

***Sustainable Development As A Sociologically Defensible Concept:
From Foxes and Rovers To Citizen-Workers****

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CONCEPT: FROM FOXES AND ROVERS TO CITIZEN-WORKERS

**SUSTAINABLE DEVELOPMENT AS PROBLEM & OUTCOME:
THE VIEWS OF FOXES AND ROVERS**

At a recent conference, we noted the following adjectives used to talk about sustainable development: vague, vacuous, sweeping and meaningless. Andrew Blowers and Pieter Glasbergen wrote, "The concept of sustainable development can easily be dismissed as all things to all people, a concept so vague as to be almost meaningless. Indeed, it has been described as a cliché, a passing fashion, even as an oxymoron" (1994:8). In this paper, we argue that the concept of sustainable development is worth saving from "the dustbin of history," and can properly be viewed as a sociologically-defensible concept.

Using the case of recycling, we refine the concept of sustainable development, offering alternative images, explanations and arguments. We probe the utility of the dominant symbols and theories that revolve around current ideas about sustainability. We do not develop here a fully-operationalized concept. Rather, we draw from a variety of social science literatures to reconstruct *sustainable development* as a concept that challenges currently accepted social constructions. Our goal is to contextualize a current practice in order to offer a new interpretation that raises issues, reorders research, and opens room for debate. It is our contention that a strong literature on sustainable development is starting to emerge in the social sciences (Daly and Cobb 1989; Hawken 1993; Norgaard 1995). In this paper, we offer a missing and important narrative of this literature. Elsewhere, we have referred to this approach as creating sociological narratives (Weinberg 1994; Gould, Weinberg, and Schnaiberg 1993).ⁱ

The narrative that we present highlights the importance of **intragenerational** power distributions. Sustainable development is predicated on **intergenerational** equality, defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. But in few of the proposals for sustainable development is there also a focus on **intragenerational** differences in contemporary citizens' access to ecosystems. These discussions ignore a major feature of the present difficulties of **attaining** a sustainable political economy in the indeterminate future -- the historical growth of inequalities in citizens' direct access to natural resources.

We start with the observation that sustainable development is worth developing as a sociological defensible concept. Rhetorically, it has become a public sphere for conversation between industry leaders, activists, planners, technicians, and politicians. Yet this process is, alas, one where people are often talking past one another. O'Riordan noted as early as 1988 "(sustainable development) appears to be accepted as the mediating term designed to bridge the gulf between 'developers' and 'environmentalists'" (1988:30). But O'Riordan himself was skeptical that sustainable development provided such a platform. Despite such skepticism, though, the Rio Conference, the Brundtland Report, and the European and the U.S. Presidential Commissions on Sustainable Development all stand as countervailing evidence for the public legitimacy of the concept as a social goal.

Angela Liberatore, the European Commission Directorate General for Science, Research, and Development Unit on Socio-Economic Environmental Research, herself describes the limited outcomes of these conferences, reports and commissions (1994). However, she notes that there now exists an institutionalized recognition of the need to integrate economic and environmental needs into European Commission policy (1994). Moreover, as Herman Daly and John Cobb

state, "In legitimating the concept of sustainable development they [the Bruntland Commission] have made it easier for others to press the issue further" (1989:76). Simply, much of the relatively-small space for public discourse around the "need to do things differently" has emerged around the term *sustainable development*.ⁱⁱ In many ways, this space is now relatively more important for those opposed to the current structure of transnational capitalism. The decline of socialist or other communal forms of economic organization has led to a decline in organized opposition to current forms of late capitalism, following the collapse of the USSR and many third-world alternatives to the treadmill (Schnaiberg & Gould 1994: ch.9; Barnet & Cavanagh 1994).

This brings us to our second point. To be sociologically defensible, a concept must be deployable "as a coherent and useful category of social analysis, in looking concretely at life as it is lived" (Williams 1994:777). A concept must help explain social action. To meet this criterion, concepts link problems and outcomes through process. A concept must outline a problem and a "more favored consequence." It must also create a process which serves as a backdrop to illuminate the problem. Finally, it must logically and theoretically undergird a course towards this more desirable consequence.

Importantly, we are two-thirds of the way towards a concept of sustainable development that meets this criterion. Dense literatures exist on both the problem of having a non-sustainable political economy, and on what a sustainable development future would look like. Among European social scientists, Michael Redclift is the best-known theorist on the problem of sustainable development (1980, 1984, 1990, 1991, 1994). For Redclift, the political economy of advanced capitalism is driven by

"a concentration of control in fewer hands for short-term gain, at the expense of longer-term benefit to the environment and the largely poor,

rural populations, whose livelihood depend upon better resource conservation" (1984:38).

From this set of arrangements, Redclift traces growing ecological and social disruption. Similarly, in the United States, the subfield of environmental sociology can be traced to a similar critique that emerged in the 1970s (Anderson 1976; Stretton 1976; Schnaiberg 1972, 1975; Tanzer 1974, 1975). In our own work, we have developed the model of the **treadmill of production** as a way of describing why current practices are unsustainable. Through the treadmill concept, we link unsustainability to current political and economic arrangements (Schnaiberg 1980, 1982, 1986a, 1994; Schnaiberg & Gould 1994; Gould, Weinberg & Schnaiberg 1993; Weinberg 1995; Weinberg & Gould 1993; Gould, Schnaiberg & Weinberg 1996; Pellow 1994).

The economic component of this political-economic system has the publicly-stated goal of expanding industrial production and economic development, as well as a concomitant increase in citizens' consumption. The political component of this system has a public confluence of private capital, organized labor, and all levels of governmental bodies, jointly promoting the goal of private-sector development. This confluence of interests is based upon the increasingly widespread social belief that advances in public welfare are achieved primarily through economic growth. Materially, such interests are manifested in private investments in fixed capital, in public institutions developed by the state, and in the orientation of organized (and non-organized) labor towards these investments and institutions.

Our basic model of the treadmill starts with the observation that all production processes include additions to (pollution of)ⁱⁱⁱ and withdrawals from (resource depletion of)^{iv} the ecosystem. Thus, all production processes are, to some extent, associated with incipient ecosystem disorganization. Within the

political economy of a treadmill of production, producers are organized around trying to ensure profit margins from social production practices, in part through transforming natural resources into commodities. Generally, producers believe that market exchanges and productive physical capital are the [economically] "efficient" way to transform natural resources into profits. Thus, producers continually seek to replace "inefficient" labor with "efficient" capital.^v As this occurs, continual or increased ecosystem access is needed to "efficiently" operate the more-productive physical capital. This occurs through two processes. First, the technological change raises the capital-intensification of production. Second, over time, expanded ecosystem use is required, as production of each enterprise must generate enough private economic surplus to:

- (1) support outlays to capital owners,
- (2) provide enough additional profits to supply an adequate level of wages,
- (3) maintain consumer demand, *and*
- (4) generate enough tax revenue to cover social expenditures of the state.

Important for our discussion are four features of the treadmill:

- (a) More decisions become transactionally-based, rather than built around social relationships.
- (b) Growth through efficiency and rationalization (and thus capital intensification) becomes the dominant goal.
- (c) As the treadmill expands, it draws more participants from other political-economic systems into treadmill relationships. *And*,
- (d) Over time, most treadmill participants become increasingly locked into an accelerating treadmill, thus making it extremely difficult for any one party to reject the treadmill.

Dramatic recent increases in economic competitiveness on a transnational scale has generated corresponding increases in pressures to maximize profit margins in national and transnational firms, in part through minimizing their labor costs (Barnet & Cavanagh 1994). In recent years, for example, we have witnessed increases in the routine down-sizing, out-sourcing, and benefit roll-backs in institutions, organizations, governments and individual businesses (Harrison 1994). Western societies have become intent on reducing social welfare expenditures during a period in which inequalities in each of these societies has increased. New wealthy classes have been created and/or expanded, through the "lean and mean" road of squeezing labor to increase profits for owners. Similarly, this trend has increasingly moved to previously-underdeveloped Pacific rim societies, ranging from China to Indonesia and Thailand, with similar promises for Vietnam and other less-developed societies, as well as Latin American societies (Barnet & Cavanagh 1994). In this increasingly-transnational diffusion of the treadmill growth model, for most managers and investors the capacity to imagine -- let alone behave in -- a 'socially [and/or] environmentally responsible' manner has become a veritable 'pie in the sky'.

The problem for sustainable development is that the core logic of the treadmill is anti-social and anti-ecological: it is a logic of unsustainable development. Often, the labor cut-backs noted above are associated with substituting "improved" technology for labor. These new technologies are designed to generate higher profits per unit production, often through accelerating the transformation of natural resources into commodities. Some of these newer technologies are touted as "environmentally benign", requiring fewer natural resource inputs (ecological withdrawals) and/or generating lower polluting by-products (ecological additions). Yet most of these new technologies are associated with expanding corporate production and profits, to amortize the new physical

capital investment outlays (Schnaiberg & Gould 1994: ch. 10). Such expansion often entails higher aggregate withdrawals and additions, to "rationalize" these technological investments.

Paradoxically, as natural resources are continually extracted by more investors for expanded production, such resources eventually become scarcer, even though "new" sources are often made more accessible ("discovered") with new technologies. This has become more subtly apparent with regard to major ecological components such as land, water, and clean air, than with the more dramatic arguments in the 1970s about minerals and some fossil fuels. Meanwhile, both the state and major producers become increasingly committed to increasing their practices of natural resource extraction. Producers become committed in order to maintain profits needed to re-finance past capital outlays, as well as to attract investors for future expansion. The state becomes dependent upon producer-driven growth to finance the social welfare needs. Such needs emerge as negative externalities of producer-driven growth, as citizen-workers become ejected from the treadmill (Gould, Schnaiberg, and Weinberg 1996). Producers and the state often collaborate to extend both corporate trade networks and political influence, as has been the case in the North American Free Trade Agreement (NAFTA) and the General Agreement on Tarriffs and Trade (GATT) [Gould *et al.* 1995].

As social science critiques of the treadmill's political economy have become diffused and accepted, a cottage industry of more recent texts has emerged. The latter posit what a "more favorable consequence of political economy" might be. From this discourse emerged a model for a different outcome, "sustainable development". These texts accept the Brundtland Commission definition of sustainable development as, "meeting the needs of the present without compromising the ability of future generations to meet their own

needs" (World Commission 1990:5). But they suggest more detailed or grounded notions of what this would actually mean. These end points range from creating a restorative economy driven by true cost accounting (Hawken 1993), to a more communally-based capitalism (Daly & Cobb 1989), and communal institutions to support intergenerational rights (Norgaard 1995). We note that each of these texts are embedded in some notion of sustainable development becoming a preferred outcome. Within each, the following are balanced:

- (1) individual and community needs,
- (2) short and long term interests, *and*
- (3) economic and ecological criteria.

