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**Policy Professionalism and the Voices of Dissent:  
The Case of Environmentalism**

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Policy professionalism, being largely committed to the orderly operation of established institutions, often appears starkly at odds with dissenting social movements oriented by the goals of transformative politics. Nonetheless, policy professionalism and the voices of dissent have consequences for one another, and this essay draws attention to this relationship. An examination of environmentalism, in particular, shows how a dissenting social movement can influence conventional practices of policy professionalism at three levels: agenda, problem definition, and epistemology. Especially with the advent of postpositivist approaches to policy theory and practice, moreover, the identity and commitment of policy professionalism have been drawn into question. The potential for dissent within policy professionalism obviously harbors consequences for dissenting social movements and any attempt to maintain transformative politics in a posture of uncompromising opposition.

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## **I. Introduction**

Policy professionalism is often portrayed by critics and proponents alike as a technocratic enterprise, committed to the maintenance of established order. Pictured as proceeding from a scientific epistemology, the professional policy analyst is typically shown to employ an ensemble of technical devices designed for the objective monitoring and regulation of existing systems. In this sense, policy professionalism is thought to develop and utilize expertise specifically suited to the avoidance of social disruption and the containment of change within settled boundaries.<sup>1</sup> While policy professionalism, as thus pictured, seems comfortably settled within an established order, the professional orientation is inevitably challenged by voices of dissent, based in social movements arrayed in opposition to established forms of power.

These social movements are diverse, but they have in common a propensity to question and disrupt settled patterns of intellectual, social and political life. The voices of dissent have, indeed, been portrayed as the key to a "transformative politics" which, drawing upon the democratic potential of new social movements, would advance social equality and active political life.<sup>2</sup> At first glance, there would thus appear to be an irreconcilable opposition between policy professionalism and the voices of dissent. Nonetheless, neither side of the opposition exists in isolation or without consequences for the other.

Environmentalism has clearly emerged as an expression of

dissent, throwing into question comfortable assumptions about progress that have sustained the pattern of development characteristic of the advanced industrial order. The sphere of environmental politics thus forms a particular point of contact between the two distinct, largely antagonistic worlds of policy professionalism and dissenting social movements. By taking the dissenting voice of environmentalism as a point of reference, this essay seeks to promote a reconsideration of the relationship between the different sides of this opposition.

Certainly, neither the world of policy professionalism nor of dissenting social movements is homogeneous; internal differences must loom large in any effort to examine the relationship between them. In the case of environmentalism, there is an often stark cleavage between radical and reform propensities, between dark and light green.<sup>3</sup> The tension in environmentalism between challenging the established order and coming to an accommodation with it is no doubt a feature as well of other dissenting social movements. Such a tension within movements obviously poses a problem for efforts to view the voices of dissent as somehow coalescing in a broader pattern of transformative politics.

The idea of a transformative politics challenging the established order both significantly informs particular social movements and provides a way of understanding the ensemble of "new social movements."<sup>4</sup> Transformative politics approaches a particular social movement in terms of its potential fit with a pattern of social transformation involving the interplay of social

movements in resistance to established order. Features of a movement that do not readily fit with such an identity tend to be regarded as elements supportive of the prevailing order. The consequent propensity is to view the moderate or reform elements of a movement as being in complicity with hegemonic forces. A problem arises here, however, because the effort to maintain a coherent counter-hegemonic identity threatens to undermine the democratic inclusiveness that transformative politics tends to prize.

Potential support for transformative politics can be glimpsed even within policy professionalism itself. Despite its prevailing image as a technocratic enterprise, policy professionalism has long harbored internal differences of method and commitment, and these have become increasingly apparent in recent years against the backdrop of dissenting social movements.<sup>5</sup> This potential support at least throws into question the typical stance in transformative politics of pure and simple resistance--though it, by no means, undermines altogether the rationale for a strong oppositional accent.

Inclined in favor of affiliation with established order, policy professionalism might appear irrevocably at odds with a political theory and practice of vigorous, even disruptive, dissent and opposition. Indeed, the background to the advent of policy professionalism is clearly marked by a wish to prevent the fearful consequences of disruptive social tensions. In the Progressive era, concern with the irrationalities of a mass public unsettled the imagined happy marriage of science and democracy, particularly

as Walter Lippmann sought to enhance the rationality of elites capable of giving steady guidance to public affairs.<sup>6</sup> While this focus provided an impetus for technocratic tendencies, the emergence of policy professionalism has shown ambivalence. The promise of expertise held sway, but the prospect of an active, democratic public retained a significant presence.

The ambivalence also goes back to the Progressive era, to John Dewey's rejection of Lippmann's reliance on the promise of expertise. Dewey called instead for a relationship between experts and citizens that would enhance democratic possibilities.<sup>7</sup> Harold Lasswell's promotion of policy professionalism emerged from the context of this dispute and is marked by a vacillation between technocratic and democratic tendencies, though Lasswell ultimately remained an adherent of Dewey's position, placing an accent on democracy and warning of the threats of oligarchy and bureaucratism. In this regard, Lasswell advances a highly sophisticated conceptual framework, which contains often neglected critical features pertaining to professional identity and commitment.<sup>8</sup> The accent on democracy becomes further pronounced and distinctly anti-technocratic in the work--also significantly influenced by Dewey--of Charles Lindblom, who not only spoke of "muddling through," but also stressed the policy relevance of "ordinary knowledge."<sup>9</sup> In a similar vein, Aaron Wildavsky not only encouraged analysts in "speaking truth to power," but also tried to reconfigure the relationship between experts and citizens, going so far as to conceptualize "citizens as analysts."<sup>10</sup>

Professional policy theory and practice now contain significant anti-technocratic and anti-scientistic tendencies, which are congruent with the goal to expand participation in policy deliberations while promoting democratic political and social life.

Under the general influence of Jürgen Habermas' critical theory, figures such as John Dryzek, Frank Fischer, and John Forester have sketched out a dissenting, postpositivist approach to conventional policy professionalism. These figures also revive key themes--important as well to Habermas--of Deweyan pragmatism, thereby carrying forward a potential long latent in the policy field.<sup>11</sup> In this regard, what Forester notes as a strange convergence of themes in figures such as Habermas and Wildavsky can also be viewed as the surfacing of previously submerged possibilities.<sup>12</sup> In the conclusion, we shall return to the complicated question of how a transformative politics might relate to new developments in the policy field--to a dissenting counter-professionalism--within the larger context of dissent and opposition.

