life, not in abstract theory, as Bookchin attempts, but in experience available to us all. It points towards a proper way of relating to other things, which is to say with *respect*. Nothing is purely an object. It further suggests not so much caution as humility when relating with the rest of the world. Caution says that there is either great danger or great fragility. It appeals to fear. There may be danger and there may be fragility, but even in the absence of either (and the environment is not as delicate as some of the more hysterical alarmists would have us believe) respect is in order. The more irrevocable an action in its consequences, the greater the likelihood we are acting blindly, the more care is necessary when deciding to undertake it, and the more respect we need show "all our relations."

The ethic associated with deep ecology is often called "biocentric" or "ecocentric" in contrast to our usual "anthropocentric" view of ethics. A common criticism of such an ethic is that since human beings advocate ecocentric ethics, and no one else advocates ethics at all, such ethics are in fact anthropocentric. This is like saying that since white males developed quantum mechanics, quantum mechanics is white male physics. Fox points out that the criticism fails to "distinguish between the weak, trivial, tautological sense of anthropocentrism and the strong, informative, substantive sense of the term. Such a criticism is weak in that it does not

allow us to make any distinctions between statements . . . trivial in that it simply states the obvious; and tautological in that it is true by definition."(108)

Another criticism of biocentrism is that a nonanthropocentric ethics undermines our ethical relationships with other human beings. In fact, insofar as our dealings with one another are concerned, it leaves them largely untouched. The change comes from interhuman ethics being situated within a larger context. Nonanthropocentric ethics are community-specific. The types of relationships we have within communities determines the ethical obligations we have within them.(109) Callicott notes that "as a general rule, the duties correlative to the inner social circles to which we belong eclipse those correlative to the rings farther from the heartland when conflicts arise." However, obligations to the outer circles, as he puts it, can "demand choices which affect, in turn, the demands of the more interior social-ethical circles."(110) For example, I have an obligation to feed my children, but in all or virtually all cases this does not override my obligation not to steal from strangers. A similar situation exists with our relations to the nonhuman environment. My need to feed my children does not override my obligation not to cause the extinction of forms of life harmed by my occupation. In such a case I am obligated to change careers, no matter how personally inconvenient this may be. At this paper's end I shall develop these implications in more detail.

Deep ecological thinkers, then, argue that Bookchin's enterprise is flawed from the start. It is not viable. To employ a classic leftism, ecologically speaking, Bookchin is not part of the solution, he is part of the problem.

How does this deep ecological perspective relate to my earlier neoliberal critique of social ecology? Complexly. The implications of the deep ecology critique with regard to liberal *institutions*, are not so critical as some of its advocates might think. In terms of the liberal *understanding* of liberal institutions, however, the implications are very critical indeed. For example, the one-sided attention paid to competition by most economists and their detractors alike has had an unknown but, I suspect, very detrimental impact upon liberal society. Creators of new

organizational forms making use of the opportunities available in such societies are entrepreneurs as much as are creators of new products. They make do with the intellectual tools they have grasped plus their own creativity. With inappropriate intellectual understanding, the possibilities for discovering creative possibilities are undermined. I am struck that the creator of the Mondragon cooperatives in Spain was a parish priest, not an economist.

Another Look at the Market

Self-organizing social systems are as effective as they are because they make it easier for people to cooperate. They simplify social relations. This simplification comes about through the standardization and homogenization of human relationships. Not in all areas of life, as Bookchin claims with his usual exaggeration, but in many. There are three self-organizing social processes particularly germane to developing my point here: science, the market, and liberal democracy.(111)

Scientific research has prospered in part because it seeks the simplest criteria to win agreement among others as to the success or failure of an explanation. Measurement and prediction are perhaps the *least* demanding standards for winning agreement. This is why they are so powerful. That which is not amenable to such standards is excluded. Up to a point this is a useful ploy. But to say that what is excluded because we cannot easily agree about its specifics *also* does not exist is analogous to arguing that any work not able to be done by a hammer cannot in fact be done.

A similar simplification occurs in democracy. Voting ignores differences in the qualities of voters' judgements. The fool's vote counts as much as that of the sage. (If only we could gain agreement as to which is which!) Democratic procedures are not concerned with the merit of any particular proposal. They simply provide a framework wherein citizens can advocate any measures they wish, be they wise or foolish. As with science, issues are decided as the outcome of a process over which no one exercises any control or, in the strict sense, responsibility.

In the market, the "cash nexus" and rules of contract reduce the need for agreement to an absolute minimum. All any person need be

concerned with is whether or not s/he expects to be better off after an exchange than if it did not take place. No concern or sympathy with the other party is necessary. While the market's self-organizing process is based upon agreement, the minimal agreement necessary is purely procedural and instrumental.

Each of these systems lead to enormous social gains. But there are costs as well. The frequent denial of such costs by advocates of these systems makes any effective accounting of them frustrating. I have already discussed the costs associated with a purely scientific view of reality. Let me deal now with the costs of the market. The market is generally treated by its advocates as a basically neutral means for facilitating voluntary exchanges. For example, James Buchanan and Viktor Vanberg write that(112)

"The market economy, as an aggregation, neither maximizes nor minimizes anything. It *simply* allows each participant to maximize that which he or she values, subject to the preferences and endowments of others. *The results of market processes cannot be evaluated against some independently-defined scalar.*

Their claim is mistaken. I have italicized the errors I will examine.

Hayek, Mises, and others have long argued that it is the market's very impersonality which makes it possible for people who differ in many respects to cooperate nevertheless. Market ethics are procedural and are not concerned with the outcomes which result so long as all parties have acted within the rules of contract. However, no one can be aware of the overall impact of his or her actions in a market. If we did know the ultimate outcome of our actions, cooperation would be more difficult, because we would have to agree not only on procedures but on their outcomes.

Another aspect of the market's impersonality is that remarkably little bargaining takes place, at least for goods of mass production and consumption. Prices are regarded either as acceptable or too high, in which case the commodity or service finds no buyer. Economic production is largely for those we do not know. In most cases we work for companies whose owners are strangers to us, and who often as not are themselves shareholders who have never seen the physical plant they own.

Impersonal movements of prices for stocks, labor, raw materials, and the like govern an enormous percentage of market transactions. Successful entrepreneurship, be it "Austrian" or "Schumpeterian" need require little personal knowledge of consumers or producers. (113)

Even more as consumers than as workers, such an impersonal environment affords us little knowledge of those who will ultimately be affected by our decisions. Other than the friends and family for whom we may buy goods and services, the well-being of few people are much affected by any one of our decisions. (Hiring and firing decisions are different, but are not uniquely market phenomena.) We have little to go on in such an environment other than our private needs, desires and wishes.