However, what is still missing from this literature is a process to move from the treadmill organization towards sustainability, in a fashion outlined most clearly by Stretton (1976). We do not have a social, political, or economic **program** that can link these political economy critiques with the "better futures outcome." Creating such a program entails confronting a number of conceptual issues. The first of these is what we could refer to as "the fox in the chicken coop" problem. A typical account of sustainable development is that it arose as a way for environmentalists and producers to find common ground.

Actually, though, sustainable development arose as private producers and state actors tried to *capture* the social construction process and the label of *sustainable development* to push their own agendas. Richardson (1994) and Carter (1994) have both referred to this as the anthropocentric/biocentric tension. Producers have sought to develop an anthropocentric concept of sustainable development that repackages treadmill growth in the language of sustainable development (Richardson 1994). Likewise, environmentalists have tried to develop a biocentric approach that operationalizes sustainable development as an environmental agenda, regardless of economic and social costs (Carter 1994).

Producers have tried to argue (against environmentalists), that only producers have the production expertise needed to locate the "balances." In other words, the foxes want to guard the chickens, arguing that **they** are the most experienced when it "comes to these matters." In contrast, the only expertise that environmentalists can claim is that only they can articulate the real needs of the chickens.

The problem of foxes is a by-product of how social segments and their stakes emerge within a treadmill. At its simplest, we can contrast the major conflicts between producers and environmentalists, and the role of the state as "mediator" of these conflicts. Producers, whether capitalist or socialist (Stretton, 1976; Feshbach & Friendly 1991), are largely organized around environmental resources. They attempt to capture the exchange values of such resources through the producers' operation in various economic markets. Exchange-value orientations to ecosystems involve the transformation of ecosystem elements (trees, minerals and animals). Industrial processes generate goods, which may be exchanged for money or other goods in an open market. Producers are structurally bound to these interests, as a by-product of their need for routinized calculation of monetary profits. This high degree of consciousness around material interests to natural resource access locks producers into mobilizing all forms of control capacity to capture the exchange-values in markets. In addition, they use social, political, and economic assets to influence the modern state, which partly regulates social access to ecosystems. Such controls also include the hijacking of social discourses around natural resource use (Weinberg 1995; Gould, Weinberg, & Schnaiberg 1993).

In contrast, local and national environmental movement organizations develop use-value interests in ecosystems. Use-values refer here to the utilization of ecosystems by individuals, families and communities, without substantial alteration or transformation of those ecosystems. Ecosystems may be used for recreation, physical and psychological health, and aesthetic needs without substantial ecosystem disruption, depending on the quantity and quality of such activities. These range from biological sustenance (from air, water, and agricultural land) to recreational or aesthetic interests in these systems viewed as natural habitats. For environmentalists, natural resource use is conceived as being a zero sum game. If a ecosystem element is acted upon by treadmill participants with exchange value interests, it destroys the use value quality of that unit. Movement organizations will use all their available social, political, and economic discourses to stem the tide of what they perceive as rampant (or hegemonic) exchange value actions by treadmill agents.

Importantly here, producers and environmentalists have clear and specific constructions of their respective interests, which are thought to be essential to meeting their present and future needs. For each constituency, then, sustainable development is seen as an arena, a place to act on these differing interests. The goal of sustainable development is viewed as problematic and dangerous by both groups. Producers fear that any adjustments will decrease their productivity through tightening market controls, while environmentalists interpret compromise merely as "business as usual by any other name." Capturing sustainable development is the only plausible option for each of these contending groups. Furthermore, both sides fear that if they do not control the construction, the "other side" will do so. Thus, the disparity is both a product of vested interest -- the respective positions of the two social sides supporting or opposing the political-economic treadmill -- rather than merely a "tragedy of the commons", the ecosystems themselves. This is a political-economic conflict between more "commons" groups (collective use-value interests) and more "anti-commons" groups (privatized exchange-value interests).

The other conceptual issue is what we could call the problem of "rovers". Here we take our cue from a Gary Larson cartoon (*The Far Side*) of a man instructing a dog, who of course does not understand human language. The man yells "Good dog, Rover, go fetch the stick, Rover" -- but the dog only hears "..... RoverRover." Unlike foxes, the problem with rovers is not one of their goals or intentions. Rather, "rovers" lack the understanding of how natural resource usage is deeply embedded in existing social, political, and economic structures. Thus, for example, well-intentioned urban planners (Pakarinen 1994; Howe 1994) and industrial technocrats (Tibbs 1993a, 1993b) seek to create spaces for and operating systems of sustainable development. But their proposals fail to appreciate how their proposed new practices will actually challenge old practices and powerful practitioners within the existing transnational treadmill. In turn, this lack of appreciation of the political-economic embeddedness leads such proponents to underestimate the resistances to their proposals arising from treadmill institutions (Schnaiberg & Gould 1994, ch. 5).

An example is the newly emerged literature on industrial ecology (Tibbs 1993a, 1993b). Following some of the earlier work of Ayres (1989), Harden Tibbs outlines a model of *industrial ecology* that starts with the assumption that

"(d)esigns that meet, say, only basic technical criteria may well be effective over the short run. It is only when such partial solutions are deployed extensively for long periods that their environmental and other shortcomings threaten unsustainability" (1993b:13).

Industrial ecologists talk about producers moving (and producers being moved by their ideas) towards a Maslow-type hierarchy of: (4) personal actualization, (3) social functioning, (2) ecological fitness, (1) technical operation (Tibbs 1993b, figure 7). Tibbs notes,

"(t)he levels form a hierarchy in that in the long run systematic effectiveness of decisions made at any one level will depend on the criteria of the next highest level also being met simultaneously" (1993b: 13).

Tibbs, and other industrial ecologists, offer a number of examples of the recent greening of corporations. They view this as testimony of the socioeconomic potential for a future industrial ecology, as well as for the immanence of a socioenvironmental decision hierarchy (1993b). In each instance, a case is premised on

- (1) evidence of a widespread historical turnabout, representing a new corporate interest in longer-term ecological protection, and/or
- (2) evidence that, under certain favorable conditions, corporations can and will adopt a "green" perspective.

While we are certainly aware of a diversity of corporate positions and action on "greening," we have found that upon close examination the "greening" of corporations such as those cited by Tibbs is more a *social construction* put upon disparate activities and motives. It is, so to speak, an *epidemic of local economic reports* rather than a *report of a green epidemic* (Schnaiberg 1994; Schnaiberg & Gould 1994). "Greening" is not a viable option for most organizations within the treadmill's political economy. This is amplified by the recent period of mergers and acquisitions in which producers have come to face:

- (1) growing indebtedness;
- (2) rising degrees of global liquidity leading hostile take-overs, which strip companies' assets and displace managerial and non-managerial labor through plant shutdowns (Anders 1992);
- (3) "downsizing" and "outsourcing" (Harrison 1994); and
- (4) globalizing trade, such as with GATT and NAFTA agreements, creating more opportunities for expansion of transnational corporations (Gould *et al.* 1995).

This tension is well articulated in Walley and Whitehead's cautions (1994: 47) about the U.S. producers trying to go "green":

Companies should seek to minimize the destruction of shareholder value that is likely to be caused by environmental costs rather than attempt to create value through environmental enhancements....In an area like the environment, which requires long-term commitment and cooperation, untempered idealism is a luxury. By focusing on the laudable but illusory goal of win-win solutions, corporations and policy makers are setting themselves up for a fall with shareholders and the public at large. Both constituencies will become cynical, disappointed, and uncooperative when the true costs of being green come to light. Companies are already beginning to question their public commitment to the environment, especially since such costly obligations often come at a time when many companies are undergoing dramatic expense restructuring and layoffs."

Most problematic for us is that efforts to green production practices fly in the face of a transnationally-competitive market system. Managers' fates are increasingly meted out based on their short-term performance, as dictated by the "bottom line." Research on the practices, values, and tactics of major American producers find them reacting to the transnational political economy by adopting those values that are antithetical to sustainable development (Hampden-Turner and Trompenaars 1993; Harrison 1994; Barnet & Cavanagh 1994; Reich 1991). They seek short term achievements for individual firms, as defined by growth, acquisition and profitability. Producers internalize and manage the challenges of the treadmill by thinking about themselves as individual players in an economy without nations, "the very idea of an American economy is becoming meaningless, as are notions of an American corporation, American capital, American products, and American technology" (Reich 1991:8).

One way to merge the problem of foxes and rovers is to think about the model for *future* sustainable development as sharply antithetical to the operations of the *present* treadmill of production. The ethical argument for sustainable development is built around *needs* of future generations as driving social change in national and transnational production technologies. The European Community outlines the elements of such an approach to sustainable development:

- "(i) it focuses on the agents and activities which deplete natural resources and otherwise damage the environment, rather than waiting for problems to emerge;
- (ii) it endeavours to initiate changes in current trends and practices which are detrimental to the environment, so as to provide optimal conditions for socioeconomic well-being and growth for the present and future generations;
- (iii) it aims to achieve such changes in society's pattern of behaviour through the optimum involvement of all sectors of society in a spirit of shared

responsibility, including public administration, public and private enterprise, and the general public (as both individual citizens and consumers);

(iv) responsibility will be shared through a significant broadening of the range of instruments to be applied contemporaneously to the resolution of particular issues or problems." [European Communities Commission 1993: 39]

Two phrases are especially noteworthy in the above European Commission agenda. First, it focuses on "agents and activities which deplete natural resources and otherwise damage the environment" -- which refers primarily to organizations that dominate the treadmill of production. Second, it proposes to change such treadmill behaviors, in order "to initiate changes in current trends and practices which are detrimental to the environment, so as to provide optimal conditions for socioeconomic well-being".

In sharp contrast to this need-based approach, theoretical work on decision-making argues that *organizational capacities* are far more significant in actually shaping these decisions (e.g., March 1981). For each component of the European Commission's agenda for sustainable development, we have the theoretical possibility of new rights/needs/values that have been articulated by some agency within the Commission. But for each dimension of socioenvironmental change towards sustainability, the historical record indicates that the operations of the treadmill have recently produced regressions as well as progressions in actually achieving these socioenvironmental rights, values or goals. Examples include the abrogation of earlier minority rights, the political over-ruling of the Endangered Species Act and other legislation for pollution control in the name of increasing economic competitiveness, and rising unemployment and declining wages (Galbraith 1992; Goodwin 1992).

Additionally, in at least the U.S., since 1960 there has also been a dramatic expansion of the work week for full-time employees (Schor 1991). Taken together, these historical trends reflect a decrease in the time, money, and personal energy available to most worker-citizen-workers in the current generation within our own societies, for supporting their leisure and their family life (Coontz 1992).

One interpretation of these realities is that economic development has been and continues to be the primary criterion for transnational managers and investors as well as national and local governments. When we turn to the EC agenda for expanding and sustaining social and environmental functioning (European Commission 1993), and review changes in the past several decades, we find almost as many examples that contract and diminish these functions. They include mass starvation, artificial ecological disasters, and accelerated genocidal practices, despite our heightened awareness of these social realities through the "electronic highway." The reality is that transnational production and capital flows, which theoretically have the capacity to reduce major social inequalities, have largely circumvented (if not worsened) them for at least the past decade or two. Empirically, we can observe all around us a greater "unsustainability" of the lives of impoverished people around the globe. But when exactly will their "long run" impact alter conditions of transnational decision makers, and make their current and recent actions "unsustainable?"