## **II. Policy Professionalism and Environmentalist Dissent**

Environmentalism, as a social movement, has clearly made a mark on the contemporary political landscape, affecting both terms of public discourse and features of the policy process. At the same time--in a pattern that may hold for other social movements as well--environmentalism has worked an influence on policy professionalism by shaping the focus of attention in three related, though distinguishable, ways: through *agenda*, *problem definition*,

and *epistemology*.<sup>13</sup> This tripartite scheme is here applied only in the particular context of environmentalism, with substantial attention to the issue of toxic waste. The extent to which this conceptual framework is applicable to other social movements can, of course, be determined only through concrete case studies.<sup>14</sup> Nonetheless, these distinctions would appear to be a useful starting point in reconsidering more broadly the relationships between policy professionalism and dissenting social movements.

In terms of agenda, the environmental movement brought to attention general concerns, specific issues, and particular elements of evidence that had been ignored or neglected by policy professionalism and conventional perspectives generally. Environmentalism also introduced distinctive ways of framing and defining policy problems. Finally, the environmental movement has provoked epistemological controversy to challenge prevailing conventions and suggest new, or at least revised, standards as to what can legitimately count as evidence and knowledge relevant to the policy process.

A festive, unruly atmosphere characterized the first Earth Day in 1970, as environmentalism made a dramatic entry into the spotlight of politics in advanced industrial society. The event evoked fears of ecological catastrophe, but also brought hopeful visions of nature and humanity in harmony. Convinced that the direction of advanced industrial society was significantly flawed, environmentalists debated the options of radical action or reform, but generally shared a concern that their efforts could fall prey

to cooptation by the prevailing institutions of government and industry. Many sharply oppositional features of environmentalism were, indeed, smoothed over as the 1970s advanced.

Government confidently portrayed new rules and agencies as the solution to the environmental crisis, industry vigorously defended itself against disturbing demands, and the largely quiescent domain of environmental professionalism grew significantly. Yet the core of the institutional response to environmentalism, as Samuel Hays has emphasized, was a call to reason: contentious environmental politics, supposedly a source of irrationality and policy stalemate, should give way to "centralized direction by technical experts"<sup>15</sup> who would provide "the central language of public discourse over environmental policy."<sup>16</sup>

The voices of a dissenting environmentalism have thus been constrained by a language of policy professionalism. As a leading primer in the field declares, policy analysis provides "a discipline for working within a political and economic system, not for changing it."<sup>17</sup> Policy professionalism is mainly concerned with making "minor adjustments in existing mechanisms."<sup>18</sup> This narrow focus is useful, it has been claimed, because "expertise and decision-making technologies" have become necessary for a "technical process of government" ruling out public participation: "It is clearly a job for experts and for all the sophisticated information handling and management techniques that can be brought to bear on it."<sup>19</sup> In his critique of the disciplinary foundations of policy professionalism, Laurence Tribe emphasized its attachment

to an "objectivist ideal" and reliance upon an "antiseptic terminology" tending to reinforce an image of neutrality and to anesthetize moral feeling: "To facilitate detached thought and impersonal deliberation, what more plausible path could there be than to employ a bloodless idiom, one as drained as possible of all emotion?"<sup>20</sup> In the professional focus, then, there is a foreshortening of perspective, in which moral, political, and historical contexts are thrown out of proportion. Professional policy discourse provides an adjunct to established order, facing its problems and speaking its language.

The professional orientation thus tends to constrain those elements of environmentalism that would draw attention to new problems and would speak a new language. The professional world of environmental policy nonetheless expanded and became institutionalized in a manner which both reflected and resisted the influence of environmentalist dissent. What is clear, in any case, is that a dissenting environmentalism has not simply been constrained by policy professionalism, but has worked its own influence on the world of the policy professional. This influence is most obvious in that environmentalist concern has been firmly institutionalized on the agenda of public policy deliberations. Once the environment made it onto the agenda of policy processes in advanced industrial society, environmentalist challenges were in the offing as well at the levels of problem definition and epistemology.

### III. Agenda: Environment Becomes an Issue

While the administrative state has consistently adopted policies to advance the cause of industrialization, relatively little attention was given to the environmental consequences of these policies until the emerging environmental movement made it into the public spotlight in the late 1960s.<sup>21</sup> Earth Day, as inaugurated in 1970, marked a culmination of extraordinary environmentalist agitation and legislative response that saw unlikely public figures suddenly seem eager to support the environmentalist cause, though not always for long. The environment had made it high onto the public policy agenda in dramatic fashion, but the question remained as to how long this prominence would last.<sup>22</sup>

From an environmentalist perspective, the environment constituted an enormous blindspot for industrialization. Placing the environment securely on the policy agenda meant somehow institutionalizing a focus on the environment. Changes in the state administrative apparatus helped to serve this purpose by placing the "environmental" symbol prominently in the titles and mandates of agencies that were either entirely new or created by a realignment of previously existing administrative units. Another chief means to the end of keeping a focus on the environment was environmental impact assessment, the most visible influence of environmentalism on procedures in public policy.

While environmental impact assessment--and related innovations such as technology assessment and social impact assessment--have

often been appropriately criticized for a propensity to become little more than technocratic rituals, these practices are not always easily contained. They bring attention in a routine way to matters that before would have remained invisible, and this altered focus of attention has the potential to influence the flow of policy considerations while promoting entry to the process of interests and perspectives that would previously have been excluded.<sup>23</sup> Environmental impact assessment has thus been described as a "worm in the brain," as possessing the "subversive" potential<sup>24</sup> of "making bureaucracies think."<sup>25</sup>

Once the environment becomes an issue, there remains the question of what particular problems are to be addressed. How is *environment* to be understood? By the time of the first Earth Day concern was primarily focused on air and water pollution issues. The next two decades, however, were to witness a burgeoning of the range of environmental issues, many related to new industrial processes and consumer products emerging in the post-war era.<sup>26</sup> Early environmentalist moves, both in terms of popular agitation and public policy, remained marked by an industrialist tendency toward linear thinking and narrowly conceived solutions. Attention was focused on the "end of the pipe," on installing filters on existing equipment or finding ways of diluting pollution. Little focus yet was directed to the redesign of techniques and activities in light of wider patterns and cycles of eco-systemic relationships. Greater attention turned in this direction as new environmental issues began to crowd onto the policy agenda.