For instance, we know little of what was involved in getting a particular product to market when we consider whether or not to purchase it. It is one thing for me to buy from you and not care what you do with the money I pay you. This is how the market simplifies cooperation. But I also may be unaware that you did things in order to get the product to market which I find deeply repugnant. Until recently tuna fishing for the American market entailed mass killing of dolphins. Were it not for the efforts of environmental activists who publicized the killing, many consumers would not have known such horrendous methods were used. They would have bought their tuna blissfully unaware of the full cost of production. Many likely never did know who would have cared had they known. Non-dolphin-killed tuna is ever so slightly more expensive. If given a *clear* choice many Americans proved willing to pay a few cents more for the latter. But such choices are very rarely clear. The very complexity of the division of labor makes such knowledge hard to discover and hard to disseminate.

It is significant that only with the rise of computerized mailing lists and the like has it become relatively easy for people seeking to pursue nonfinancial values to organize together if they were not already close geographically. The fact that "public interest" organizations have grown so fast once organizing costs became manageable suggests a deep latent need for promoting noninstrumental values that was being frustrated until relatively recently.

The market's impersonal character is what has allowed economics, more than any other social science, to claim to have discovered laws with predictive power. Human beings themselves are not particularly predictable, and the less we know about an individual, the less predictable s/he becomes. But the market process *abstracts away their humanness*. It requires us to know nothing specific about individuals. (This is why economic man has seemed such a fruitful simplification.) And unlike science and democracy, it operates largely through quantified relationships, making prediction even easier. But while independent of human character, market processes are not neutral in their impact upon that character. Hayek has termed the market a school for rationality. (114) If by rationality we mean *instrumental rationality* I believe his point is profoundly correct. Because most of our actions have an instrumental component, the market has greatly expanded our capacity to find and develop resources to satisfy our needs, wishes, and desires.

But the analytical type of reasoning thereby encouraged has the same impact upon our perceptions of the world as does scientific analysis. As Naess points out, it tends to narrow our awareness to purely instrumental relationships. Everything becomes an object, a means to an end which is *separate* from it. Something is a resource, generally, only when its utility depends upon its being *changed*. This is so partially because we know little about most of those influenced by our actions, and so *cannot* take a deeper view. In addition, however, the market process itself generously rewards those most able to think in purely instrumental terms.

For example, the corporation, the market's most characteristic business organization, is far from neutral with regard to values. To the extent that the impersonality of the market process forces managers to be responsive to shareholders' interests, they also force those managers to act solely to maximize money profit. Yet, keeping within economic terminology, money profit is only a component of the total "psychic profit" valued by most people. As a shareholder I want to provide for my material needs, but it is unlikely that I am only concerned with such needs. Nevertheless, by purchasing stock I strengthen processes which may well sacrifice other values I hold dear in order to maximize profit. To be sure, as a private person I can participate in "green" investment funds, but

institutional investors such as pension funds cannot. Their managers would be justly accused of acting inconsistently with their fiduciary responsibilities.

The market as it has developed does not make noninstrumental action impossible. The Nature Conservancy is an outstanding example to the contrary. But it does "load the dice" in favor of maximizing purely instrumental values. To put the point differently, I can choose to pursue values other than money profit maximization by participating in the market, but by doing so I will probably gain access to fewer resources than someone who pursues profits alone. He or she will take advantage of some financial opportunities which I willingly forgo - just like a bank robber will take advantages of opportunities we would both reject.

In terms solely of efficient market production this is as it should be. If the market were truly a neutral means for realizing human goods, this would be a complete gain. But as it is not, there is also a loss. And this loss is directly connected with undervaluing the noninstrumental values of things which can *also* be valued purely instrumentally. The failure to appreciate this is the fundamental weakness in arguments such as Fred Lee Smith, Jr.'s suggestion that simple privatization would not weaken environmental values (115) Reliance upon private market processes alone can never provide an adequate foundation for the good society.

But we have also seen that a viable market order is fundamental to any society capable of providing material prosperity for very many people. Any social theory which does not allow for a viable market order is intrinsically incapable of addressing most people's needs. Insightful as Bookchin occasionally is, his failure to grasp this point renders his positive proposals largely null and void.

Neoliberal social theory appears to offer a more promising foundation than social ecology and other forms of left-environmentalism for integrating humankind with its environment, in part because it does support the basic self-organizing principles underlying both ecologies and market systems. But is liberalism at heart anti-environmental because the market mentality is unable to grasp intrinsic values that are divorced from usefulness for human purposes? It is to this question that we now turn.

Liberalism and Environmentalism

At the risk of oversimplifying, liberal social theorists tend to fall into one of two disproportionately influential schools: those conceiving the individual as in some sense the irreducible social unit, and those conceiving individuals as social products even as society itself is the result of individual volition and creativity. The first variant of liberalism has been intellectually and politically dominant. Its precursors include thinkers as diverse as Descartes, Hobbes, Locke, Destutt Tracy, Bentham and the Mills. All modes of liberal thought which utilize rational self-interest, natural rights, or utilitarianism as foundations for their social theory tend to fall within this tradition.(116)

Today it includes men as diverse as Robert Dahl, John Rawls, Murray Rothbard and the Robert Nozick of *Anarchy, State and Utopia* but not of *The Examined Life*. This tradition includes constructivist liberalism. It also includes what might be termed legalistic, individualistic, or egoistic criticisms of constructivism. All are essentially Promethean.

Liberalism's second tradition is quite different. Its perspective is an evolutionary one, conceiving society and social institutions as the largely unintended outcomes of practices which are rarely consciously chosen by the people employing them. Among its early exponents were the Scottish philosophers David Hume, Adam Smith, and Adam Ferguson. Its chief contemporary proponent has been F. A. Hayek. Other contemporary scholars associated with this perspective include Peter Berger, and Thomas Luckmann.(117)

While both kinds of liberal value (with varying degrees of consistency) societies ordered by procedural rather than end-specific rules, some considerable degree of a market economy, and equalitarian legal standards, their differences are as important as their similarities. The first school I term "individualist" not because all its advocates are political individualists, but because their fundamental unit of analysis is the individual. In this sense, even Robert Dahl's egalitarian utilitarianism is individualistic. Individualist liberal thought has often (although not always) consciously molded itself upon Newtonian physics and has been

one-sidedly influenced by the ideal of the exact sciences and mathematics. My discussion of ecology and the market explored some of the problems with this strategy as applied to comprehending either societies or ecologies.

I term the second tradition "evolutionary" because of its focus on self-organizing processes as the most basic analytical relationship. In a sense, relationships are more fundamental to this school than are the objects which relate. Evolutionary liberalism has had a long *and reciprocal* relationship with the precursors of ecological science, particularly evolutionary theory. The common intellectual insight which unites evolutionary liberalism with evolutionary theory is how ordered relations can arise without anyone deliberately devising that order - the process of self-organization. These insights have yet to be digested by our society, intellectually or operationally.