We argue that the missing component of the discourse on sustainable development is the importance of citizenship (see generally Somers 1993, 1994; Turner 1986, 1993; Harrison 1991). We define citizenship as "participation in public life" (van Steenbergen 1994:2). For sociologists, the concept of citizenship draws attention to the relationship of the citizen with society as a whole (van Steenbergen 1994; Weinberg 1995). When we talk about the process of creating more citizenship, we mean shifting the distribution of power to the citizen, giving

him/her the ability to make allocative decisions about natural resources. In this paper, we use the term citizen-workers to highlight that most often this redistribution of power would not just entail a shift in the context in which people make decisions -- from their role as production managers to their role as community members -- but it would shift power to a wider array of people. In contrast to producers and state actors, we believe that citizen-workers have the enduring capacity and motive to seek this balance of use and exchange values, over the short and long term, for both individuals' and communities' needs.

In the rest of this paper, we explore the emerging United States recycling industry to demonstrate the above ideas. Recycling was chosen as it is the closest economic practice we have approaching some aspects of sustainable development. In its ideal form, recycling should use natural resources more wisely, create more jobs, and reduce municipal expenditures. Furthermore, the recent rise of the industry in the mid-1980s provides a ten year history of practice, and allows some documentation of experiences as data on movements towards sustainability. We conclude by discussing how this linkage between economic outcome and sociopolitical action provides for a richer notion of sustainable development.

RECYCLING AS SUSTAINABLE DEVELOPMENT

A. A Brief History of An Emerging Industry

Recycling policies emerged in an historical context in which there was high and continual dependency upon discarding most producer and post-consumer wastes.^{vi} Incineration, landfill, and other modes necessary to deal with growing waste volumes produced growing ecological problems in terms of water and air pollution. Furthermore, these modes of waste disposal took productive land out of use. As a reaction to the diminished use values of local ecosystem resources,

citizen-workers in some locales mobilized in opposition to these waste disposal practices.

Throughout the 1980s, U.S. producers increasingly operated in a transnational economy marked by increased competitiveness, and shifting capital and natural resource flows (Lipietz, 1987; O'Connor, 1988). The Reagan and Bush administrations helped producers compete by allowing them to deflect the focus of the Resource Conservation and Recovery Act (RCRA) of 1976 from *recycling within the production process* (which was seen as too costly) to *improved disposal of industrial wastes*, through landfills and incinerators (which was seen as less costly).

This shift in RCRA interpretation led to a call from the administration and major producers for more landfills and incinerators. Local communities reacted swiftly and defiantly against these proposals. To some extent, communities' fear stemmed from the coalescence of local pollution from existing landfills, and the subsequent heightening of communities' consciousness about **toxic** waste pollution. National publicity about toxic hazards at Love Canal and other sites increased such local concerns (Szasz 1990; Brown and Mikkelsen 1990; Schnaiberg 1992a).^{vii} From this rising concern with *toxic* industrial wastes, local communities formed opposition groups, which joined forces with environmental organizations, to oppose **all** landfills and incinerators. This gave rise to the LULU movement (locally-unwanted land uses), opposing such investments in their localities.^{viii}

As the LULU movement spread, a "landfill crisis" emerged. Existing landfills were "filling up" (e.g., Tackett 1987; Swanson 1990, 1991a, 1991b; Bukro 1989), while LULU groups stopped the construction of new ones and the expansion of existing ones. Simultaneously, LULU groups began to channel protests and fears towards locally elected officials, calling on them to control some

portion of the land used for landfills and incinerators (Schnaiberg 1992a). Consequently, local governments became focal points and mediators of these conflicts. While their response to these pressures varied widely, the dominant concerns were split between supporting constituencies, and enhancing those dominant economic interests which in turn provide funds to the state and its transfer payments to constituents (as well as election support for legislators -- see Barlett & Steele [1992]).^{ix}

Despite the ambivalence to act, local governments (municipalities) had to do something. First, they feared that constituents, fueled by these local LULU groups, would withdraw political support for those administrations that failed to adopt some type of palatable policy. Second, the Reagan-Bush administrations shifted responsibility into regional, state, and local arenas, making it their responsibility.^x Third, industrial producers were placing pressure on local and other governments (Lowi, 1979) to maintain low-cost ["cost-effective"] waste disposal, in order not to increase corporate costs in a time of rising transnational economic pressures (Szasz 1990; Blumberg 1980). Some local producers threatened to relocate production facilities if measures were not taken immediately (Gould 1991). Other producers refused to site new facilities in communities that could not provide long term disposal options.

Despite the urgency, local governments were befuddled as to how to proceed. Building new landfills would increase costs for industrial producers, making this a politically unfeasible choice. Local officials could not afford to alienate powerful allies, shrink the tax base (as profits decreased), and lose jobs (again, as profits decreased and facilities relocated). Likewise, landfills had high social visibility (Schnaiberg 1993), and were, therefore, likely to draw LULU mobilization. Local government and industrial leaders managed these tensions by borrowing an old concept from the successful Keep America Beautiful campaign

by using the principle of: "out of sight, out of mind" (Szasz 1990).^{xi} Garbage, landfills, and "resource conservation" became merged in a dramatically new program of "curbside recycling."

Typically, a "curbside recycling" program was envisioned to run as follows: a municipality would pick-up wastes constructed of selected natural resources (most often paper, aluminum, steel, glass, and plastic). These wastes would be transported to a materials recovery facility (MRF), where the wastes would be sorted into recyclables and non-recyclables (including wastes that were accidentally thrown into the recycling bin, and those that were too contaminated to be recycled). The end product was a recycled feedstock, comprised of discarded products made of natural resources that could be remanufactured into new products. The recycled feedstock was then sold to various producers, who used it to make new marketable products.

According to predictions by public policy experts, recycling could reduce local waste disposal costs, allowing communities to recapture some exchange value of this waste, as materials were sold to private sector organizations that would remanufacture new goods from these wastes.^{xii} Recycling would be the first stage in moving wastes into a more market-driven commodity than was the case for landfills or incinerators. It was the "solution" for the "landfill crisis" (Gutin 1992). Not only would recycling not generate local opposition, but it would win praise and votes for local officials. By reducing the waste stream, disposal costs would decrease, saving taxpayers money. Finally, it would create jobs, as both the programs and remanufacturing process were labor intense.^{xiii} Thus, recycling was envisioned as a truly sustainable development practice that would balance environmental and economic costs, short and long term needs, and individual and communal interests.

By the early 1990s, communities across the country were active in recycling. An estimated 5400 cities and towns had curbside programs, and 41 states had official recycling goals (Consumer Reports 1994). Jerry Powell, the editor of *Resource Recycling* magazine and chair of the National Recycling Coalition, commented, "In the first week in November 1992, more adults took part in recycling than voted" (Consumer Reports 1994:92). It was apparent that recycling had become institutionalized as a waste disposal practice. The industry was not going to dissolve. Too many municipalities, producers, and lenders had sunk too much fiscal capital into the industry. Likewise, too many politicians and policy planners had sunk too much political capital. As programs multiplied, however, the industry became less profitable. No organizations existed that were capable of "economically" recycling the wastes. In some cases, the wastes had become too commingled, and the physical-chemical separation necessary for the remanufacturing process was unavailable or very costly. Other times, there was not enough demand to warrant recycling. Mills underproduced. Finally, sometimes, physically and potentially recyclable goods were not remanufactured because the supply of wastes exceeded the remanufacturing capacity for that product. This was the case for certain types of steel and aluminum (Rapkin 1993).

As insufficient demand grew for products remanufactured from recycled feedstock, markets became glutted and materials were either not marketable, or were sold for a small fraction of the costs of gathering and separating them. This discontinuity between supply and demand sent the price of recyclables plummeting, leaving municipal recycling programs and remanufacturers in financial trouble, and voters and lenders weary of future commitment. Prices for old newspaper in Chicago, for example, dropped from \$42 a short ton in 1988 to \$6 in 1992 (Apotheker 1992). *Waste Age*, a leading recycling industry journal, led off its "Year in Review" edition with, "For recyclers, 1992 was supposed to be the

year of change as markets recovered from their 1991 slump. Instead, there were few glimpses of hope...." (Rabasca 1992:1). The industry was in danger of being scaled back, unless new markets could be developed.

Throughout the 1990-1992 period, a discourse emerged among recyclers, producers, state actors, and environmental organizations over how to develop markets. The consensus that emerged was that individuals and producers needed to "close the loop"- a strategy of balancing supply and demand by recyclers participating in both the collection of discarded materials [the supply] and the purchasing of remanufactured products [the demand].

B. "Closing the Loop":

Focussing on Materials, the State, &/or Prices?

1. Choices of Materials

By 1993, nearly every actor involved in the recycling industry was preparing reports addressing the "closing the loop" problem. Representatives of industries with strong markets and municipal program operators favored a strategy of "getting the materials right." The logic of their argument was that "(l)ocal governments are being forced to recycle items that aren't economically feasible to recycle and businesses are being forced to absorb costs" (Rabasca 1993b:22). Recycling should be restricted to those goods that could be collected, sorted, and sold for a profit. All other goods should be disposed of through other waste disposal means.

This strategy was seen as politically favorable due to the invisibility of the action. Municipalities could still actively recycle, emphasizing the materials that were being collected, while downplaying those that were no longer collected (Bishop 1991; Morris & Dickey 1991). Ideologically, this argument was embedded in the logic of the treadmill, namely that the market should dictate.

Protecting strong markets, while sacrificing weaker ones, was allowing the "free hand" to do its thing. Finally, the strategy was economically beneficial. It ensured profitable programs. This was especially important in locales where programs were coming under political attack from public officials who worried about increased costs of programs. Some officials voiced concern about recycling being used by opponents as an example of "liberal spending programs" run amuck. The best example of this is New York city where the Democratic City Council went from passing an ambitious recycling plan 1989 to trying to scale back its program in 1992.

Environmentalists and representatives from industries with weak markets vehemently opposed this approach. Their response included an historical argument that markets always take time to develop. Furthermore, they remobilized the original LULU constituencies by arguing that "getting the material right" would neither save landfill space by removing volume (like paper) or hazards (like batteries). Using comments like those of Karl Kamena of Dow Chemical who stated, "We need to look at what we can collect to get value rather than what we can collect to save our landfill space" (Rabasca 1993b:22), environmentalists were able to label this approach as anti-recycling. Despite the strength of these arguments, what eventually staved off these efforts was the ability of environmentalist and weak market recyclers to propose a myriad of alternative policy options which revolved around more proactive state actions.