Of the new issues, one of the most striking was that of toxic wastes. This largely remained a non-issue throughout the early rise of the environmental movement and the institutionalization of an environmental focus in public policy: "Early air- and water-pollution laws were debated and enacted without awareness or consideration of what to do with the waste materials once we stopped dumping them in the air and water."<sup>27</sup> Nonetheless, hardly more than a decade after the first Earth Day, Al Gore could call the toxic waste problem "the centerpiece of the environmental movement."<sup>28</sup> During the 1970s, a number of environmentally concerned legislators in the United States were effective in passing pieces of legislation relevant to toxic waste management.<sup>29</sup>

However, there was little public attention to the issue and little administrative inclination toward effective enforcement. In a 1980 speech recalling the early days of the Environmental Protection Agency (EPA), a senior official gave this portrayal:

Few seemed to care, within or outside of EPA. That included the major public interest groups or the environmental community which were still apparently intoxicated by the bold regulatory moves in air and water pollution which engaged the passions and interests of the leaders of the new Agency. That was the way it was ... not many people gave a damn about waste, hazardous or otherwise.<sup>30</sup>

The disposal of toxic wastes did not become a major concern until

after 1978 when, especially with the citizen activism and publicity surrounding the case of Love Canal, past practices of toxic waste storage and disposal were drawn sharply into question. The toxic waste problem entered dramatically onto the public agenda, as a grassroots anti-toxics movement emerged and public officials began to respond.<sup>31</sup> There remained a question, however, of how the toxic waste problem was to be defined.

#### **IV. Problem Definition: The Case of Toxic Wastes**

Environmentalism contains a propensity not only to recognize, but to define problems in ways that depart from prevailing tendencies in policy professionalism. This can be illustrated concretely with further reference to the case of toxic wastes. The focusing of attention on toxic wastes by itself constituted a significant reframing of environmental problems. Yet, even as toxic wastes emerged prominently on the policy agenda, the characteristic policy response largely amounted to an extension of past practice. The problem remained defined primarily in terms of disposal.

The past had indeed seen some extraordinary mismanagement in the disposal of toxic wastes: "corporate managers, in companies large and small, strong and weak, ... chose to abandon wastes all over the countryside. When they have been apprehended, their defense has been that, however bad their practices were, they were established and standard at that time."<sup>32</sup> Of course, not only corporations were involved here; so too were government officials,

who were inclined to see toxic wastes "as an insignificant after-effect of industrial production." Before Love Canal, governmental attention to toxic wastes was a matter of "random competence and interest": "Officials working on the problem of toxic wastes struggled unnoticed and often alone."<sup>33</sup> The upshot was a *de facto* public policy allowing industry to avoid the costs of careful disposal.<sup>34</sup>

As toxic wastes came onto the public policy agenda, it became apparent that past disposal practices had generated a massive problem, a lapse in administrative control that ran against common expectations of how the industrial world was supposed to develop. Reestablishing a smooth pattern of industrial development meant a massive, expensive project of finding and cleaning up past mistakes<sup>35</sup> while making sure that future disposal practices would be methodically planned and controlled. How the future was to differ from the past was, nonetheless, basically simple: disposal would now receive much more careful attention and would be addressed with more effective techniques.

With this form of problem definition, a major difficulty has emerged to confront policy professionals, who typically encounter great resistance when attempting to site improved hazardous waste treatment and disposal facilities. The situation has spawned a vast policy literature on the NIMBY (not-in-my-backyard) syndrome and related administrative frustrations: "From a managerial perspective, ... protestors are simply incapable of appreciating the information they are being given .... The typical remedy ...

is the injection of greater expertise into the policy process ...."<sup>36</sup> Resistance to siting proposals is typically portrayed as a threat both to sound governance and to environmental quality. Those who resist facility siting are pictured as emotional, self-interested minorities imposing their will on the majority. The public would generally benefit, it is claimed, if new, more technically effective facilities could be established. The conventional view among professionals is that toxic wastes are an inevitable by-product of industrial society, the unavoidable price all must pay for its benefits. The only real question is how a rational system for handling the wastes can be established and managed. It seems that the thing to do is to build new, technically sophisticated treatment and disposal facilities as expeditiously as possible. The problem is to quickly fix a previously unforeseen problem.

Opposition to the siting of new facilities can, however, lay claim to its own rationality. Since the past record of toxic waste management shows a glaring ineffectiveness, residents can offer significant reasons why they should harbor doubts about the competence and commitment of policy professionals who propose a disposal site in their area. The difficulty is exacerbated by the fact that these professionals can no longer simply rely upon unchallengeable claims that they know best; for they have no monopoly on the relevant knowledge. The members of effectively organized and sophisticated environmental groups now have the capacity to uncover errors and weaknesses in site plans. Indeed,

they "have frequently shown that the industry has simply not done its technical homework."<sup>37</sup> Moreover, environmentalists can readily point to a preoccupation with disposal as evidence of a conventional blindspot symptomatic of the perspective which, guiding the path of industrialization to date, helped to turn toxic waste into a major problem in the first place.

By taking the generation and disposal of wastes for granted, this perspective ignores the potential that environmentalists claim for reduction, reuse, and recycling. In opposing particular siting decisions, both environmental activists and local residents can thus appeal to the rationality of a more coherently designed system of industrial processes and products in which toxic materials would not typically end up as wastes creating significant disposal problems. The guiding idea would be "to integrate the waste fully into the web of industrial relationships."<sup>38</sup> Designing and implementing such a system becomes, from this viewpoint, the real problem--while preoccupation with disposal is seen as an extension of past errors and a convenient way for professionals to ignore the real problem.

An environmentalist redefinition of the toxic waste problem is supported by an historical focus on how toxic wastes were created and neglected as industry advanced. While administrative organizations, both public and private, proceeded under the banner of reason and progress, the full nature and consequences of their activities obviously escaped attention and control. How might the problem of toxic wastes--and its attendant dangers and costs--have

been avoided in the first place? Asking this question not only renders dubious the past rationality of the administrative organizations that have presided over the process of industrialization, but suggests a problem orientation for the future: how to reform the industrial system in such a way not only to dispose safely of toxic wastes but also to minimize the generation of such wastes. In advancing this orientation, environmentalism questions the conventional fixation on disposal and redefines the toxic waste problem particularly in terms of reduction. Redefining the problem in this way follows the general environmentalist focus on interdependencies--a focus which brings activities and relationships to attention in terms of cyclical and eco-systemic patterns.<sup>39</sup>