Evolutionary liberal models of social life have generally taken a back seat to the more individualistic liberal traditions. I believe this is because the evolutionary approach did not promise the precision of measurement and hope for control and certainty that has for so long captivated many social scientists, especially those fantasizing their future as "social engineers." Even individualist approaches which were anti-constructivist promised clear, exact, and neatly deductive approaches which left little room for the unknown or uncertain. Locke's *Social Contract* is the most famous early example, as Hume's critique of it is one of the clearest early examples of the evolutionary perspective. Among contemporary anticonstructivists, Mises' and Rothbard's praxeological approach shares this ideal with the sophistries of contemporary market defenses based on "economic man." This ultimately spurious hope for precision may explain why both the constructivist and anti-constructivist wings of individualist liberalism have appealed to ideologues. Evolutionary liberalism is, by comparison, much less appealing to those craving certainty, for it offers little.

The reason is important. Evolutionary liberalism makes no claim to predict particular future events. At best it can make what Hayek calls abstract "pattern predictions" of the general characteristics of probable changes. (118) Neither does it offer a rigorous intellectual system by which

every issue can be settled. At best, it offers what we might term strong rules of thumb. But that is all. Unlike individualist liberalism, evolutionary liberalism necessarily inculcates a degree of humility and respect when confronting social institutions. It seeks to *cultivate* the conditions for desirable change rather than plan, manage, direct, or control such change - either by engineering it or by subjecting action to absolute standards of individual justice. It is not by chance that "cultivate" is an agricultural concept whereas the other terms are technological. This shift of metaphor points to the fundamental gulf separating the two types of liberalism.

Environmental insights are fundamentally antithetical to individualist liberalism. At its best, individualist liberalism can offer good market-based means for cleaning up pollution, and I do not mean to disparage such work. It is badly needed. But it *cannot* incorporate an appreciation for aspects of nature which have no instrumental value for, and cannot be morally equated with, human beings, such as furbish louseworts, spotted owls, and snail darters. There is no common ground between these positions.

Evolutionary liberalism has never, to my knowledge, attempted to integrate its insights with those of ecology. While it has generally adopted a more modest assessment of individual capacities than either individualist liberalism or leftist utopian thinkers, it has nevertheless tended to treat human beings in isolation from their natural environment, although not their social one. However, because the fundamental insights of evolutionary liberalism and ecology are based on self-organizing processes, they at least dwell within a similar conceptual universe. Their root concepts are the same, they share a common language.

At bottom, deep ecology challenges only evolutionary liberalism's anthropocentrism, but the ultimate result, I believe, is enrichment not negation. Deep ecology provides a broader (and deeper) context within which to locate the insights of evolutionary liberalism. I want now to briefly look at some of the alterations the deep ecological perspective I described above suggests for neoliberal social theory and practice.

The market, by itself, cannot provide the good society for the same reason that science cannot by itself give us an adequate grasp of the world

in which we live. Both the market and science are essential, but because their strengths are so intimately connected to their weaknesses, even both together cannot manage to sustain a good life for most people. And those who do live a good life will tend to be at somewhat of a disadvantage in purely market oriented transactions.

The market process, like the ecological, is a self-organizing one, mixing competitive and cooperative actions. In both cases, order arises out of the structure of rules which channel the actions of their members. The unifying principles underlying liberal self-organizing institutions are procedural equality among human beings and formal consent. In market orders these principles are manifested through the rules of contract and exchange. *Property rights* are what is contracted and exchanged in economic transactions. It is to the concept of property rights that we must turn, if the market orders is to be harmonized with the ecology which sustains it.

Let us begin with land. Nowhere does any liberal justification for property rights appear more arbitrary than with land. Nor are the historic origins of existing patterns of ownership any more morally compelling. Virtually all land has been violently siezed within the past few hundred years, and usually many times before. Even in market terms, the value of land increasingly has little to do with the additions of its "owner" but rather reflects patterns of demand largely uninfluenced by whomever happens to be the landowner.

None of this argument remotely implies a justification for state "ownership," which is often even more harmful and arbitrary, as the socialist world demonstrates. It suggests instead that something is wrong with the entire *concept* of ownership. An example may help explain why.

The Elkins Prairie was an 80-acre parcel of virgin prairie near Lawrence in northeast Kansas. It was the largest tall grass virgin prairie in the area. In the United States, tall grass virgin prairie is one of the rarest ecosystems, for nearly all of it has been turned into farm land. It was home to two federally protected species: Mead's milkweed and the western prairie fringed orchid. It was also the center of controversy, for while some were working to buy the land and have it preserved as an

example of how the area looked before European settlement, others had different plans.

One Saturday night in late November, 1990, the owners ploughed 30 acres, gave the county one day to buy the land, and threatened to plough the rest if they did not. The county met in emergency session and agreed to buy, only to have new terms imposed by the owners. When the county balked at the escalating terms they ploughed the rest, destroying it. They thereby eliminated any environmental obstacles for more, in their terms, "productive" use of the land. (119)

Deliberate destruction of a rare community was done solely to improve the owners' financial bargaining position. The owners showed no sense of responsibility to anything but their pocketbooks. While not all land owners act in this fashion, those who act more responsibly do so for moral reasons *not implied* within the concept of ownership. Intrinsic values in Naess' sense were destroyed solely to serve purely instrumental ones. Neither farming nor any other specific project was planned. They merely exercised their "property rights" but this exercise illustrates the conception's inadequacy. Such actions, however legal, strike me as profoundly immoral.

The liberal principle of property ownership is that of despotism. All power and freedom without obligation rests with the right's owner. The object over which the right is exercised may be used at its owner's whim. Insofar as we are dealing with artifacts of human contrivance, in most instances this is a reasonable perspective. But not everything which can be owned is purely, or even mostly, a human artifact. Animals, for example, are not simply objects, and the owner's absolute despotic power has been limited in civilized countries to ban the worst forms of mistreatment of pets. Unfortunately, the status of farm animals is not so protected.

But animals are not the only owned entities which are not primarily human artifacts. The land, air, and water are also not human creations. Human science cannot produce even a spoonfull of topsoil from its elemental components. Other beings, the land, soil, water, and air are essential constituents of our environment, and here the model of despot must be replaced with that of at least a respectful steward. Because it is a moral relationship situated within a network of relations possessing

intrinsic value, "stewardship" is a better term than ownership for use of these things. However, some deep ecological thinkers distrust the stewardship model because, as Devall and Sessions argue, "it still incorporates the premise of instrumental rationality . . . of natural resources primarily for human use, and fails to distinguish vital human needs from mere desires . . ." (120) But this, at least, goes too far. All embodied beings have needs, and to that degree act instrumentally. But there is a vast gulf between purely instrumental action, and that which is not purely so. It is the difference between the sociopath and the normal decent person. Devall and Sessions buy into economic man as an adequate theoretical model for modern life, but oppose to him an option perhaps even more divorced from life.