2. Choices in State Actions

Environmentalists and weak market producers (what we could call weak social segments) were able to turn the problems of "closing the loop" back onto legislative bodies and regulatory agencies, arguing that they needed to get "the

state right." The alternative policy option was to locate the right combination of proactive state actions needed to create financial incentives for producers to expand markets, thereby closing the loop. Policies would control at least the quantities, and occasionally the prices of recyclable materials that were reutilized in remanufacturing operations (Morris & Dickey 1991; Beck & Grogan 1991; McCarthy 1991).

The most pervasive attempt to stimulate markets has been with minimum content guidelines that specify several criteria of minimal incorporation of both producer and post-consumer wastes in production. Initially, this idea arose with regard to newspapers. Environmentalists and recycled paper producers argued forcefully that technology made it easy and relatively inexpensive to produce recycled newspaper, while newspapers took up a large proportion of the landfill. In 1989, California and Connecticut passed laws that mandated that all newsprint consumed in the state by the year 2000 must have 50 percent recycled fiber (Beck & Grogan 1991). Using this precedent, environmentalists and weak market producers envisioned enacting similar legislation in other places to cover a range of materials and products. At the local, county and state level, these efforts met with limited success. By 1991, eight states had passed minimum content laws relating to newsprint, directory stock, glass, plastics, high grade paper, and mixed grade papers (Beck and Grogan 1991).

Despite early success, many policies became embroiled in a political reaction by trade associations and individual treadmill agents, who transformed the discourse from an open one about social and environmental policies priorities to a "technical-economic" debate over the "feasibility" of meeting these standards. The political strategy has been to supersede public agency concerns about socioenvironmental imbalances by introducing market-treadmill criteria for evaluating agency efficacy. Thus, representatives of the newspaper industry

have argued that minimum content regulations are likely to drive up the costs of papers, driving many out of business. They have also resisted these efforts by undermining the enforcement of such laws. For example, they have manipulated "recycled content" more towards producer wastes (a traditional form of industrial economizing), and also towards complex schemes of measurement that rely heavily on producer reporting to state agencies, as the following statement from a plastics remanufacturer notes:

"The definition of the term 'post-consumer' is a potential time bomb waiting to destroy residential plastics recycling initiatives. When we define post-consumer in terms of material that has 'satisfied its intended use', we go nowhere far enough in providing a definition to help enhance post-consumer residential plastics recycling. It is easy for any of us who are actually in plastics recycling to come up with material that will meet some of the new definitions and offer twice the quality at half the price of material that *really* came out of household trash. If we really want to help recycle plastics from used beverage containers and other household plastic containers, we should *refine the definition of 'post-consumer' by adding the words industrial-commercial (PCIC) or residential (PCR)*. If we begin to use the terms PCIC and PCR when it comes to recycling labels, we will better inform those who buy these products about the *actual origins* of the material....It would be absolutely ludicrous to suggest that industrial or commercial high quality scrap should not be recycled, and this is not my intent. However, it would be equally foolish not to recognize the added costs that are necessary in collecting, sorting, and cleaning post-consumer residential plastics waste compared to post-consumer industrial-commercial materials. To merely use an arbitrary and somewhat capricious definition of 'post-consumer' on a

label describing content will actually prove to deter recycling." (Forman 1991: 103-104)

The current response by remanufacturers, which Forman decries, strongly echoes what Banner et al. (1975) and Olson (1986) have termed a *distorted indicators* model. Public policies are undermined by private treadmill actors, who produce an 'epidemic of compliance reports', rather than a realistic report of an 'epidemic of non-compliance'. The consequence of this altered discourse has been a lack of national policies.

More recently, other recycling proponents have sought to recapture the discourse by supporting minimum content legislation. Chlorine free pulp mills, for example, have pushed the EPA to specify guidelines for chlorine-free pulp in federal procurement of recycled paper (Woods 1993). In general, the debates over minimum content regulations mirror the vested interests of the various parties involved in the industry. There is a direct correlation between expressed policy preference and placement within the treadmill. Environmentalists and producers that make goods from recycled feedstock favor the guidelines. Consumers who purchase large quantities of an item (e.g., newspaper publishers) and producers who make goods from virgin feedstock disapprove of the guidelines.

A less contentious approach advocated by environmentalists and producers (from both strong and weak markets) has been increased state subsidies in the form of procurement. Local, county, state, and national state actors agree to purchase materials and supplies made from recycled feedstock. At first, this appeared to be a responsible and palatable policy. The same fights over the policy implementation, however, ensued. Before state agencies could act on their commitments debates emerged among producers over what actually constituted recycled feedstock. Some producers tried to scuttle this commitment by arguing for low content of

recycled feedstock, or for non-post-consumer waste to be considered recycled feedstock. These debates became fierce, mirroring the ones over minimum content regulations.

Simultaneously, some agencies that began to procure and use recycled supplies found the practice in direct conflict with other regulations. Alexander Battery Co., for example, developed a recycling program for batteries. The program was stopped, however, due to the illegality of shipping hazardous waste via U.S. Postal Service (batteries are considered toxic waste). Another example is that of used tires, which were to be used as crumb rubber in asphalt. Support for this cheap method of recycling tires grew after initial testing demonstrated that adding tires to asphalt had numerous performance benefits for roads. The largest barrier was a regulation by the Federal Highway Administration that prohibited using federal funds to pay for experimental practices. Since crumb rubber asphalt was a new technique, it was classified as experimental. Without the federal highway funds, the process was too expensive for most states to use.

Changing these regulations also turned out to be more difficult than recycling advocates envisioned. Again, returning to the example of used tires, Senator John Chafee (R-RI) introduced a bill in 1991 that would have required recipients of federal highway money to use a 5% rubber crumb mix. Immediately, the bill became politically charged. The bill was strongly supported by the Rubber Manufacturers Association, the National Tire Dealers and Retreaders Association, the Rubber Pavements Association, and by environmental groups. It was staunchly opposed by the National Asphalt Pavement Association and the State Highway Transportation Officials. The bill generated extraordinary debate and activity for such a small federal regulatory alteration. The bill lost by a 93-7 vote.

Across the board, recycling proponents faced staunch oppositions to altering federal regulations. While the rhetoric of these debates has been technical

and mechanistic, the motives have been political. Producers of virgin materials displaced by recycled goods derailed the programs, in order to protect their markets. Yet, the failure to implement these programs must also be shared by advocates, who grossly underestimated the barriers to enacting and enforcing these policies. Time and again, proponents of recycling were caught off guard by the fierce opposition to recycling initiatives from industries that stood to lose business. In one of the more recent public displays, President Clinton proposed that the federal procurement guidelines be changed to allow agencies to purchase recycled paper. The administration believed that this was a "sound environmental idea" and a "reasoned policy." The proposal became embroiled in an intense political conflict. Given the amount of fiscal outlays on paper this is not surprising. What is worth noting is the extent to which the administration was caught off-guard.

We trace this blind spot to a fundamental misunderstanding of the motives and means by which the recycling industry emerged. The industry arose as an exchange value-driven solution to a set of political and economic problems. Given how interests and power distributions emerge within the treadmill, it should not have been surprising that these types of barriers arose.

3. Choices in Pricing Policies

As a result of these earlier setbacks, recycling proponents have developed new more market oriented approaches to developing markets. These include tax credits or tax write-offs for MRFs and remanufacturing plants, which have become popular in less affluent communities as one way of attracting high-tech remanufacturing facilities. A variant of these approaches is Recycling Market Development Zones (RMDZ), which provide formal places where companies congregate to remanufacture goods. The state provides producers with assistance in obtaining permits, in technical and financial resources, and in marketing advice.

In return producers agree to use recycled feedstock and to provide jobs in the community.^{xiv} These policies have been less contentious, but the profits largely revert to treadmill producers, with community payoffs in the form of some employment and some small tax gains.^{xv} Additionally, the public support for recycling does have limits, and often severely restricts the breadth of these zones.

Tax benefits have served as a bridge between "getting the state right" and "getting the price right" approaches to closing-the-loop . Increasingly, this seems to have become the favored policy instrument of planners involved in the recycling industry.^{xvi} The assumption behind this strategy is that recycling could be a market driven industry, if true markets were operating. Proponents have gone as far as to argue that recycling is the most cost-effective mechanism of waste disposal. This fact, they argue, is distorted by historically outdated regulations that favor virgin materials (Hawken 1993).

Buttressed by an EPA study that identified one dozen federal guidelines that distort prices, recycling industry representatives have begun to identify specific federal regulations that should be removed. The most significant of these is energy subsidies. Production processes that use virgin materials are more energy intense than those that use recycled feedstock. Thus, energy subsidies favor virgin production processes. The example most often cited is aluminum. Tax code provisions subsidizing energy exploration and development costs amount to energy subsidies of 8.5 percent of the delivered cost of primary aluminum. Additionally, the federal government subsidizes energy production in terms of fuel extraction, processing, and transmission. This translates into energy cost savings of 17 percent of the delivered cost of the primary metal (Powell 1993). From this, the argument is easily made by recycling proponents that if energy was paid for at its true cost, virgin materials would increase in price much more than recycled goods, due to difference in the amount of energy used.

A variant on this theme has been the recent call for full-cost accounting. Here, government agencies that provide solid waste services are required to calculate the cost of providing that service- including future liabilities, opportunity costs, potential environmental costs, and avoided costs. For example, one study showed that when you purchase 100 screws in a plastic box for \$2.99, the public picks up an additional invisible bill for \$7.44 in environmental and health costs. If the same screws are purchased in a paperboard box, the invisible bill is 19 cents (Hawken 1993). With a full-cost accounting, the \$7.44 would be factored into the price of the product. Recycling industry representatives argue that this would favor recycled goods, because they have far fewer health and environmental externalities.

Early attempts at "getting the price right" seem to suggest that these efforts will run into many of the same barriers as attempting to "get the state right". Retracting the regulations that distort prices has proven to be politically infeasible. The EPA had tremendous difficulties even issuing its report documenting that regulations distort prices. Internal fighting within the EPA almost shelved the report. At one point, the agency claimed that the only copy of the report was accidentally destroyed at the printers. Deciding what externalities need to be "fully accounted" for opens the industry to the same technical debates that have derailed minimum content laws. Finally, by centering the discourse around "prices," recyclers are forced onto unfavorable terrain.

Under the rubric of Full Cost Accounting, getting the price right has become the latest rallying cry from environmentalists and others trying to move recycling towards a sustainable development practice. Missing from this cry, however, is an understanding of the limitations of full cost accounting within a treadmill of production. Regardless of the price, decision making will remain transaction-based. That is, producers and state actors will base their actions on

cost/benefit analyses with short-term growth as the criteria. Full-cost accounting would not ensure that sustainable development decisions would be made. Factoring the externalities would only induce producers to make some decisions that took into account social needs under particular circumstances. These include instances where there were exchange-value gains from this, or through lowering transaction costs of compliance with strong political regulations of the market (Walley & Whitehead 1993).