The environmentalist definition of the toxic waste problem has generally been neglected in the professional approach.<sup>40</sup> To focus fully on the problem in environmentalist terms, professionalism would have to escape an orientation that is rooted deeply in the institutions of advanced industrial society. Nonetheless, a partial impetus in this direction has been supplied by comprehensive systems concepts of environmental management, particularly as they have been advanced over the past two decades or so. Another impetus for movement in this direction has been citizen resistance to toxic waste management proposals. In this regard, the supposed emotionalism of the NIMBY Syndrome may provide an opportunity for a more "rational" response to the toxic waste problem than professionalism could achieve if left to its own

devices.<sup>41</sup>

Yet, the conventional focus on disposal has a final rationale that the environmentalist redefinition of the problem cannot easily ignore. The point is that, for better or worse, and for the time being at least, we are stuck with the present system and the disposal problems that it has generated. Whatever changes might be possible in the future, we are now faced with the hard reality of wastes requiring disposal. To the extent that it is possible, the significant reduction, reuse, and recycling of wastes will come slowly; and there will always remain some volume of wastes for which there is nothing other to be done than to find some means of permanent disposal. Given the pressing nature of the toxic waste problem, then, "all but the most biased must accept that something must be done in the broader public interest ...."<sup>42</sup>

If disposal is an immediate and pressing concern which demands urgent action, it appears too late to raise the question of reduction; indeed, to raise the issue could at times be interpreted as a dodge, as an attempt to divert attention from the necessary focus on disposal and to defeat plans for particular disposal facilities. Environmentalism surely would not deny that safe disposal is necessarily a concern, given the past accumulation of wastes and a mode of economic activity which routinely adds to it.

The significance of redefining the toxic waste problem in environmentalist terms emerges, then, as a matter of focus and emphasis.

How can necessary attention to disposal be combined with

significant attention to--even an emphasis on--reduction? What the conventional outlook typically ignores is that any program for the disposal of toxic wastes is unavoidably related to the future generation of such wastes. How such a program is designed is liable either to discourage or encourage the generation of wastes.

Indeed, past practice constituted an implicit policy of setting the costs, to be borne by the generator for toxic waste disposal, at virtually nil. The environmentalist redefinition of the problem seeks to avoid this. A focus on reduction rather than disposal in problem definition promotes a planning orientation that would see significant costs of toxic wastes borne by producers in order to promote a decisive break with past practices.<sup>43</sup>

#### **V. Epistemology: The Challenge to Scientism**

Groups at the grassroots, expanding into a coherent anti-toxics movement in the wake of Love Canal, have been able to point out clear evidence of public and private mismanagement of toxic wastes. Clearly no one was really in control or knew what was happening: "government knew very little about the magnitude of the hazardous waste problem as it embarked upon regulating it."<sup>44</sup> At the same time, these groups have widely protested dangers arising from exposure to toxic concentrations in the environment. Here, however, the grounds for protest have not been so clear-cut. Indeed, the dangers claimed by these groups have not generally been supported by scientific research based upon established presuppositions.<sup>45</sup>

One possible response to the situation would be for anti-toxic groups to fold their tents, admit they have been wrong, alarmist, just as many policy professionals might like to think. Another response would be to exalt the role of common sense and community based experience, to hold that these--not scientifically grounded expertise--possess the "definitive wisdom."<sup>46</sup> In examining this situation, Sylvia Tesh does not draw the conclusion that environmental concerns have here failed the test of science, or that direct experiential knowledge can lay claim to the final word. Instead, she re-examines science from an environmentalist perspective, arguing that common sense understandings of the world permeate scientific practice.<sup>47</sup> Here environmentalism reinforces the insight that notions of legitimate knowledge emerge from a social context, that modern science specifically is a social construction in which both questions and answers are influenced by implicit assumptions.<sup>48</sup>

Tesh maintains that, in assessing environmentalist concerns, epidemiology has been marked by assumptions of a "pre-environmentalist" cultural context conducive to industrial development: "In standard epidemiological practice the questions one asks, the studies one designs, the rules of evidence one obeys, and the interpretation one gives to results all start from the pre-environmentalist premise that the ambient environment is healthful and the scientist's task is to look for evidence to the contrary."<sup>49</sup>

This pre-environmentalist premise itself, however, is not a scientific finding, but a matter of common sense--precisely the

type of common sense that has supported the advance of industrialization. Environmentalism challenges this common sense with another perspective that could provide a different orientation for epidemiological practice--a viewpoint presupposing that the environment has indeed already been polluted, thereby shifting the burden of proof:

A new, environmentalist epidemiology might ... choose another tack entirely. Instead of presuming that nature is clear and looking for evidence to the contrary, as the null hypothesis requires, investigators might start from the assumption that nature is *polluted* and look for evidence to the contrary. Such a tack would shift the burden of proof from those who would clean up the environment to those who would endanger it.<sup>50</sup>

The reversal Tesh proposes as the basis of an environmentalist epidemiology can be construed as a matter of problem definition since it constitutes a reframing and redefinition of the research problem. However, problem definition here clearly involves epistemological questions related to scientific practice. As Tesh poses the issue, the practical difference between employing pre-environmentalist and environmentalist assumptions is one of shifting "the burden of proof." The further issue which arises here is how to decide where the burden of proof should be placed. Tesh's position is that environmentalist assumptions are better

suites to a science which seeks the prevention of disease.<sup>51</sup> What her argument reveals, in any case, is that the choice of assumptions is not one for which scientific expertise possesses ultimate authority, that non-experts might have a legitimate say. The epistemological orientation of policy professionalism thus confronts a challenge from within, from considerations arising from its own presuppositions. As the epistemic authority of scientism is thereby thrown into doubt, any coherent policy professionalism must reconsider how policy questions can legitimately be posed and addressed. As we shall see in the next section, this opens the door to a dissenting professionalism and its concern with the communicative context of policy deliberations.

Tesh's examination of a particular toxic waste issue offers an illustration of how change at the level of problem definition can anticipate such an epistemological challenge: attention is focused on the broader social and cultural contexts that enter into the construction of scientific practices, together with their application to policy problems. In both agenda setting and problem definition, environmentalism challenges conventional ideas and attitudes that have supported the advance of industrialization. Yet change at these levels can, in principle, be incorporated within technocratically oriented policy professionalism. Once environment has been placed on the agenda, it can be addressed with conventional techniques--even though the scope of concerns thus raised tends to make the limitations of such techniques rather obvious. Similarly, once problems have been redefined to take into

account broader cycles of activities and relationships, planning and management can settle into conventional routines--even though the process of problem redefinition may have seen a disruption of those routines and may suggest advantages in altering them. At the level of epistemology, however, the scientific foundation of technocratic notions is itself challenged.

The effective management of toxic wastes, we have seen, came as an afterthought to the industrial world and the administrative state. What became strikingly obvious was how little was known about the problem during, to use Tesh's term, a "pre-environmentalist" period; how little attention had been devoted to the generation and handling of toxic waste not only by private corporations, but also by agencies directly charged with public obligations. Why was the toxic waste problem so strikingly neglected? An answer to this question must go beyond references to the capitalist drive for profitability or government incompetence and connivance. An answer requires attention to pre-environmentalist assumptions about what makes knowledge legitimate and relevant in a policy context.