Stewardship indicates that responsibility and obligation accompany power. The natural world unavoidably serves human needs and desires, but in addition human beings owe consideration to it as well. Stewardship means, at a minimum, that the thing over which it is exercised should not be worse off as a result of that relationship. But worse off in what sense? Again, in the sense that its basic role within the environment will not have been seriously compromised.

Market oriented approaches to solving environmental problems have focused on expanding the role of property rights, as in the various proposals for the private ownership of the air, underground water, rivers, the sea, and so forth. By facilitating instrumental market exchanges, their proponents expect more efficient use to be made of these "resources." But they do not question the basic assumption that ownership should be despotic. Consequently, their proposals cannot adequately protect relationships which are not purely instrumental.

Property rights have always been subordinate to broader ethical rules concerned with whether, and to what extent, we can exercise despotic control over something. Efficiency criteria have never been the sole basis for determining property rights' nature and extent. The prohibition of slavery is an example. So also are limitations on how we can treat pets.

Even within the market order as it presently exists, restrictive covenants and land trusts have been used to restrict the capacity of owners to exercise despotic control. These measures have been developed in large

degree to protect noninstrumental values which traditional property rights could not safeguard.(121) While limiting the power of owners, they no more result in the collapse of the market order than did abolishing slavery or legislation protecting some animals. But because the market as it exists is not a neutral ground for exchange, reliance upon such mechanisms *alone* will likely not harmonize liberal society with deep ecological insights.

It seems to me that the solution to our problem can be drawn from the work of Hayek, albeit I will use it in a way he never imagined. Hayek points out that preserving a self-organizing market requires us to act in ways which often go directly against short run expediency. Often it seems as if a short term economic problem can be solved simply by setting aside the rules generating the market order. For example, the Rural Electrification Administration subsidized electrical power delivery beginning in the 1930s. Obviously this was a good thing for the farmers who benefitted. Much of the harm was and continues to be invisible. Even in narrowly economic terms, these measures virtually wiped out research in small scale solar, wind, hydroelectric, and alcohol-based power generators. With traditional power sources artificially subsidized, research in alternatives was killed for forty five years.(122) We can never determine the losses in undiscovered possibilities which these subsidies caused. It is *logically* possible to argue that, on balance, the intervention *may* have achieved more good than harm. But we know that on balance, self-organizing systems deal more successfully with the complex coordination of human plans than can any directed set of plans.

Hayek argues that in any given instance, the expected gains from overriding the rules generating a market will *always* appear greater than the usually unknown disruptions such actions will cause. Consequently, reliance upon the principles generating a market order must always trump political pressure to override market processes. Principle should override expediency. (123) *Exactly the same argument applies to our relationship with the natural world for exactly the same reasons .*

Property rights must reflect not just human efficiency, they must also reflect and be limited by the broader relationships within which we live. With regard to the non-human world this leads us to several

principles. For example, there can be no right to create toxic wastes or nonbiodegradable products. The costs of neutralizing toxins and recycling should be incorporated into the costs of production. Not to do so subsidizes the production of harmful substances by ensuring that someone else will pay the price of their manufacture. In all other forms of life, that which lives ultimately is recycled back in a nonharmful form to perpetuate life as a whole. Already the failure to observe this principle has led to serious problems with groundwater pollution and the like. By not incorporating these costs in the cost of production, we also perpetuate the myth that somehow we are privileged actors, separate from the rest of the world and not bound by the same principles which govern all life. To say that thereby some things will be more expensive should carry no more moral weight than the complaint that a slave owner cannot "afford" to free his slaves. He cannot afford not to.

Further, does utilization of a renewable resource maintain the fertility required for indefinite renewal? The reasoning behind this principle should be obvious, even to economists. In terms of self-interest, "long run" always arrives. More appropriately, the principle of stewardship requires it, regardless of how "inconvenient" this will be for current logging, fishing, and agricultural practices.

Further, does putting resources to human use maintain a diverse flora and fauna? There can be no right to cause extinction, with the possible exception of organisms generally lethal to human life, such as smallpox. Certainly there can be no right to destroy forever any form of benign life in the pursuit of a goal not absolutely essential to human survival. Such an action is an assault not only upon the beings destroyed, but upon all future generations of human beings. It diminishes the network of relations which create human consciousness when we should seek instead to enrich them. We are reminded of Hayek's standard for public policy that it aim at increasing for any person picked out at random, the prospects that the overall effect of all changes required by that order will increase his chances of attaining his ends."⁽¹²⁴⁾ As ecologies deal with species rather than individuals, the needed modification here is only that each species should generally have its opportunity to flourish

unhindered by human caused changes. It is vicious in every sense of the word. It is a crime against humanity and life.

In terms of even narrow self-interest for humankind considered in isolation, we do not possess the wisdom to decide whether to extinguish a form of life forever. Briggs and Peat point out that experiments have suggested the more complex environments with the greatest complexity of interactions among varieties of organisms are also the most stable. "One implication is that if complexity among autopoietic [self-organizing] structures can lead to stability, then in saving other species from our greedy meddling, we might in fact be saving ourselves."(125)

More deeply, in terms of a balanced perception of the world and our place in it, Aldo Leopold's land ethic must hold: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."(126) Leopold's land ethic stands in the same relation to the ecology as Hayek's ethical principle regarding public policy and social self-organizing processes. Each is an application at its relevant level of the same insight and the same ethic. The deep ecological perspective, then, is not antagonistic to evolutionary liberalism in the tradition of Hume and Hayek. It only relativizes this perspective by placing its insights within a larger and, yes deeper, context. Far from being hostile to ecological insights, liberal civilization's development of self-organizing institutions marks the first discovery of ecologically harmonious social processes since the demise of hunting and gathering societies.(127) But its potential in this regard has only begun to be explored.