Interestingly, the present arguments for "better pricing" ignores the historical lessons of the 1970s in the United States. Attempts to calculate negative environmental externalities of production include proposals to assess the "natural resource units" embodied in each product (Westman & Gifford 1973). A similar argument was used for energy assessments, building on the theory of economist Georgescu-Roegen (1973) and the energy research of Pimentel and his colleagues (Pimentel *et al.* 1973, 1975, 1976). Neither of these approaches was ever used in production practices, except where they pointed towards cost-savings in technological changes that could then be publicized as "greening" of the corporate innovators. Similarly, the "recycling" logic of RCRA was only practiced in the 1980s where corporations could re-capture economically valuable toxic solvents, and thus lower their operating costs (Keefe 1993). Otherwise, producers still engaged in unsustainable practices. The central mistake made by many recent arguments is confusing efficiency with sustainability. Only where sustainability happens to tactically coexist with efficiency do such practices occur; and the strategic drive of treadmill producers is still short-term efficiency:

"To assure sustainability, each generation must transfer sufficient assets to the next generation, so that the next generation is as well off as it is."
(Norgaard 1995:152)

Internalizing some negative environmental externalities can lead to greater efficiency, but not necessarily to long-term sustainability. Norgaard makes this point by deconstructing current models developed by environmental economists. He notes that even the most recent literature on sustainability draws on models and reasoning that largely ignore intergenerational equity, paralleling our argument on intragenerational equity. The emphasis in this literature is on institutions for internalizing externalities, institutions that move the economy from inefficient practices to more efficient ones. Daly and Cobb (1994:141) make a similar point in their discussion of chrematistic (treadmill) and oikonomia (communal) forms of capitalism:

"Whereas those chrematists who recognize externalities try to internalize them into the market and thus into the chrematistic system, oikonomia studies the community as a whole and locates market activity within it. Whereas chrematists, when they recognize that much market activity does not contribute to economic welfare and that some nonmarket activity does, propose to subtract the former and to add the later, oikonomia, by contrast, suggests that no quantifiable features of the community can measure its actual health. Most simply, those calling for full cost accounting do not understand the dynamics which have driven the industry."

REVISIONING RECYCLING: THE ROLES OF FOXES AND ROVERS

We initially stated that this paper is meant to be a sociological narrative on sustainable development. The first part of this narrative drew upon preexisting literatures and current contexts to suggest a missing piece of the current discourse, urging other analysts to rethink current social constructions of "sustainability".

We also indicated that our missing piece of interest was the importance of intragenerational power distributions. In the rest of the paper, we address this point more directly.

For recycling to become a sustainable development practice, tough choices have to be made about how to close the loop. Choices need to be made about regulations, tax structures, and procurement policies. With each decision, there will be benefits and costs, as well as a social distribution of them. Prices for some goods will decrease, while they increase for others. Jobs will be lost in some locales in favor of others. Ecosystems will be preserved in some areas, and polluted in others. Crucial to our argument is that precisely those social segments empowered by their place within the treadmill to make decisions, are simply incapable of doing so in ways that will move the political economy towards a state of sustainable development.

When state and industry leaders make decisions about recycling, they act like foxes and/or rovers. Abstractly, the social structural problem is not one of personal intent or knowledge, but rather one of social placement within the treadmill. Like other actors, state and industry decision makers want abundant material goods and subsistence from ecosystem elements. The problem is that their placement within the treadmill requires them to achieve these ends only through the logic of treadmill production organizations. Neither the state nor industry have the motive or means to shift towards sustainable development, given their placement within the treadmill. Primarily, this can be traced to the dominant relations that shape any emergent industry of the treadmill, including the recycling industry.

Emerging industries within a treadmill of production exist in fundamental tension with other preexisting industries. Mostly this is due to the existing treadmill's secondary effects on any emergent industry, which threatens to change

procurement practices, regulations, and cultural norms for existing treadmill institutions. Emergence of this industry implies disruption of other industries, as old clients come to make new selections from within the newly-expanded list of suppliers. Different types of producers, state actors and communities have experienced this tension in differing ways, given their relationship to the larger political economy. For producers, the outcomes of the emerging recycling industry matter a great deal in terms of their future survivability in increasingly-tight transnational markets. For producers that use recycled feedstock, profitability is a direct consequence of directions taken by the industry. Ideally, prices for recycled feedstock will decrease, while demand for such products will increase (Holusha 1994). Each of the policies discussed will have dramatic impacts on the costs of recycled feedstock and the demand for products made from recycled feedstock. Conversely, producers that use virgin feedstock also have futures that are closely tied into the industry. The demand for recycled paper will reshape the demand for virgin paper and wood pulp. Furthermore, the success of one form of business within a sector of an industry increases intrasectoral competition, by splitting revenues.^{xvii}

For state actors, recycling embodies numerous challenges, opportunities, and tensions. Among local actors, it presents an opportunity to address landfill problems in a way that is politically expedient and financially beneficial. In the array of regional regulatory actors, recycling may redistribute power from some agencies to others, as regulatory programs are altered. Programs that bolster recycling do so at the expense of other programs, thereby reducing resources from other agencies. For example, the Department of Interior is likely to be a loser, relative to the Environmental Protection Agency and Small Business Administration. For elected state officials, recycling can reduce or elevate support for them. Decisions are likely to win the favor of some trade associations and the

scorn of others. Developing successful programs is likely to gain an official some small measure of support, while a fiscally disruptive program is likely to reduce support. Importantly, the size of the industry may draw too many powerful producers into the area, making it impossible for most public officials, above the local level, to ignore emergent conflicts within the industry and between it and environmental activists, say. As we saw from Congressional examples, elected officials then have to pick sides in redistributive conflicts (Lowi 1972).

For environmental organizations, recycling is a potential opportunity to push for more sound ecological use of natural resources. The emerging industry gives them an opportunity to diminish the economic importance of ecologically unsound practices. Likewise, it provides a growing public space to make arguments about the importance of ecosystem protection. The history of pushes and pulls is also one of Congressional debates, media coverage, and local hearings. Each of these arenas provides visible venues to present ideas, and to introduce new ways of thinking.

From these social segmental analyses, we can deduce that, given the relations that exist between different social segments and the political economy --- what we have called each social segment's placement within the treadmill --- recycling has become an important arena of action. The arena has become populated by a variety of participants, each of whom have a recognized stake in the outcomes. Each is willing to devote some resources (time, money, political influence) to shaping those outcomes, though different segments have different volumes of resources to allocate.

Given their placement within the treadmill, though, the relations among these potential decision makers are skewed. Producers and state actors exist in organizations that stockpile important resources. They have access to basic resources like money, time and technical expertise. Their organizational affiliation

and status as repeat players gives them easy access to information channels about important state decision making processes. As one by-product of these earlier actions, they have pre-established ties with other participants and decision makers. They have trained staff that can garner favorable frames for various conflicts. And they have the ability to sustain these efforts over time. Contrarily, for local community groups, resources are invariably scarce (Weinberg 1995; Pellow 1994).

Furthermore, the distribution among producers is also skewed. Larger and older firms often have a distinct advantage (Harrison 1994). They have stockpiled more resources, including political connections, legislative expertise, and public confidence. Bennett Harrison (1994) notes that in any competitive market more-established firms are able to protect themselves. Innovative firms that challenge older ways of doing things directly (that is, in a zero sum way) are likely to be bought and dismantled, or confronted with unfavorable regulatory and tax environments (Harrison 1994). This reflects precisely the motives and means within the emergent recycling arena. Established producers (who rely on virgin feedstock) and state actors are being challenged by smaller innovative firms (who rely on recycled feedstock). These smaller firms are at a distinct disadvantage. They do not have the resources to fight larger producers, whose production practices are threatened (Holusha 1994).^{xviii}

Mostly, the problem of decision making is one of criteria. Given their motives and means, producers and state actors construct an agenda based around exchange value interests, which in turn has patterned the industry around transaction cost decisions (Williamson 1975, 1981). Decisions about how to develop minimum content laws, full cost accounting, and other potential mechanisms of market expansion are talked about and adjudicated using primarily **market** criteria: price, quality, availability, convenience. In short, the industry is

to be shaped, so that it can be attractive to investors, based on its reduction of total transaction costs of waste disposal.

As a transactionally-driven practice, recycling is not sustainable. First, we note that there is little attention to the social relations of workers (and taxpayers) in both waste sorting and remanufacturing. Little attention is currently paid to the quality of labor inputs, including occupational hazards, other than to reduce transaction costs and increase profits by minimizing labor costs. Community development (a form of sustainable development) is rarely addressed in most governmental recycling programs in the U.S. This limits the social sustainability of recycling programs. Typical of the transactional orientation is Bishop's (1991:42-43) summary:

"Three factors appear to contribute to most of the cost of [MRF] processing operations: *wage rates* , the level of capital investment, and the general level of productivity (which, of course, is closely associated with the investment in *equipment*). .. *The faster the processing, the lower [the] cost.* Glass container processing is particularly sensitive to sorting rates because of the labor intensity of the process. *Relative sorting rates...developed from time studies and estimates...varied from 600 to 700 pounds per employee hour to over 2,000 pounds per hour.*" [Emphasis ours]

Likewise, environmental protection hardly enters the current agenda for remanufacturing in the U.S. "Of less impact to MRF operating costs, but still significant, is the overall level of residue generated" (Bishop 1991: 43).^{xix}

On the other hand, much of the existing remanufacturing processes and plants cannot operate with only recycled materials (Forman 1991). Physical, chemical and/or biological criteria for remanufacturing require some balancing of

feedstock attributes. In all such instances, therefore, virgin materials must be added to the remanufacturing process -- a reality which many ardent recycling enthusiasts ignore, preferring to believe in recycling as a modern form of alchemy. The material requirements of remanufacturing often "opens the loop," requiring extraction of feedstocks to provide virgin materials to mix with recyclables in remanufacturing. This intrinsic part of much of remanufacturing has potential implications for biodiversity, since the extraction of virgin materials has historically been associated with the destruction of habitat and/or species in the ecosystems where extraction takes place. Yet recycling debates about transactions rarely if ever incorporate issues of biodiversity and habitat protection in their encouragement of remanufacturing -- focusing on the "re" rather than the "**manufacturing**".

Recycling that focused on both the "re" and the "manufacturing" would close the loop by requiring each producer and consumer to both gather their wastes, and to purchase back the remanufactured products generated from their own wastes. What we mostly have lies at the opposite extreme. We have sets of actors motivated by exchange-value interests, who dominate the entire process, including the sociopolitical citizen-worker inputs into legislation and gathering wastes.

These blind spots in current recycling programs limit the practice as an exemplar for a *socioenvironmentally-sustainable* form of development. Partially, these blind spots are self-imposed blinders. They are a problem of foxes. Producers, state officials, and other recycling advocates have tremendous amounts of capital, both fiscal and political, sunk on the expectation of the success of recycling industries. Personal gain drives these segments to deliberately ignore these dissonances. These blind spots, however, also reflect institutional and organizational blinders. In this regard, there is also a problem of rovers.