Policy professionalism takes its cue from scientism, the celebration of science as the only source of genuine knowledge, and regards scientifically grounded expertise as both the basis of its authority and the means of effective governance in the technologically complex society that scientific achievements make possible. Challenges to scientism often begin with the pointed observation that *faith* in science is not itself a form of

scientific knowledge.<sup>52</sup> Indeed, this faith has been secured within a modern cultural context that has granted the scientific enterprise an authority and prestige that it could not claim for itself without violating its own epistemological premises. Within the context of a progressively rationalized culture, the emergence of industrialization was supported by the conviction that modern science and technology offered the means for humanity to dominate nature, to achieve mastery--as Max Weber put it--of "all things by calculation."<sup>53</sup> As rationalized techniques and processes of administration promoted this mastery through an ensemble of state agencies and private corporations, a "commonplace" conviction emerged to inspire confidence in the capacity of modern society and technology to confront successfully whatever challenges the future might bring: i.e., "a high measure of certainty that problems have solutions before there is knowledge of how they are to be solved."<sup>54</sup>

While this conviction has been reinforced by impressive technological achievements, these have typically depended upon a focus attending to a strictly delimited set of variables. Success has thus come from systematic inattention to the complexities and ambiguities of a broader context. The administrative organizations of advanced industrial society, moreover, have exhibited a "bounded rationality" secure in the belief that world is "mostly empty"--that contextual interdependencies and uncertainties are largely irrelevant to administrative decisions.<sup>55</sup> Problems can thus be rationally isolated, addressed, and solved through highly selective attention by administrative organizations, aided by scientific

experts. This presupposition, necessary if scientism is to be creditable in the context of policy problems, has early roots in the emergence of the modern age, as nature and administration came to be understood in terms of the central metaphor of mechanism:

The rationalization of administration and of the natural order was occurring simultaneously. Rational management in the social and economic spheres helps to explain the appeal of mechanism as a rational order created by a powerful sovereign deity. As Descartes wrote ... in 1630, "God sets up mathematical laws in nature as the king sets up laws in his kingdom."<sup>56</sup>

Environmentalism, by directing attention to neglected contexts, poses a challenge to a long cultural tradition underpinning the project of industrialization.<sup>57</sup> From an environmentalist perspective, technological development based upon narrowly focused analysis exhibits an enormous blindspot: technology worked to the extent that one could ignore its side-effects, but environmentalism announced a crisis--one perhaps threatening the very survival of humanity--that consisted precisely in an accumulation and interaction of previously neglected side-effects.

This environmentalist perspective was reinforced not only by public perceptions of environmental deterioration, but also by developments within scientific discourse--particularly, ecology and systems theory--which focused attention upon complex

interdependencies and which made it increasingly difficult to restrict analytic attention within narrow boundaries. The simplifying assumptions and reductive moves of technocratically oriented policy professionalism become less convincing once the vagaries of an uncertain context become obvious. When the administrative state is made to think outside its conventional boxes, the fragility of its bounded rationality is exposed: administrative organizations are faced with a "gross increase in ... *relevant uncertainty*."<sup>58</sup> As mechanistic metaphors become insufficient guides to a complex terrain, attention turns to the possibility of designing "holistic" institutions in which inner and outer complexity would adequately match one another.<sup>59</sup>

Ecology has been one of the sources in the twentieth century inspiring a holistic approach to nature that recalls an earlier organicism. With the rise of the mechanistic world order, organicism was sharply attenuated, compromised, nearly eclipsed, by the rise of a mechanistic world order: the universe came to be seen in terms of discrete elements that could be clearly known, assembled and disassembled, with particular things treated as separate from everything else. Under the influence of a holistic orientation, environmentalism tends to challenge the mechanistic outlook: "Ecology necessarily must consider the complexities and the totality. It cannot isolate the parts into simplified systems ...." It focuses attention instead on "cyclical processes" and "the interconnectedness of all things."<sup>60</sup>

Environmentalism, although significantly influenced by the

modern natural sciences and informed by systems-theoretic concepts, also questions the whole mode of objectification characteristic of modern epistemology. While ecology often exhibits features typical of modern scientific disciplines, the scope and nature of its concerns also often rule out convincing causal explanations, thereby frustrating the quest for predictability and control. Ecology, indeed, does not simply remain the name for a scientific discipline, but is conceived as a path to ecological consciousness--a sensitivity attuned to natural interdependencies, informed by a reconceptualization of the human/nature relationship, and guided by attitudes and values that prize the natural world for its own sake.<sup>61</sup> Ecological consciousness is thus subversive of both the subject-object dualism of modern epistemology and the value neutral, reductionist scientism dependent on it. The new way of looking at things lends credence to local and traditional knowledge, to new metaphors of the biosphere (e.g., the "Gaia hypothesis"), and to aesthetic and moral judgments.<sup>62</sup>

Ecological consciousness is clearly at odds with a technocratically oriented policy professionalism. Yet the epistemological influence of environmentalism on policy professionalism is unlikely to be particularly visible in terms of promoting some sudden conversion to ecological consciousness that would dramatically alter the character of deliberations in established policy arenas. Such influence has greater likelihood of being exerted in more subtle ways. One such way--as we have seen in the toxic waste case--is through modes of problem

definition which, though they pose no direct threat in principle to prevailing analytic practices, promote a focus of inquiry in which the epistemological sufficiency of these practices is thrown into question. Another way is through critique of the supposed rationality of policy professionalism. The notion of rationality prevalent in professional circles has indeed been squarely contested--portrayed as overly narrow and simplistic--by postpositivist figures championing a broader conception. Environmentalism offers an important dimension to such critique.

Evidence of environmental damage often tends to undermine the exuberant confidence that has inspired the advent of the industrial order. Lapses in control--as in the case of toxic wastes--signal that the rationality of this order is not necessarily to be taken for granted. Indeed, this rationality can be challenged in the name of an "ecological rationality" necessary for any viable society. What is at stake here is the "life-support value of ecosystems": "The preservation of the life-support systems on which human beings depend is a precondition to the continued existence of society itself and its institutional forms ...."<sup>63</sup> Ecological rationality can be understood in terms of "an order of relationships among living systems and their environments"<sup>64</sup> within which any human society must somehow fit. A society becomes "ecologically irrational" when it fails to fit, when its forms of epistemic authority and institutional practice threaten the ecosystemic relations on which it relies.<sup>65</sup>

The quest for ecological rationality is not altogether new,

but informs past efforts at resource management that, dating to incipient stages of industrialization, became especially prominent during the Progressive era as early conservation policies were inspired by a "gospel of efficiency."<sup>66</sup> These efforts, however, typically remained guided by pre-environmentalist presuppositions; in particular, they lacked much appreciation of the enormous natural and social complexities that the rise of industrialism tended to override and obscure: there was little humility in the face of uncertainty and ignorance.