END NOTES

- 1 Unfortunately the conservative and libertarian norm is reflected in the hysterical April, 1990 edition of *Reason* whose lead article by its editor, Virginia Postrel, features a picture of Lenin with various animals. Much of what followed was no better. See also in a similar vein, Joel Schwarz "The Rights of Nature and the Death of God," *The Public Interest* , Fall 1989. Schwarz has been ably rebutted in Hwa Yol Jung's "Shallow Thinking on Deep Ecology" *The Trumpeter* , Spring, 1990. There have been a few honorable exceptions to this nonsense, particularly the work of John Baden, Richard Stroup, and Jane Shaw. See also the interesting issue of *Chronicles* , August 1990, which attempts to develop a conservative pro-environmentalist perspective. Also of interest is William K. Reilly's "The Green Thumb of Capitalism" in the Fall, 1990 *Policy Review*. A dissertation waiting to be written will analyze the responses of traditional ideologies to a new set of issues none had expected to become important.
- 2 Lewis Herber (his then pen name) *Our Synthetic Environment*, New York: Alfred A. Knopf 1962(1962).
- 3 "Recovering Evolution: A Reply to Eckersley and Fox" *Environmental Ethics*, vol. 12, no. 2, Fall 1990, p. 253
- 4 For example, see Brian Tokar, *The Green Alternative* , San Pedro, CA: R&E Miles 1987; and John Clark (ed.) *Renewing the Earth: the Promise of Social Ecology* , Merlin Press: London, 1990 Roderick Nash appears also to have been influenced, see his *The Rights of Nature: A History of Environmental Ethics*, Madison: University of Wisconsin Press, 1989, esp. pp. 164-165. However, in invective and nastiness to those he opposes, Mr. Bookchin is in a class all his own. Too often one of the hardest things to do when reading him is wading through his invective towards those he opposes, particularly in most books with the "Black Rose" label. Caveat Emptor.
- 5 *The Ecology of Freedom* , Palo Alto: Cheshire Books 1982

- 6 *The Modern Crisis*, 2nd rev. ed., Montreal: Black Rose Books 1987, p. 21, see also 1982, op. cit. pp. 81-85
- 7 *Post Scarcity Anarchism*, 1971, p. 144
- 8 *Ecology of Freedom*, op. cit., p. 80
- 9 Ibid. p. 63
- 10 *Modern Crisis*, op. cit. p. 22
- 11 *Ecology of Freedom* op. cit. p. 50
- 12 Ibid. p. 50
- 13 Ibid. p.144
- 14 Ibid. p. 149
- 15 Ibid. p. 68
- 16 Ibid. p. 135
- 17 *Post-Scarcity Anarchism*, op. cit., p.144
- 18 *Ecology of Freedom*, op. cit., p. 273
- 19 *Post-Scarcity Anarchism*, op. cit., p. 144
- 20 *Ecology of Freedom*, op. cit., pp. 137-8
- 21 *Modern Crisis*, op. cit. p. 79
- 22 Ibid., p. 23
- 23 *Ecology of Freedom*, op. cit., p. 223
- 24 Ibid., p. 231
- 25 Ibid. 233
- 26 Ibid. p. 273
- 27 Ibid. p. 278
- 28 *The Philosophy of Social Ecology : Essays on Dialectical Naturalism*, Montreal: Black Rose Books 1990, p. 27
- 29 *Post-Scarcity Anarchism*, op. cit., p. 78
- 30 *Philosophy of Social Ecology*, op. cit. p. 30
- 31 Ibid., p. 35
- 32 *Post-Scarcity Anarchism*, op. cit. pp. 146-7
- 33 *Ecology of Freedom*, op. cit. p.9 For a perceptive discussion of how the power of necessity can undermine liberating movements, see Hannah Arendt, *On Revolution* , New York: Viking, 1965
- 34 *Ecology of Freedom*, op. cit. p. 322
- 35 Ibid. p. 344
- 36 Ibid. p. 345

- 37 *Modern Crisis*, op. cit.
- 38 *The Rise of Urbanization and the Decline of Citizenship*, San Francisco: Sierra Club 1987, p. 264
- 39 *Filters Against Folly*, New York: Penguin 1985 pp. 132-134; for somewhat similar developments in early New England towns, see Michael Zuckerman, *Peaceable Kingdoms: New England Towns in the Eighteenth Century*, New York: W. W. Norton 1970
- 40 Another advocate of small face-to-face polities, cited and praised by Bookchin, is Benjamin Barber, who does not appear to realize that his supporting authorities sometimes rebut his argument. See his *Strong Democracy: Participatory Politics for a New Age*, Berkeley: Univ. of California Press 1984, where he cites Douglas Yates as observing that "Widespread internal conflict was the dominant characteristic of neighborhood governance." (p. 273) This is not in itself an argument against a liberal theory of small scale self-government, but it raises serious questions for communitarian theory. Of course, like Bookchin, Barber attempts to insulate his proposals from any possible contradiction. Thus, on p. 153 Barber argues that "participation without community, participation in the face of deracination, participation by victims or bondsmen or clients or subjects, participation that is uninformed by an evolving idea of a 'public' and unconcerned with the nurturing of self-responsibility, participation that is fragmentary, part-time, half-hearted, or impetuous - these are all finally sham, and their failure proves nothing."
- 41 See for example Harold E. Driver's chapter 24, "Personality and Culture", *Indians of North America*, 2nd rev. ed., Chicago: University of Chicago Press, 1969, pp. 431-455.
- 42 *Ecology of Freedom*, op. cit., p. 149
- 43 *Ibid.*, p. 344
- 44 *Modern Crisis*, op. cit., pp. 89-90
- 45 Karl Popper, *The Open Society and Its Enemies*, vol. I., 5th ed., London 1966, pp. 174-176; F. A. Hayek, *Rules and Order*, Chicago: University of Chicago Press 1973

- 46 Mr. Bookchin might do well to consult F. A. Hayek, *Individualism and Economic Order*, Chicago: University of Chicago Press 1948, Trygve J. B. Hoff, *Economic Calculation in the Socialist Society*, London: William Hodge and Co. 1949, Ludwig von Mises *Socialism*, New Haven: Yale University Press 1951, and Don Lavoie, *Rivalry and Central Planning*, Cambridge: Cambridge University Press 1985 in order to catch up to what the debate has been about.
- 47 diZerega, *Democracy as a Spontaneous Order*, op. cit.
- 48 Brian Barry, *Sociologists, Economists, and Democracy*, Chicago: University of Chicago Press, 1978, p. 178
- 49 diZerega, "Citizenship and Participation: A Reformulation of Democratic Theory," Ph.D. diss., Dept. of Political Science, University of California, Berkeley, 1984
- 50 see diZerega, "Elites and Democratic Theory: Insights from the Self-Organizing Model," *Review of Politics*, 1991
- 51 Jane Jacobs, *Cities and the Wealth of Nations: Principles of Economic Life*, New York: Random House, 1984
- 52 diZerega, "Citizenship and Participation," op. cit.
- 53 Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos*, New York: Bantam 1984. Bookchin criticizes him in *The Philosophy of Social Ecology*, Montreal: Black Rose Books, 1990, pp. 71-2, 193-4. For example, Bookchin claims that "chance and stochastic phenomena act as "mediating" phases between one 'dissipative structure' and another, not potentiality and immanence."(193) but randomness in Prigogine's thought is a synonym for non-determinism, spontaneity, and creativity. Thus, for example, Prigogine's interest in the work of Alfred North Whitehead. Bookchin's *real* problem with Prigogine is that he does not promise enough certainty. Bookchin complains that "There is no way to determine whether the system will simply fall apart into chaos" or assume an immanently predictable form. . . . [Sadly] speculative thought is reduced to mere observation."(192) Elsewhere Prigogine provides his own answer of sorts to this attitude. "The idea of classical science with its determinism, implying the possibility of absolute knowledge, leads to intolerance and finally to violence. I think the idea of limited

rationality more correctly expresses our situation. Of course that is one of the reasons why stochastic descriptions in physics . . . have often been violently attacked. Classical rationalism leads easily to some idea of a superman, a kind of James Bond who in every circumstance knows what to do. We have to live in and accept a pluralistic world, with a limited rationality. This doesn't mean failure." in Renee Weber, *Dialogues With Saints and Sages: The Search for Unity*, London: Routledge and Kegan Paul, 1986, pp. 194-5.