Recycling advocates do not understand the embeddedness of recycling in larger political and economic struggles. *De facto*, they have become passive agents operating within the treadmill's determination of market-determined prices. For example, advocates of recycling as sustainable development have missed the consequence of how getting the material right represents a *de facto* historical shift from an environmentally-initiated program to an economically-operating system (Rabasca 1992, 1993). It is a major retreat from the *ecological* sustainability of development, defined here in terms of "closing the loop": repeatedly re-using virgin materials, through remanufacturing and incorporating waste streams as their major feedstocks.

Recycling, like industrial ecology, inclines more towards transactions than towards expanding production and political relationships with citizen-workers. Dominant political and economic treadmill actors currently view citizen-workers much more as an economic force of production in the remanufacturing process, rather than as a relationship that must be explored both socially and economically. The political use of citizen-workers by remanufacturing agents within the treadmill is largely restricted to encouraging their democratically-elected representatives to use tax moneys to subsidize remanufacturing (e.g., Rabasca 1993). Ironically, remanufacturers tend to promote relationships with citizen-workers in their consumer and worker roles, encouraging them to purchase recycled end-products at home and at work. Furthermore, they have given little thought as to what type of institutions and processes sustainable development practices, like recycling, could be successfully embedded within. **Therefore we can conclude that recycling proponents do not understand the process by which we move from the unsustainable treadmill towards sustainability. While they don't act like the foxes of the treadmill, it is because they only have rover-like understanding of the political-economic realities of the treadmill.**

**TOWARDS CITIZENSHIP AS SUSTAINABLE DEVELOPMENT:
MARKETS, MEANS, AND SOCIAL MEMORY**

Although recycling has had only limited success in challenging the unsustainable treadmill within the United States, we suggest that recycling might become a powerful force for sustainable development, if it could redistribute decision making towards more decentralized citizen-worker groups. We argue that the best hope of moving towards sustainable development is to bring "the citizen" back into the decision making process. Social and political relations need to be arranged and redistributed so that power lies with citizen-workers. They are the only social agent with an enduring motive for balancing use and exchange values over the short and long term, for both individual and community needs. But they currently lack the means to actualize these motives.

It is not our task here to develop a comprehensive sociopolitical program. However, we can envision a number of ways that this could be done that would move towards a state of sustainable development. Decision making, for example, could be relocated to local community organizations. Residences could be grouped into homeowners' associations, block associations, and buildings. These informal organizations would serve as small waste districts, each of whom would be charged with devising solutions to their waste generation. Such practices already exist in other societies, such as Japan.

As social scientists, part of our contribution to social decision-making about community wastes could be to collect data on historical and comparative narratives about the practices of other societies and other times, to systematically evaluate social and ecological consequences, and to disseminate these analyses to community groups through some form of "best practices" handbook (as corporate

advisers are now doing in downsizing and re-engineering). Citizen-workers could then choose between recycling, landfilling, and incineration, but with a deeper and clearer understanding of the likely social and environmental consequences, as well as the economic consequences. States would then get out of the business of recycling, except to effectively price common goods, including raw materials and ecosystems used for disposal (including maintaining air and water quality). MRFs and landfills would be locally owned and operated by these local community groups, who could contract with private or community-based firms, both to pick up wastes and to operate the sorting and even remanufacturing facilities.

Essentially, we are talking about recreating a new type of more overtly politicized market (Lindblom 1977; Williamson 1975, 1981), shifting the nexus of where the competition takes place, and under what operating principles. In theory, an effective market works to keep prices as true indicators of net economic value added, it maintains the system at an efficient level, and it makes more choices "knowable." But such markets have become distorted when decision making capacity increasingly falls under the influence of major treadmill producers. First, producers have every incentive to avoid true cost estimation. Once they evade a payment, the cost is diffused to the community and ignored in accounting. Local citizen-worker groups should be less resistant to full cost accounting, because they have to pay all the costs, whether overtly through taxes or covertly through illness and loss of use values from local ecosystems. Treadmill producers in effect steal from others; citizen-workers would increasingly have to confront that they were stealing from other citizens, and/or future generations of their own children and grandchildren (Norgaard 1995). Producers experience such social-environmental cost accounting as a burden, which can reduce their benefits from private transactions. Realistic cost accounting would matter more to citizen-workers who

will experience a mix of use and exchange value costs and benefits. Such accounting would help locate choices that protect labor/wages and ecosystems.

A slightly different way to think about this is to consider what gets taken in account as part of the cost/benefit analysis. Producers and state actors do not have to deal with social and political externalities of waste disposal decisions. Producers are not concerned with the tax increases and social problems that arise from declining job bases. Likewise, they escape the political hostility and the internecine conflicts that arise as some groups are less impacted than others. A similar process occurs for state actors. A regulatory state is organized by areas of jurisdiction. Therefore, it has been outside the purview of the EPA or municipal sanitation departments to worry about or make decisions based on social needs. This is the purview of another agency. Again, this is different for local citizen-worker groups, who pay one local tax bill. Included in that bill are the local social, environmental, and economic costs incurred, as a by-product of past treadmill decisions, continuing through its current practices.

Secondly, producer driven markets are not efficient over time. Winners and losers are more a product of past performance. Operating most efficiently in waste disposal has been a determination of size and political power. By shifting power to local citizen-worker groups, the field would be opened, for smaller firms to compete. For example, in one municipality we examined, scrap dealers have been chased out by a large waste management firm (Weinberg *et al.* 1996). These dealers could not effectively handle the city's waste stream. If decisions were made by local citizen-worker groups that were balancing social, political, economic, and environmental issues, these firms could have continued to compete. They were capable of serving the community area. Furthermore, they were often more efficient at providing the social goods, that are a part of the political criteria of

citizen-workers, as opposed to the economic criteria of treadmill firms (Weinberg *et al.* 1996).

Finally, there is the issue of information and market performance. Reaching a state of sustainable development requires making a multitude of decisions and comprises about practices in locales in terms of servicing those locales. Norgaard (1995:155) notes that classic economic theory requires that :

"resource owners not only be aware of the qualities of different resources but that they also know the total stock of resources, future demand and the prospects for new technologies" .

Citizen-workers possess information about these choices and needs. In contrast, treadmill producers make decisions about compromises between jobs and environmental issues, and then only at an abstract level. Contrarily, citizen-workers have to live with the problem of job instability and local air, water and land pollution, although they may also move farther from both types of problems (Schnaiberg 1986b). Markets are ideally suited to taking lots of information and using it to locate efficient practices. But markets must exist. There must be competition and choices at the dimension where information is held. In the sustainable development field, this lived knowledge exists within citizen-workers' lives, not within the producers or state actors roles.

By reconstructing recycling around the enactment of citizenship practices, the criteria of policy decisions would not be primarily about solid waste disposal. The overall goal would be to create policies that relegated power to local groups, giving them the information to make decisions. Of course, producers and other actors would intervene at every step to distort this information (Weinberg 1991; Schnaiberg 1994). They would also work to capture these local groups. We do not argue that these problems would go away, only that they would be less pronounced. Currently, the only actor with an interest in preventing the distorted

information in a given battle is another producer or state actor, who wants true information here, but distorted information in other situations. There is no interested party that really needs or cares about true information. The enactment of citizenship practices would empower the only group that really needs true information. At most this policy would empower a group with the motives to move towards sustainability and the means to resist capture by treadmill proponents. At the very least, this policy would shift the question of sustainable development away from "how to get organizations to act against their interests" and towards "how to get people to act in their vested interest." This latter question seems to us to be more reasonable and realistic.

REFERENCES

- Althusser, L. 1969. For Marx. Translated by Ben Brewster. London: Allen Lane.
- Althusser, L. and E. Balibar. 1971. Reading Capital. Translated by Ben Brewster. New York: Pantheon Books.
- Anders, G. 1992. Merchants of Debt: KKR and the Mortgaging of American Business. New York: Basic Books.
- Anderson, C. H. 1976. The Sociology of Survival. Homewood: Dorsey Press.
- Apotheker, S. 1993. "Curbside Recycling Collection Trends in the 40 Largest U.S. Cities." Resource Recycling, December 27-33.
- Ayres, R. U..1989. "Industrial Metabolism and Global Change: Reconciling the Sociosphere and the Biosphere - Global Change, Industrial Metabolism, Sustainable Development, Vulnerability." International Social Science Journal 41 (3), 363-374.

Banner, D. K., S. I. Doctors, and A. C. Gordon. 1975 . The Politics of Social Program Evaluation. Cambridge, MA: Ballinger .

Barnet, R. J. & J. Cavanagh. 1994. Global Dreams: Imperial Corporations and the New World Order.

Barlett, D. and J. Steele. 1992. America: What Went Wrong? Kansas City: Andrews and McMeel.

Beck, P. and P. Grogan. 1991. "Minimum Content Legislation: An Effective Market Development Tool." Resource Recycling, September: 90-99.

Bishop, R. S. 1991. "Defining the MRF..." Resource Recycling, October: 36-43.

Blowers, A. and P. Glasbergen. 1994. "The Search For Sustainable Development." Paper presented at conference on "The Politics of Sustainable Development Within the European Union," the University of Crete, October.

Blumberg, P. 1980. Inequality in an Age of Decline. New York: Oxford University Press.

Bookchin, M. 1987. The Rise of Urbanization and the Decline of Citizenship. San Francisco: Sierra Club Books.

Brown, P. and E.J. Mikkelsen. 1990. No Safe Place: Toxic Waste, Leukemia, and Community Action.

Bukro, C. 1989. "The True Greenhouse Effect." Chicago Tribune, Dec. 31:4.1

Buttel, F. H. 1985. "Environmental Quality and the State." Pp. 167-188 in R.G. Braungart and M.M. Braungart, editors, Research in Political Sociology. Greenwich, CT: JAI Press.

Carter, N. 1994. "An Anthropocentric Defence of Sustainable Development." Paper presented at conference on "The Politics of Sustainable Development Within the European Union," the University of Crete, October.

Coontz, S. 1992. The Way We Never Were: American Families and the Nostalgia Trap. New York: Basic Books.

Daly, H. and J. Cobb, Jr. 1989. For the Common Good. Boston: Beacon Press.

Dewey, J. 1927. The Public and Its Problems. New York: Holt.

Dunlap, R. E. and K. Van Liere. 1984. "Commitment to the Dominant Social Paradigm and Concern for Environmental Quality." Social Science Quarterly 65: 1013-1028.

European Community. 1993. Toward Sustainability: A European Community Programme of Policy and Action in Relation to the Environment and Sustainable Development. Luxembourg: Commission of the European Communities, D-G XI.

Evans, P., D. Rueschemeyer, and T. Skocpol, eds. 1985. Bringing the State Back In. New York: Cambridge University Press.

Feshbach, M. and A. Friendly, Jr. 1991. Ecocide in the USSR: Health and Nature Under Siege. New York: Basic Books.