Even as environmentalism came to be celebrated with the first Earth Day in 1970, the quest for ecological rationality was at times supported by an epistemic confidence lending credence to the notion that environmental problems could be solved through reliance on the very forms of thinking and institutional design that had supported the rise of industrialization. Various authoritarian and technocratic modes of governance were advanced as necessary solutions to an escalating environmental crisis in which human beings were rapidly destroying their niche in the biosphere. Quite early on, however, William Leiss was able to formulate the clear conundrum that would arise for any such neo-Hobbesian proposal: "a concern with ecology necessarily becomes part of a *social* movement" which, in facing the environmental destruction wrought by established power, is not able to avoid "challenging the authoritarian decision-making powers vested in corporate and governmental institutions."<sup>67</sup>

Ecological rationality cannot have recourse to the reductive

moves and simplifying assumptions that allowed scientism to gain its epistemic authority in the course of industrialization. Here the most telling level of epistemic challenge emerges, as experience with environmental problems throws into question the assumption that scientific procedures can supply the knowledge necessary to handle such problems. The concept of "trans-scientific" issues, for example, draws attention to questions of key policy relevance that can be framed in conventional scientific terms but are entirely impractical to answer through scientific procedures.<sup>68</sup> The overall problem, as Robert Gibson argues, is not only one of uncertainty, but of enormous *ignorance*: it is not a matter of "gaps" in knowledge, but of a "general darkness with scattered pinpoints of light." What Gibson, in effect, suggests is that ecological rationality is inseparable from "an attitude of environmental humility": an orientation which guards against problems that arise when humans fail "to respect the complexity and vulnerability of the environment, and to appreciate the limits of human knowledge and understanding."<sup>69</sup> He argues against the common notion that we are "near the point at which properly supervised and directed scientists and administrators, assisted by specialized experts, could identify the right responses to most policy problems." These beliefs are exposed as "dangerous fictions" when one considers "evidence of environmental abuse" from "toxic releases" and in similarly complex issues such as "acid rain," "the greenhouse effect," and "holes in the ozone layer."<sup>70</sup>

Since the challenge to scientism is cast in terms of socially

constructed institutional practices, the challenge does not remain narrowly epistemological, but emerges as also being societal and institutional. The problem of "respecting ignorance and uncertainty,"<sup>71</sup> as Gibson puts it, indicates that "the self-confidence of large-scale industrial societies is unfounded" and suggests a "distant and difficult goal of establishing societies that respect the boundaries imposed by human ignorance."<sup>72</sup> For the moment, however, efforts to promote institutional designs consistent with environmental humility must confront the difficulties posed by established policy processes. Here key tasks involve enhancing "the transparency of decision making," exposing "the breath of expertise and understanding used," promoting "an institutionalization of openness to scrutiny," and incorporating diverse "critical perspectives."<sup>73</sup> With particular reference to the toxic waste issue, Bruce Williams and Albert Matheny have similarly advocated establishing the conditions for a "policy dialogue," emphasizing that such a dialogue requires "strong citizens" able to exercise a "right-to-know" in gaining access to information previously shielded from public view. In the context of such a dialogue, they maintain, serious attention can shift from the mere disposal of toxic wastes to ways of reducing them at source.<sup>74</sup> Pursued with such a societal and institutional focus, the epistemological challenge to scientism raises the possibility of a reorientation within policy professionalism, of practices which--while concerned with immediate issues of reform--are also attuned to a larger agenda animated by a spirit of dissent.

## **VI. Dissenting Professionalism**

Policy professionalism has at times faced the problem of counter-expertise: experts siding with the voices of dissent, aligning themselves with social movements opposed to established social and political order. The resulting politics of expertise, however, carries with it an implicit questioning of the role of expertise itself, drawing attention to issues in which non-expert, as well as expert, opinion is clearly relevant.<sup>75</sup> The response among some policy professionals has been to introduce innovations that clearly depart from scientific and technocratic presuppositions. At the same time, a significant current of postpositivism has emerged in policy theory and practice, staking out a position which is emphatically anti-scientific and anti-technocratic. The current of postpositivism, moreover, is itself clearly influenced by the advent of social movements such as environmentalism and constitutes a voice of dissent within policy professionalism itself--a dissenting form of professionalism.

A key question is how to create an appropriate forum for discussing issues in which both non-expert and expert opinion are relevant. As we have seen, Tesh focuses on the burden of proof as a key concept for promoting an environmentalist epidemiology relevant to concerns posed by the anti-toxics movement. This concept also suggests the framework of jurisprudence and the possibility of employing some type of "science court"--not one restricted to experts judging clearly factual questions, but one

involving citizens as well as experts in deliberating upon a range of issues that cannot be neatly demarcated in advance by a fixed epistemological position.<sup>76</sup> As important as expert opinions, in this context, are those opinions that draw attention to expert bias.

The problem of expert bias, when recognized and taken seriously within policy professionalism, throws the whole edifice of scientism into question. In this regard, Giandomenico Majone has recommended a "generalized jurisprudence."<sup>77</sup> Focusing particularly on the assessment of technological development, Majone has maintained that open criticism and public debate are necessary to counteract a central bias of experts:

Technical experts are naturally biased in the assessment of proposals and are more likely to be sceptical of any evidence of possible adverse effects than someone less committed to that particular project. The initial assumption is that the innovation will achieve what the innovator claims for it and that it will have no negative consequences that could reduce the attractiveness of its practical implementation.