- 54 Michael Polanyi *The Logic of Liberty*, Chicago: University of Chicago Press 1951 and F. A. Hayek *Rules and Order*, op. cit.
- 55 *Ecology of Freedom*, op. cit., p. 37
- 56 F. A. Hayek, *The Political Order of a Free People*, Chicago: University of Chicago Press 1979, p. 157
- 57 W. W. Bartley, Alienation Alienated: The Economics of Knowledge versus the Psychology and Sociology of Knowledge, in *Evolutionary Epistemology, Theory of Rationality, and the Sociology of Knowledge*, Gerard Radnitzky and W. W. Bartley, eds., La Salle, IL: Open Court 1987, 435; also see Paul Davies, *The Cosmic Blueprint: New Discoveries in Nature's Creative Ability to Order the Universe*, New York: Simon and Schuster, 1989 pp. 194-196
- 58 Barkley, op. cit. p. 431
- 59 Mancur Olson, *The Rise and Decline of Nations*, New Haven: Yale University Press 1982
- 60 Alston Chase, *Playing God in Yellowstone, The Destruction of America's First National Park*, New York: Harcourt Brace Jovanovich 1987
- 61 Kenneth Lux, *Adam Smith's Mistake: How a Moral Philosopher Invented Economics and Ended Morality*, Boston: Shambhala 1990. Lux's title is unfortunate, for his assessment of Smith is on the whole balanced. His real target is those economists (nearly all of them) who read Smith in a one-sided way.
- 62 Hayek, 1973, op. cit., Ludwig Lachmann, *The Market as an Economic Process*, Oxford: Basil Blackwell 1986. Some Austrian economists kick economic man out the front door only to let him in

the back. While they formally disavow the model, by defining action in purely instrumental terms they essentially reconstruct him. See my "Democracy as a Spontaneous Order," *Critical Review* 1989 Vol. 3, No. 2, pp. 228-229. I believe that Israel Kirzner's in many ways excellent "Self-Interest and the New Bashing of Economics: A Fresh Opportunity in the Perennial Debate?," *Critical Review* 1990 Vol. 4, Nos. 1-2 still lets the problem in the back door. See particularly page 34 where he continues to hold that the market process simply "generates greater mutual awareness" rather than also changing the quality of that awareness.

- 63 diZerega, op. cit., pp. 228-232
- 64 Lux, op. cit., p. 132; see also Steven Rhoads, *The Economist's View of the World*, Cambridge: Cambridge University Press 1985
- 65 Lux, op. cit., pp. 169-190; see also Raymond Miller, *A Conservative Looks at Cooperatives*, Athens: University of Ohio Press 1964; Paul Bernstein, *Run Your Own Business: Worker Owned Plywood Firms*, *Working Papers for a New Society*, Vol. 2, No. 2 1974 pp. 24-34; and John C. Sparks, *Production Unlimited*, Irvington-on-Hudson, NY: Foundation for Economic Education for a variety of brief perspectives and examples on cooperation and worker ownership within market systems.
- 66 *Modern Crisis*, op. cit., p. 56. Bookchin's reference to Kropotkin's work does not carry quite the weight he intends. Kropotkin, a reputable scientist as well as anarchist theorist, argued that there was far more evidence of cooperation than competition among animals of the same species in Siberia. The reason for the differences between Kropotkin's and Darwin's findings appears to be that in the harsh Siberian climate intra-species cooperative strategies work better, while in the tropical systems Darwin examined intra-species competitive relationships were more apparent. It is significant that Kropotkin also favored the Lamarckian view that acquired traits could be inherited. Absent the Lamarckism, he simply described a variant of Darwinism wherein a species that was internally cooperative outcompeted one which was not! See Peter Kropotkin, *Mutual Aid: A Factor of Evolution*,

- London: Freedom Press, 1987; Jared Diamond, *Bach, God and the Jungle*, *Natural History*, December, 1990 p. 26; Stephen Jay Gould, *Kropotkin Was No Crackpot*, *Natural History*, 1988, pp. 12-21; Peter J. Bowler, *Evolution: The History of an Idea*, rev. ed., Berkeley: University of California Press 1989, p. 228
- 67 *Modern Crisis*, op. cit., p. 56, William Trager, *Symbiosis*, New York: Van Nostrand Reinhold Co., 1970, p. vii
- 68 Holmes Rolston, III., *Duties to Ecosystems*, in *Companion to A Sand County Almanac*, J. Baird Callicott, ed., Madison: University of Wisconsin Press, 1987, p. 250
- 69 *Ibid.*, p. 251
- 70 Hayek, *Rules and Order*, op. cit., p. 152, n. 33; see also David Hume, *Moral and Political Philosophy*, Henry D. Aiken, ed., New York: Hafner, 1948, pp. 49-69, 270-275
- 71 See J. Baird Callicott, *In Defense of the Land Ethic*, Albany: SUNY Press, 1989, pp. 85-86; see also Donald Worster, *Nature's Economy: A History of Ecological Ideas*, Cambridge: Cambridge University Press, 1985, pp. 114-187
- 72 F. A. Hayek, *The Mirage of Social Justice*, Chicago: University of Chicago Press, 1976, p. 108
- 73 Worster, op. cit., p. 314
- 74 Davies, op. cit., pp. 52-56; see also John Briggs and F. David Peat, *Turbulent Mirror: An Illustrated Guide to Chaos Theory and the Science of Wholeness*, New York: Harper and Row, 1990, pp. 83, 10, 147-8. Roger Alexander points out that even Newton himself was ultimately not a reductionist. Newton's extensive research in Alchemy "ultimately enabled him to break with the reductionist mechanics of his time." Further, his theory of gravity was certainly not reductionist, and indeed its appeal to the "occult force" of action at a distance was largely why it was so opposed at the time. See Richard S. Westfall's biography of Newton, *Never at Rest*.
- 75 Davies, op. cit. p. 101, see also pp. 100-106, 142-146; see also Ernst Mayr, *Toward a New Philosophy of Biology: Observations of an Evolutionist*, Cambridge: Harvard University Press, 1988, pp. 8-23; Briggs and Peat, op. cit., pp. 147-150; and Henri Atlan, *Uncommon*