Forman, M. 1991. "In My Opinion...Plastics Recycling: Let's Cut the Bull." Resource Recycling May: 102-104.

Foucault, M. 1980. Power/Knowledge. New York: Pantheon Books.

----- 1984. The Foucault Reader. New York: Pantheon Books.

Galbraith, J.K. 1992. The Culture of Contentment. Boston: Houghton Mifflin.

Georgescu-Roegen, N. 1973. "The Entropy Law and the Economic Problem". Pp. 37-49 in H.E. Daly, ed., Toward A Steady-State Economy. San Francisco: W. H. Freeman.

Goodwin, R. N. 1992. Promises to Keep: A Call for a New American Revolution. New York: Times

Gould, K. A. 1991. "The Sweet Smell of Money: Economic Dependency and Local Environmental Political Mobilization." Society and Natural Resources

(4) 2 :133-150

-----1992. "Putting The (W)R.A.P.S on Public Participation: Remedial Action Planning and Working-Class Power in the Great Lakes."

Sociological

Practice Review 3

-----1993. "Pollution and Perception: Social Visibility and Local Environmental

Mobilization." Qualitative Sociology 16: 207-246.

Gould, K. A., A. Schnaiberg, and A. S. Weinberg. 1996. Local Environmental Struggles: Citizen Activism in the Treadmill of Production. New York: Cambridge University Press.

Gould, K. A., A.S. Weinberg, & A. Schnaiberg. 1993. "Legitimizing Impotence: Pyrrhic Victories of the Modern Environmental Movement." Qualitative Sociology, 16 (3): 207-246.

-----1995. "Natural Resource Use in a Transnational Treadmill: International Agreements, National Citizenship Practices, and Sustainable Development." Humboldt Journal

Gutin, J. 1992. "Plastics a Go-Go: The Joy of Making New Useless Junk Out of Old Useless Junk." Mother Jones, March/April: 56-59.

Hampden-Turner, C. and A. Trompenaars. 1993. The Seven Cultures of Capitalism. New York: Doubleday.

Harrison, B. 1994. Lean and Mean: The Changing Landscape of Corporate Power in the Age of Flexibility. New York: Basic Books.

Harrison, M. 1991. "Citizenship, Consumption, and Rights." Sociology, 25: 209-213.

Hawken, P. 1993. The Ecology of Commerce. New York: HarperBusiness.

Holusha, J. 1994. "Rich Market for Business of Recycling". New York Times , October 8: 1.1

Howe, J. 1994. "Facilitating Sustainability in Depressed Urban Areas." Paper presented at the Conference on the Politics of Sustainable Development conference, University of Crete, October.

James, W. 1907. Pragmatism: A New Name for Some Old Ways of Thinking. New York: Longmans, Green and Co.

Kacandes, T. 1991. "Market Development in New York: A Report from the Field". Resource Recycling, September: 53-60.

Keefe, J. M. 1993. Pollution, Politics, and Policy: Implementation of Hazardous Waste Policy through the Resource Conservation and Recovery Act.
Doctoral dissertation, Department of Political Science, Northwestern University. March.

Kousis, M. 1991. "Development, Environment, and Mobilization: A Micro Level Analysis." The Greek Review of Social Research 80: 96-109.

-----1993 "Collective Resistance and Sustainable Development in Rural Greece: The Case of Geothermal Energy on the Island of Milos." Sociologia Ruralis 33: 132-46.

Liberatore, A. 1994. "The Integration of Sustainable Development Policy Into Other Policy Fields: The Prospects and Barriers." Paper presented at the Conference on the Politics of Sustainable Development, University of Crete, October.

Lindblom, C. 1977. Politics and Markets. New York: Basic Books.

Lipietz, A. 1987. Mirages and Miracles: The Crises of Global Fordism. Translated by David Macey. London: Verso Books.

Lowi, T. 1972. "Four Systems of Policy, Politics, and Choice." Public Administration Review 32 (4): 298-310.

-----1979. The End of Liberalism. 2nd edition. New York: W.W. Norton.

McCarthy, J. E. 1991. "Waste Reduction And Packaging In Europe." Resource Recycling, July: 56-63

Maines, D. 1993. "Narrative's Movement and Sociology's Phenomenon: Toward a Narrative Sociology." The Sociological Quarterly 34:17-38

March, J. G. 1981. "Decisions in Organizations and Theories of Choice." In A. Van de Ven & W. Joyce, editors, Assessing Organizational Design and Performance. New York: Wiley Interscience.

Marshall, T.H. 1950. Citizenship and Social Class. Cambridge: Cambridge University Press.

Maslow, A. H. 1954. Motivation and Personality. New York: Harper.

Miliband, R. 1969. The State in Capitalist Society. New York: Basic Books.

Morris, J. and L. W. Dickey. 1991. "Three 80s for the 90s Will Cut Waste in Half". Resource Recycling, March: 111-117.

National Commission on the Environment. 1993. Choosing a Sustainable Future: A Report of the National Commission on the Environment. Washington DC & Corelo, CA: Island Press.

Norgaard, R.1995. "Intergenerational Commons, Globalization, Economics, and Unsustainable Development." Advances in Human Ecology 4:141-171.

O'Connor, J. 1984. Accumulation Crisis. Blackwell Publisher: New York.

----- . 1988. "Capitalism, Nature, Socialism: A Theoretical Introduction." Capitalism, Nature, Socialism 1 Fall: 11-38.

Olson, L.M. 1986. Bureaucratic Control in Health Care: The Technology of Records. Unpublished doctoral dissertation, Sociology Department, Northwestern University, Evanston, Illinois.

Pakarinen, T. 1994. "The Politics of Sustainable Development: Theory, Policy, and Practice." Paper presented at conference on "The Politics of Sustainable Development Within the European Union," the University of Crete, October.

Pellow, D. N. 1994. "Environmental Justice and Popular Epidemiology: Grassroots

Empowerment or S

Pimentel, D., L.E. Hurd, A.C. Bellotti, M.J. Forster, I.N. Oka, O.D. Sholes, and
182 (2 November): 443-449.

R.J. Whitman. 197

Pimentel, D., W. Dritschilo, J. Krummel and J. Kutzman. 1975. "Energy and land
constraints in food protein production". Science 190 (21 November): 754-
761.

Pimentel, D., E.C. Terhune, R. Dyson-Hudson, S. Rochereau, R. Samis, E.A.
Smith, D. Denman, D. Reifschneider, and M. Shepard. 1976. "Land
degradation: Effects on food and energy resources." Science 194 (8
October): 149-155.

Poulantzas, N. 1973. "The Problem of the Capitalist State." Pp. 238-253 in R.
Blackburn, ed., Ideology in Social Science. New York: Vintage Books.
-----1973. Political Power and Social Classes. Translated by Timothy O'Hagan.
London: New Left Books & Sheed and Ward.

Powell, J. 1991. "How Are We Doing? The 1990 Report." Resource Recycling,
April: 64.

-----1993. "How Are We Doing? The 1992 Report." Resource Recycling,
April: 38.

Rabasca, L. 1992. "Most Recycling Markets Remain Weak in 1992." Waste Age's
Recycling Times, December 29: 1-12.

-----1993. "Recycling in 1993 Ebbs And Flows." Waste Age's Recycling
Times, December 28: 1-12.

Redclift, M. 1984 . Development and the Environmental Crisis: Red or Green
Alternatives? New York: Methuen.

-----1986. "Redefining The Environmental 'crisis' in the South." Ch. 4 in Joe
Weston, ed., Red and Green: The New Politics of the Environment.
London: Pluto Press.

- 1987. Sustainable Development: Exploring the Contradictions. New York: Methuen.
- 1990. Sustainable Development: Exploring the Contradictions. London: Methuen.
- Redclift, M. and D. Goodman, eds. 1991 Environment and Development in Latin America. Manchester, New York: Manchester University Press.
- 1994. "Reflections on the 'Sustainable Development' Debate." The International Journal of Sustainable Development and World Ecology. 1 (1) March.
- Reich, R. 1991. The Work of Nations: Preparing Ourselves for 21st Century Capitalism. New York: Alfred A. Knopf.
- Richardson, D. 1994. "The Politics of Sustainable Development." Paper presented at conference on "The Politics of Sustainable Development Within the European Union," the University of Crete, October.
- Saunders, P. 1993. "Citizenship in a Liberal Society." In Brian Turner, ed., Citizenship and Social Theory. London: Sage Publications.
- Schnaiberg, A. 1973. "Politics, Participation and Pollution: The 'Environmental Movement'." Pp. 605-627 in John Walton and Donald E. Carns, eds. Cities in Change: Studies on the Urban Condition. Boston: Allyn & Bacon.
- 1975. "Social Syntheses of the Societal-Environmental Dialectic: The Role of Distributional Impacts." Social Science Quarterly 56 (June): 5-20.
- 1977. "Obstacles to Environmental Research by Scientists and Technologists: A Social Structural Analysis." Social Problems 24 (5): 500-520.
- 1980. The Environment: From Surplus to Scarcity. New York: Oxford

- University Press.
- 1986a. "The Role of Experts and Mediators in the Channeling of Distributional Conflicts." Pp. 348-362 in A. Schnaiberg, N. Watts, and K. Zimmermann, eds., Distributional Conflicts in Environmental-Resource Policy. Aldershot, England: Gower Publishing.
- 1986b. "Reflections On Resistance To Rural Industrialization: Newcomers' Savatsky, ed., Differential Social Impacts of Rural Resource Development. Boulder, CO: Westview Press.
- 1994. "The Political Economy of Environmental Problems: Consciousness, Schnaiberg, A. & K. A. Gould. 1994. Environment and Society: The Enduring Conflict. New York: St. Martin's Press.
- Schor, J. 1991. The Overworked American: The Unexpected Decline of Leisure. New York: Basic Books.
- Selznick, P. 1992. The Moral Commonwealth. Berkeley: University of California Press.
- Skocpol, T. 1979. States and Social Revolutions. New York: Cambridge University Press.
- 1979. States and Social Revolutions. Cambridge: Cambridge University Press.
- Skocpol, T. and E. Amenta. 1986. "States and Social Policies." Annual Review of Sociology 12: 131-157.
- Somers, M. 1993. "Citizenship and the Place of Public Sphere: Law, Community, and Political Culture in the Transition To Democracy." American Sociological Review, 58:587-620.

Culture Of Environ

Coordination, and

Press.