Majone's conclusion is that "technological expertise cannot be relied upon to discover the characteristic risks and social implications of new technologies."<sup>78</sup> Indeed, in the case of energy policy, especially as involving nuclear power, Amory Lovins

similarly maintains that "too much expertise tends to obscure rather than illuminate the basic questions at issue."<sup>79</sup>

Such observations can be extended to the prevailing pattern of development in advanced industrial society. As we have seen, environmental impact assessment was advanced--along with technology assessment and social impact assessment--as a way of coming to grips with neglected difficulties in this pattern of development, or at least as a kind of "worm in the brain" unsettling to the normal boundaries of administrative rationality. Nonetheless, expert bias often appears here both as an unquestioning attitude toward the prevailing pattern and as a tendency to constrain inquiry according to scientific notions. Thomas Berger, who headed one of the most significant exercises in impact assessment, drew attention to this expert bias as obscuring "the nature of human affairs"<sup>80</sup> and pointed inquiry in a different direction:

If you are going to assess impact properly, you have to weigh a whole series of matters, some tangible, some intangible. But in the end, no matter how many experts there may be, no matter how many pages of computer printouts may have been assembled, there is the ineluctable necessity of bringing human judgement to bear on the main issues. Indeed, when the main issue cuts across a range of questions, spanning the physical and social sciences, the only way to come to grips with it and to resolve it is by the exercise of human judgement.<sup>81</sup>

The inquiry Berger headed was significant not so much for the exercise of judgment by an individual, however, as for the process of inquiry itself, which brought citizens and experts together in a forum that tended to equalize their standing.<sup>82</sup>

In such a context, the focus of attention breaks decisively with the framework of a technocratically oriented policy professionalism: "The supreme analytic achievement," as Majone puts it, "is no longer the computation of optimal strategies, but the design of procedural rules and social mechanisms for the assessment of incomplete and often contradictory evidence."<sup>83</sup> With this proposal we encounter, within policy professionalism, an epistemological shift from scientism to "discursive design," as Dryzek has suggested.<sup>84</sup> Similarly, according to Fischer, the shift involves decreased faith in the epistemic authority of technocratic experts together with an enhanced context of public communication, encouraging the development by citizens of "participatory expertise."<sup>85</sup>

Such a communicative shift, or "argumentative turn," has especially been advanced within the policy literature through the advent of postpositivism.<sup>86</sup> Postpositivism, though, has not emerged in isolation from dissenting social movements, but both reflects their influence and renders policy professionalism more receptive to that influence. By posing a challenge to the conventional epistemology and commitment of policy professionalism, postpositivism voices its own dissent. Directly contesting the

identity and purpose of policy professionalism, the postpositivist current constructs policy inquiry not as a fixed instrumentality, but as a site of contention. Indeed, policy inquiry has not emerged with a fixed identity insulated from context, but has always been a site of contention where different interests and perspectives are brought to bear.<sup>87</sup> While positivism did seek to fix the identity of policy professionalism as a technocratic instrument contained by a scientific epistemology, postpositivism tends to disrupt that identity by promoting participatory expertise and designs for open discourse that anticipate a more vigorously democratic public life.

## **VII. Conclusion**

The voices of dissent--as seen in the case of environmental politics--have significantly influenced policy professionalism by introducing challenges to agenda, problem definition, and epistemology. At the same time, policy professionalism is being contested from within by a postpositivist orientation that has both been shaped by the influence of social movements and has encouraged a hearing for the voices of dissent in the domain of professional policy discourse.

As suggested in the introduction, the postpositivist movement in policy theory and practice might thus seem to provide support for a project of a transformative politics. However, such a connection is by no means unproblematic. From the standpoint of a transformative politics, the connection could appear suspect, if

not alarming; for transformative politics proceeds from an counter-hegemonic posture which would resist the reformist implications of association with the professional policy domain.<sup>88</sup> From this position, the promotion of participatory expertise and discursive designs could readily be construed as constituting not a challenge to established order, but as a means of reinforcing it.

Even though postpositivism encourages more open and participatory procedures of inquiry, the focus indeed remains upon procedure--orderly and systematic processes of investigation and argument.<sup>89</sup> These stand in sharp contrast to the unruly practices<sup>90</sup> which a transformative politics often seeks from dissenting social movements. From the perspective of transformative politics, the orientation of the postpositivist approach would appear too thoroughly responsible, too apt to be incorporated into the established order.

The accent on diversity and inclusion in transformative politics here clearly encounters a serious problem to the extent that a dissenting, oppositional posture requires a clearly identified foe. This problem has strategic implications. The project of a transformative politics is based upon the capacity of diverse social movements to effect change, but displays a distinct disillusionment with prior theory and practice of social revolution. The idea of transformative politics has been developed to avoid problematic features of the Marxian legacy without giving up on the prospect of social transformation. Abandoning dependence upon a strategic center, transformative politics is oriented by a

counter-hegemonic posture toward established institutions. Neither the source nor character of this opposition is homogeneous; both involve diverse social forces which resist efforts at comprehensive coordination and direction. Under the influence of Foucault, the focus shifts from a single social movement to a diversity of social movements arising in resistance to what are conceived as contemporary forms of power/knowledge. Yet the transformative promise of such resistance comes from linking it to an explicitly post-Marxist project, drawing upon Gramsci, of counter-hegemonic struggle. Among Marxist theorists, Gramsci focused perhaps the most clearly upon historical ironies and paradoxes as he stressed the need for a revolutionary movement to establish alliances and tactical compromises among diverse social interests: "reality produces a wealth of the most bizarre combinations." To guarantee overall coherence and strategic thrust, however, Gramsci still relied upon the agency of a centralized party.<sup>91</sup>

The project of a transformative politics dispenses altogether with a centralizing move and relies strategically upon the emergence of a decentered hegemony through the complementary interplay of heterogeneous social movements. The strategic coherence of transformative politics depends upon its counter-hegemonic posture: opposition to a prevailing configuration of power/knowledge. However, a Foucauldian manner of resistance, focused upon the local and the particular, would be insufficient for the coherent conceptualization of a post-Marxist strategy defined in terms of comprehensive change toward radical democracy.

In contradistinction to Marxism, the project of a transformative politics does promote the inclusion of diverse social forces. Yet, even though this transformative orientation explicitly encourages openness, there is an at least provisional identity--hence principle of exclusion--already implicit in the notions of opposition and transformation. In strategic terms, this principle of exclusion is often purchased at the price of neglecting the significance of historical irony and paradox.