- Finalities, *Gaia, A Way of Knowing: Political Implications of the New Biology*, William Irwin Thompson, ed., Great Barrington, MA: Lindesfarne Press, 1987, pp. 110-127
- 76 Davies, op. cit., pp. 118-119
- 77 Michael Polanyi, *Knowing and Being: Essays by Michael Polanyi*, Margorie Grene, ed., Chicago: University of Chicago Press, 1969, pp. 225-239; Polanyi, 1951, op. cit., and Davies, op. cit., p. 194
- 78 Davies, op. cit., pp. 75, 83; and Worster, op. cit., p. 295
- 79 James Lovelock, *The Ages of Gaia: A Biography of Our Living Earth*, New York: W. W. Norton 1988; Lynn Margulis, "Early Life: The Microbes Have Priority." *Gaia: A Way of Knowing: Political Implications of the New Biology*, William Irwin Thompson, ed., Great Barrington, MA: Lindesfarne Press, 1987., pp. 98-109; Lawrence E. Joseph, *Gaia: The Growth of an Idea*, New York: St. Martin's Press, 1990; Davies, op. cit., pp. 131-132, Briggs and Peat, op. cit., pp. 161-164
- 80 Rolston, op. cit., pp. 256-7
- 81 Hayek, *Rules and Order*, op. cit., pp. 114, 115
- 82 Stephen Jay Gould, *The Horn of Triton*, *Natural History*, December, 1990, p. 15
- 83 Ibid., p. 18
- 84 Rolston, op. cit., p. 257
- 85 *Philosophy of Social Ecology*, op. cit., p. 47
- 86 *Social Ecology*, op. cit., p. 277
- 87 *Philosophy of Social Ecology*, pp. 41-43
- 88 Ibid., p 182
- 89 Ibid., p. 42
- 90 Bookchin takes Robyn Eckersley to task for interpreting him in a fashion similar to my own. He argues she refers only to his earlier work in drawing such conclusions. He is less than forthright, as my references to his later work indicate. But, in fact, Bookchin can be quoted on virtually every side and shade of interpretation of humanity's proper relationship to the natural world. His abstract theorizing and studious avoidance of helpful examples leaves the reader uncertain at many points where he really stands. I have

- done my best. See Robyn Eckersley, "Divining Evolution: The Ecological Ethics of Murray Bookchin," *Environmental Ethics* Vol. 11 1989: 99-116 and Bookchin's response "Recovering Evolution: A Reply to Eckersley and Fox," *Environmental Ethics* Vol. 12, No. 3, 1990.
- 91 Ken Wilber, *No Boundary*, Boulder, CO: Shambhala, 1981, p. 37
 - 92 Fritjof Capra, "Buddhist Physics," *The Schumacher Lectures*, Satish Kumar, ed., New York: Harper, 1980, p. 131
 - 93 Nick Herbert, *Quantum Reality*, New York: Doubleday, 1985, p. 227, see also his general discussion of Bell's Theorem, pp. 211-231; Paul Davies, *God and the New Physics*, New York: Simon and Schuster, 1973, pp. 104-107; and Davies, *The Cosmic Blueprint*, op. cit., pp. 176-177
 - 94 Herbert, op. cit., p. 223
 - 95 Davies, *Cosmic Blueprint*, op. cit., 178-182; Karl H. Pribram, "What the Fuss is all About," Ken Wilber, ed., *The Holographic Paradigm and Other Paradoxes: Exploring the Leading Edge of Science*, Boulder, CO: Shambhala, 1982; Kenneth R. Pelletier, *Toward a Science of Consciousness*, Berkeley: Celestial Arts, 1985
 - 96 Harold J. Morowitz, "Biology as a Cosmological Science," *Nature in Asian Traditions of Thought*, J. Baird Callicott and Roger T. Ames, eds, Albany: SUNY Press, 1989, p. 48
 - 97 Fritjof Capra, *The Tao of Physics*, Boulder, CO: Shambhala, 1975; Callicott, *In Defense of the Land Ethic*, op. cit., p. 101
 - 98 Briggs and Peat, *Turbulent Mirror*, 154-165; Wilber, *No Boundary*, op. cit.
 - 99 Arne Naess, *Ecology, Community and Lifestyle*, Cambridge: Cambridge University Press, 1989, pp. 56-57. Naess is not the only such approach to comprehending our world. Far from it. His, however, strikes me as the most easily grasped. Other contemporary discussions of deep ecology include Gary Snyder, *The Practice of the Wild*, San Francisco: Northpoint Press, 1990; Warwick Fox, *Toward a Transpersonal Ecology*, Boston: Shambhala, 1990; Bill Devall, *Simple in Means, Rich in Ends: Practicing Deep Ecology*, Salt Lake City: Peregrine Smith Books, 1988; Bill Devall and

George Sessions, *Deep Ecology: Living as if Nature Mattered*, Salt Lake City: Peregrine Smith Books, 1985; and Dolores LaChapelle, *Sacred Land, Sacred Sex, Rapture of the Deep: Concerning Deep Ecology and Celebrating Life*, Silverton, CO: Finn Hill Arts, 1988, and the two journals *Environmental Ethics* and the Canadian journal *The Trumpeter: Journal of Ecosophy*. Its philosophical forbearers have been a minor key in Western philosophy, yet interestingly it is they whose conceptions of reality are now in basic harmony with modern experimental physics. See in particular the work of Arthur North Whitehead, and much Asian thought. For an introduction to the latter, see Callicott and Ames *Nature in Asian Traditions of Thought*, op. cit. Much of the traditional Native American perspective is relevant here. See J. Baird Callicott, *In Defense of the Land Ethic*, op. cit., pp. 177-219; John (Fire) Lane Deer and Richard Erdoes, *Lame Deer: Seeker of Visions*; John G. Neihardt, *Black Elk Speaks: Being the Life of a Holy Man of the Oglala Sioux*, New York: Pocket Books, 1972; Joseph Eppes Brown, *The Spiritual Legacy of the American Indian*, New York: Crossroads, 1982; and Doug Boyd, *Rolling Thunder*, New York: Delta, 1974. For a history of the contrast between holism and reductionism in ecological thought, see Worster, *The Economy of Nature*, op. cit.