- 1994. "Rights, Rationality, and Membership: Rethinking the Making and Meaning of Citizenship." Law and Social Inquiry 19: 63-112.
- Spector, M. and J. Kitsuse. 1987. Constructing Social Problems. New York: Aldine de Gruyter.
- Stretton, H. 1976. Capitalism, Socialism, and the Environment. Cambridge: Cambridge University Press.
- Szasz, A. 1990. "From Pollution Control to Pollution Prevention: How Does It Happen?" Paper presented at meetings of the American Sociological Association, Washington, D.C. August.
- 1994 . Ecopolitism: Toxic Waste and the Movement for Environmental Justice. Minneapolis & London: University of Minnesota Press.
- Tackett, M. 1987. "'Little Town that Roared' Savors Victory over Waste Dumper." Chicago Tribune, July 5: 1.4
- Tanzer, M. 1974. The Energy Crises: World Struggle for Power and Wealth. New York: Monthly Review Press.
- 1975. "The International Oil Crises: Tightrope Between Depression and War." In The Economic Crises Reader, ed. D. Mermelstein. New York: Vintage.
- Tibbs, H. 1993a. Industrial Ecology: An Environmental Agenda for Industry. Emeryville, CA: Global Business Network.
- 1993b. "The Ethical Management of Global Technology." Paper prepared for the annual meetings of the American Sociological Association, Miami Beach, FL, August.
- Turner, B. 1986. Citizenship and Capitalism. London: Allen and Unwin.
- Turner, B. editor . 1993. Citizenship and Social Theory. London: Sage.
- U.N.I.D.O. [United Nations International Development Organization]. 1979. Monographs on Appropriate Industrial Technology. Nos. 3,4,6,8 and 9.

- New York: United Nations.
- van Steenberg, B. 1994. The Condition of Citizenship. London: Sage Publications.
- van Vliet, W. 1990. "Human Settlements in the U.S.: Questions of Even and Sustainable Development." Paper presented at colloquium on "Human Settlements and Sustainable Development," University of Toronto, Toronto, Canada, June.
- Walley, N. and B. Whitehead. 1994. "It's Not Easy Being Green". Harvard Business Review May-June: 46-52.
- Walton, J. 1992. Western Times and Water Wars: State, Culture, and Rebellion In California. Berkeley: University of California Press.
- Weinberg, A. S. 1991. "Community Right to Know and the Environment: Reconceptualizing the Law." Paper presented at the annual meetings of the American Sociological Association, Cincinnati, August.
- 1994. "Environmental Sociology and the Environmental Movement: Towards a Theory of Pragmatic Relationships of Critical Inquiry." The American Sociologist 5 (1): 31-57.
- 1995. "Citizenship and Natural Resources: Rights versus Practices." Working Paper #94-26 .Center For Urban Affairs and Policy Research, Northwestern University, Evanston, IL.
- Weinberg, A. S. and K.A Gould. 1993. "Public Participation in Environmental Regulatory Conflicts: Treading Through the Possibilities and Pitfalls." Law and Policy 15:139-167.
- Weinberg, A., D. N. Pellow and A. Schnaiberg. 1996. "Pragmatic Corporate Cultures: Insights from a Recycling Enterprise." Forthcoming, Green Management International.
- Westman, W. E. and R.M. Gifford. 1973. "Environmental Impact: Controlling the

- Overall Level". Science 181 (31 August): 819-825.
- Williams, D. C. 1994. "Pragmatism and Faith: Selznick's Complex Commonwealth." Law and Social Inquiry, 5:775-801.
- Williamson, O. 1975. Markets and Hierarchies. New York: Free Press.
- 1981. "The Economics of Organization: The Transaction Cost Approach." American Journal of Sociology 87 (November): 548-577.
- Woods, R. 1993. "Kraft Mill Asks EPA to Consider Chlorine-Free Paper Guidelines." Recycling Times, May 18, page 3.
- World Commission on Environment & Development .1987. Our Common Future.
New York: Oxford University Press.

ⁱThis approach is a self-reflective process that situates rigorously-collected and analyzed data within preexisting literatures. It contextualizes past elements, through plot and setting, into a more analytic temporal ordering (Maines 1993). In doing so, it creates alternative versions, which challenge readers to examine their own belief structures. This debunking relies most heavily on the use of socially relevant concepts. This bring us back into everyday experience, and make us look for differences between theoretical forms in the literature, and experiential substance in our daily lives (James 1907). In other words, these concepts offer alternative images, explanations and arguments which probe the utility of our dominant symbols and theories. They reveal new versions of why things happen the way they do, and thus ultimately provide grounded assessments of many ramifications of our current social arrangements and practices.

ⁱⁱ We could add a political dimension to this argument. This social and political space, although small, represents twenty-five years of modern environmental movement struggle (Gould *et al.* 1993). Thus, it should not be given up, as long as it can support more of a grounded critique of present socio-economic structures.

ⁱⁱⁱThe first principle of thermodynamics is referred to as the law of Conservation and Matter. Matter cannot be created or destroyed. Matter cycles through the global environment. It can be chemically or otherwise physically transformed, but all the original materials are preserved in some form, without any being lost or created. Unused matter does not disappear as it is changed or transformed within the production process. Instead, unused matter takes the form of additions to ecosystems. Pollution and solid waste are the societal labels assigned to this type of transformed matter.

^{iv}The second principle of thermodynamics is referred to as the law of Entropy. As energy is altered from its potential energy form (e.g., coal or oil) to more socially-useful forms of kinetic energy (e.g., combustion to drive turbines), there is a loss of organization, defined as an increase in entropy. Energy is reduced from organized chemical forms into randomized heat. This randomized heat is less readily usable in social production. In one sense, it is spent energy. It is still energy, but its form has been changed from a socially-potential resource to a socially-unavailable (i.e., disorganized) resource. All production processes rearrange matter in ways that decrease the amount of available ordered energy. Natural resource depletion is the common label given to the social problems that arise from this principle.

^v For example, the 500 largest American producers failed to add any American jobs between 1975-1990 (Reich 1991).

^{vi} An interesting side note to this changing history is the beverage container industry. Over the last two decades manufacturers of beverage containers have taken three strong stands with regards to their containers. In the late 1960s and early 1970s, they helped to spawn an early "cosmetological" (Schnaiberg 1973) social movement that wanted to "Keep America Beautiful." From the mid-1970s to the mid-1980s they spent millions of dollars opposing container deposits ("bottle bills") and other legislation designed to facilitate container reuse. Starting the mid-1980s they became among the most enthusiastic industrial supporters of recycling (Schnaiberg 1993). This historical juxtaposition alone should challenge our assumption that recycling represents the imminent dominance of [environmental] politics over economic markets (Lindblom 1977).

^{vii} This was either an "epidemic of reports," as seen by conservative politicians, or a "report of an epidemic," as seen by activists (e.g., Brown and Mikkelsen, 1990).

^{viii}Many critics have these labeled local movements as "NIMBY" movements, attacking them as undemocratic. The NIMBY label implies that local activists are selfish, materialistic, and often naive and non-cosmopolitan in their ethos. The local community values are portrayed as the very antithesis of national needs, since these local groups accept the various production organizations which increase local and national environmental risks. It often portrays the local groups as simple-minded defenders of the status quo, as opposed to the supposedly "progressive" advocates of economic opportunity. Our view of such attacks is that they blame the victims. Just as the concept of *political correctness* demeans the political objectives of those who want to defend social and political victims of discriminatory behavior by gross caricatures, so too does *NIMBY* negate the strategies, tactics and contexts of local citizens struggling to protect their citizen and worker rights.

^{ix}Modern structural theories of the state have moved well beyond the earlier academic consensus around a pluralistic model of mediation (Buttel, 1985). Three major perspectives on the advanced industrial state have emerged in the past twenty years, each of which has some relevance for this chapter. Instrumentalist views (Miliband, 1969) conceptualize the state as an agent of the interests of the capitalist class. The activities of the dominant class of capitalist producers are reflected by state actors and agencies. A revision of this perspective by Poulantzas (1973a, b) envisioned the state as a reflection of the entire class structure of advanced industrial societies. This structural concept of the state theorized that the major goal of the state apparatus was to reproduce the capital logic of the society, with a broader and longer-term perspective than that imposed by the immediate interests of any segment or fraction of the capitalist class itself. The newest reformulation of the state, most widely expressed in the work of Skocpol (1979) and her students (Evans et al., 1985; Skocpol & Amenta, 1986) offers a more complex and dynamic view of the state. State actors and agencies are conceptualized as having some autonomous interests of their own. This becomes an additional factor in determining state actions. As well, this concept of a state-logic argues that the state's policies are more volatile than suggested by the earlier conceptualizations. The state, embedded in national and world-systemic contexts, produces a historical and comparative variability across time and states. This is due to the opportunities and constraints offered to state actors, and to various classes and class segments in advanced industrial societies.

^x Technically, the provisions of the Resource Conservation and Recovery Act (RCRA) of 1976 gave the federal government the pretense for doing something. In contrast, the Reagan and Bush administrations chose to do nothing.

^{xi} Many of the beverage container manufacturers who had collaborated on the Keep America Beautiful, Inc. campaigns of the 1960s and early 1970s (Schnaiberg 1973) successfully dealt with visible litter by distributing municipal containers widely enough to "keep litter in its place." They provided one model of successfully dealing with local social complainants (Spector and Kitsuse, 1977). On the other hand, their efforts in the 1970s and 1980s against "bottle bills" strongly suggest that a **reusable** [refillable] container approach was deemed too cost-**ineffective** for these beverage container industries.

^{xii} Ironically, in many municipalities such as Los Angeles, this was actually a **re**-introduction of much earlier programs of *garbage separation* that local citizens had eventually voted against because of its inconvenience (van Vliet, 1990). These earlier programs predated most modern environmental movements, and were introduced to reduce waste disposal costs (thereby reducing local taxes for this purpose).

^{xiii} The logic here is that products are made close to the site of the natural resource. Thus, products made from virgin materials are often produced in remote areas, whereas remanufactured goods would be made in the vicinity of the waste stream. For example: paper mills tend to be located in remote places like the upper northwest. Recycled paper mills could be located in metropolitan areas.

^{xiv} Again California appears to be the most advanced using this tool (Henderson 1993).

^{xv} Ironically, many of these approaches to recycling are quite similar to community actions in support of waste incinerators, which require contractual commitments to keep the privately-owned incinerators operating at a profitable way.

^{xvi} This can actually be stated more broadly for environmental issues, as evidenced by the U.S. National Commission on the Environment (1993: 23-30).

^{xvii} Of course, there are exceptions to this rule. A firm may actually attract new customers. But even under this ideal condition they will still take some customers from other firms in the sector.

^{xviii} The only exception has been socially responsible recycling firms that are developed by entrepreneurs who want to get past "this way of doing things." Yet, given the relations of the

industry even these firms have a choice. To play within a set of transaction based rules, or to be pushed out by larger producers. A few smaller firms have been left alone, but this has mostly proven to be a reaction of their negligible impact. They are too small and isolated an example to matter.

^{xix}Consider the actual linkage between recycling and remanufacturing, as noted in the technical media of the recycling industry. On the one hand, much remanufacturing involves some physical, chemical, and/or biological **manipulation** of recyclable materials. This produces both ecological additions or pollution, and energy and water inputs or withdrawals from ecosystems (Schnaiberg 1980, 1994). The example of deinking of newsprint with substantial pollution of local water sources is the best known but hardly the most pernicious of these examples (lead and mercury pollution in recycling batteries is a more toxic example).