100 Naess, *Ecology, Community and Lifestyle*, op. cit., p. 58

101 Ibid., p. 60

102 see also Callicott, *In Defense of the Land Ethic*, op. cit., pp. 165-167

103 Even if we ignore the most recent advances in physics, and try to hold on to the old idea of a world consisting ultimately of objects, their properties are so abstract when freed from "subjectivism" that they could never be experienced. They have size, shape, and movement, but no color, warmth, or the like. Try and imagine a world consisting of only such "objective" qualities. Such a world is truly a ghost world. And, of course, the world of modern physics is even farther removed from our normal experience. See Hans Jonas excellent discussion in, *The Phenomenon of Life: Toward a Philosophical Biology*, New York: Harper and Row, 1966 pp. 64-92

- 104 Naess, op. cit. p. 65, see also C. S. Lewis, *The Abolition of Man*, New York: Macmillan, 1947, pp. 14-15
- 105 See also Fox, op. cit., Callicott, *In Defense of the Land Ethic*, Holmes Rolston, *Environmental Ethics: Duties to and Values in the Natural World*, Philadelphia: Temple University Press, 1988 and, interestingly, Robert Nozick, *The Examined Life*, New York: Simon and Schuster, 1989, pp. 55-60, 141-150
- 106 Devall, *Simple in Means*, op. cit. 1988, p. 74
- 107 For two different but ultimately complementary perspectives on this point, see Roy A. Rappaport, *Ecology, Meaning, and Religion*, Berkeley: North Atlantic Books, 1979, "Adaptive Structures and Its Disorders, pp. 145-172, and "Sanctity and Lies in Evolution," pp. 223-246; and Marc Reisner's *Cadillac Desert: The American West and its Disappearing Water*, New York: Penguin, 1986 as an illustration of this point manifesting in public policy.
- 108 Fox, op. cit., p. 20
- 109 For example, see Holmes Rolston's *Environmental Ethics*, op. cit.
- 110 Callicott, *In Defense of the Land Ethic*, op. cit., pp. 93-94
- 111 The third system, liberal democracy, will strike some as perverse. But see my "Democracy as a Spontaneous Order" op. cit. To elaborate the point would go beyond the confines of this essay.
- 112 James Buchanan and Viktor J. Vanberg, "The Market as a Creative Process," Paper prepared for Liberty Fund Conference on "An Inquiry into Liberty and Self-Organizing Systems," April 26-29, 1990, Rio Rico, Arizona, p. 20; see also Israel Kirzner's quotation in note 55, above.
- 113 On this distinction, see diZerega, *The Human Side of Human Action*, "Libertarian Scholars Conference, Stanford University, 1980; and Ulrich FehI, "Order and the Subjectivity of Expectations: A Contribution to the Lachmann - O'Driscoll Problem," Subjectivism, *Intelligibility and Economic Understanding*, Israel Kirzner, ed., New York: New York University Press, 1986
- 114 *The Political Order of a Free People*, op. cit., pp. 75-6; For a critique of this view of rationality as described by von Mises, see Brand

- Blanshard's Reason and Analysis, La Salle, IL: Open Court, 1973, pp. 52-4
- 115 Fred Lee Smith, "Environmental Cloisters," *Policy Review*, No. 54, Fall, 1990, p. 94
 - 116 This tradition also includes "animal rights" theorists who are often confused with ecological writers. Two examples are Tom Regan, *The Case for Animal Rights*, Berkeley: University of California Press, 1983 and Peter Singer, *Animal Liberation: A New Ethics for Our Treatment of Animals*, New York: Prentice Hall 1975. Roderick Nash struggles with the problems of integrating animal rights and ecological thinkers under a common rubric in *The Rights of Nature*, op. cit., pp. 137-160, although ultimately I believe he is unsuccessful. For a critical examination of these issues see also J. Baird Callicott, *In Defense of the Land Ethic*, op. cit., 15-47
 - 117 See Hayek's discussion in *Studies in Philosophy, Politics and Economics*, New York: Simon and Schuster, 1969, pp. 66-121; and *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago: University of Chicago, 1978, pp. 249-266; for Luckmann and Berger see *The Social Construction of Reality*, New York: Anchor, 1967; for Berger see *The Sacred Canopy*, Garden City: Anchor, 1969; "The Problem of Multiple Realities: Alfred Schutz and Robert Musil," *Phenomenology and Social Reality*, Maurice Natanson, ed., The Hague, Martinus Nijhoff; and *The Capitalist Revolution: Fifty Propositions About Prosperity, Equality, and Liberty*, New York: Basic Books, 1986
 - 118 Hayek, *Studies in Philosophy, Politics, and Economics*, op. cit., pp. 22-42
 - 119 Steve Buckner, "Legal Snags Block Land Purchase," *Lawrence Daily Journal World*, Nov. 20, 1990, p. 1A; "Prarie Purchase Still Under Study," *Lawrence Daily Journal World*, Nov. 21, 1990, p. 3A; and Elicia Hill, "County Could Spend \$480,000 to Prevent Ploughing of Prarie," *University Daily Kansan*, Nov. 19, 1990, p. 1
 - 120 Devall and Sessions, *Deep Ecology*, op. cit., p. 125; For perceptive discussions of stewardship, see Wendell Berry's work, particularly *Home Economics*, San Francisco: Northpoint Press, 1987, pp. 54-75;

- Standing By Words*, San Francisco: Northpoint Press, 1983, pp. 24-63; and *The Gift of Good Land*, San Francisco: Northpoint Press, 1981, pp. 249-263. See also John A. Hostetler, *Amish Society*, 3rd. ed., Baltimore, Johns Hopkins Univ. Press, 1980.
- 121 On land trusts see Jennie Gerard and Sharon Johnson, "Sunshine Agriculture and Landtrusts" in *Meeting the Expectations of the Land: Essays in Sustainable Agriculture and Stewardship*, Wes Jackson, Wendell Berry, and Bruce Colman, eds., San Francisco: Northpoint Press, 1984, pp. 126-134. See also the several essays on the subject in *The Trumpeter: Journal of Ecosophy*, Vol. 7, No. 1, Winter, 1990
- 122 Richard Stroup and John Baden, "Property Rights and Natural Resource Management," *The Literature of Liberty*, Vol. 2, No. 4, September-December, 1979, pp. 26-33
- 123 Hayek, *Rules and Order*, p. 55-71
- 124 Ibid., p. 114
- 125 Briggs and Peat, *Turbulent Mirror*, op. cit., p. 166
- 126 Aldo Leopold, *A Sand County Almanac*, New York: Ballentine, 1970, p. 262; also Callicott, *Defense of the Land Ethic*, op. cit., and Callicott, ed. *Companion to a Sand County Almanac*, Madison: Univ. of Wisconsin Press, 1987
- 127 Too little appreciated is that liberal civilization has freed its people of the scourge of overpopulation, a scourge which has ultimately undermined agricultural societies worldwide. It has done so by making children an economic liability rather than asset. This is not the only cause for smaller families, but it is an important one. The only population pressure afflicting liberal societies is immigration and possibly the effects of artificially reducing the costs of childrearing. Only in the Third World is there still an economic justification for large families. The results are horrendous.

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