Current departures in policy professionalism promise to make dissenting voices more significant in policy discourse. Consequently, those engaged in the theory and practice of transformative politics cannot afford to ignore policy professionalism and the incipient changes within it. One possible response would be to reaffirm a rigorously oppositional stance that would reject any reformist tendencies. Such a response, of course, might well be guided by a reasonable assessment of power alignments in particular contexts. Yet, another possibility in certain contexts would be to avoid the temptation--against which theorists of transformative politics often warn--to think in exclusionary terms and to imagine that social change can be directed from some untainted posture of theoretical purity. This possibility suggests the need for a flexible orientation, for a greater appreciation of irony and paradox. If those guided by the agenda of a transformative politics were to move in this direction, abandoning a standpoint of pure refusal and engaging more directly with policy professionalism as a site of contention, the significance of the

voices of dissent could become even clearer.<sup>92</sup>

### Notes

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1. For a relevant treatment of policy professionalism, see Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983), esp. pp. 338-354. Cf. John L. Foster, "Professional Models for Policy Analysis," *Administration and Society*, 12 (1981): 379-397. Also see the early and influential characterization of the policy field as a technocratic venture by Laurence H. Tribe, "Policy Science: Analysis or Ideology?" *Philosophy and Public Affairs* 2 (1972): 66-110. For general discussions of the "mystique" of professionalism, see, e.g., Alan Wolfe, "The Professional Mystique," in *An End to Political Science*, Marvin Surkin and Alan Wolfe, eds. (New York: Basic Books, 1970), pp. 288-309; Jethro K. Lieberman, *The Tyranny of Experts: How Professionals Are Closing the Open Society* (New York: Walker, 1970); Margali Sarfatti Larson, *The Rise of Professionalism* (Berkeley: University of California Press, 1978).

2. See, e.g., William K. Carroll, ed., *Organizing Dissent: Contemporary Social Movements in Theory and Practice* (Toronto: Garamond Press, 1992).

3. See, e.g., Andrew Dobson, *Green Political Thought* (London: Routledge, 2nd ed., 1995); Helmut Wiesenenthal, *Realism in Green Politics: Social Movements and Ecological Reform in Germany* (Manchester: Manchester University Press, 1993); Martin W. Lewis, *Green Delusions: An Environmentalist Critique of Radical Environmentalism* (Durham, NC: Duke University Press, 1992).

4. See, e.g., Carroll, ed., *Organizing Dissent*; Ernesto Laclau and Chantal Mouffe, *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics* (London: Verso, 1985); Claus Offe, "New Social Movements: Challenging the Boundaries of Institutional Politics," *Social Research* 52 (1985): 817-868; Russell J. Dalton and Manfred Kuechler, eds., *Challenging the Political Order: New Social and Political Movements in Western Democracies* (Oxford: Oxford University Press, 1990).

5. See Douglas Torgerson, "Policy Analysis and Public Life: The

Restoration of *Phron'sis*?" in *Political Science in History: Research Programs and Political Traditions*, James Farr, John S. Dryzek, and Stephen T. Leonard, eds. (Cambridge: Cambridge University Press, 1995), pp. 225-252; "Between Knowledge and Politics: Three Faces of Policy Analysis," *Policy Sciences*, 19 (1986): 33-59; John S. Dryzek and Douglas Torgerson, "Democracy and the Policy Sciences," *Policy Sciences*, 26 (1993): 127-37.

6. See Craufurd D. Goodwin, "The Promise of Expertise: Walter Lippmann and the Policy Sciences," *Policy Sciences*, 28 (1995): 317-45.

7. The key work here is John Dewey, *The Public and Its Problems* in *John Dewey: The Later Works*, Vol. 2., Jo Ann Boydston, ed. (Carbondale and Edwardsville: Southern Illinois University Press, 1984; originally published, 1927). Also see Torgerson, "Policy Analysis and Public Life," pp. 231-233.

8. See Douglas Torgerson, "Contextual Orientation in Policy Analysis: The Contribution of Harold D. Lasswell," *Policy Sciences*, 18 (1985): 241-61; "Origins of the Policy Orientation: The Aesthetic Dimension in Lasswell's Political Vision," *History of Political Thought*, 11 (1990): 211-24; "Priest and Jester in the Policy Sciences: Developing the Focus of Inquiry," *Policy Sciences*, 25 (1992): 225-35; "Policy Analysis and Public Life," pp. 235-40; Davis B. Bobrow and John S. Dryzek, *Policy Analysis by Design* (Pittsburg: University of Pittsburg Press, 1987), pp. 172-74.

9. See Charles E. Lindblom, "The Science of 'Muddling Through,'" *Public Administration Review*, 19 (1959): 79-88; Charles E. Lindblom and David Cohen, *Usable Knowledge* (New Haven: Yale University Press, 1979). Also see Torgerson, "Policy Analysis and Public Life," pp. 242-243.

10. See Aaron Wildavsky, *Speaking Truth to Power: The Art and Craft of Policy Analysis* (Boston: Little, Brown, 1979), esp. ch. 11. Also see Torgerson, "Policy Analysis and Public Life," pp. 244-245.

11. See, e.g., John S. Dryzek, "Policy Analysis as a Hermeneutic Activity," *Policy Sciences*, 14 (1982): 309-29 and "Policy Sciences of Democracy," *Polity*, 22 (1989): 97-118; Frank Fischer, *Evaluating Public Policy* (Chicago: Nelson Hall, 1995); John Forester, *Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism* (Albany: SUNY Press, 1993). On the emergence of "a strong current" of postpositivism, see Leslie A. Pal, *Public Policy Analysis* (Scarborough, ON: Nelson Canada, 2nd ed., 1992), p. xi. The postpositivist orientation has often received rather monochromatic treatments. For an attempt to develop relevant distinctions among hermeneutic, critical, and deconstructive

approaches, see Douglas Torgerson, "Power and Insight in Policy Discourse: Postpositivism and Problem Definition," in *Policy Studies in Canada: The State of the Art*, Laurent Dobuzinskis, Michael Howlett, and David Laycock, eds. (Toronto: University of Toronto Press, 1996), pp. 266-98.

12. See John Forester, "The Policy Analysis-Critical Theory Affair: Wildavsky and Habermas as Bedfellows?" in *Critical Theory and Public Life*, John Forester, ed. (Cambridge, MA: The M.I.T. Press), pp. 258-280.

13. On environmentalism and public discourse, see Douglas Torgerson, "The Uncertain Quest for Sustainability: Public Discourse and the Politics of Environmentalism," in *Greening Environmental Policy: The Politics of a Sustainable Future*, Frank Fischer and Michael Black, eds. (London: Paul Chapman, 1995), pp. 1-20. For discussions relevant to agenda, problem definition, and epistemology, see the following: Robert W. Cobb and Charles D. Elder, "The Politics of Agenda Building: An Alternative Perspective for Modern Democratic Theory," *Journal of Politics*, (1971) 33: 892-915; David Dery, *Problem Definition in Policy Analysis* (Lawrence: University Press of Kansas, 1985); John W. Kingdon, *Agendas, Alternatives, and Public Policies* (Boston: Little, Brown, 1994); David A. Rochefort and Roger W. Cobb, "Problem Definition: An Emerging Perspective," in *The Politics of Problem Definition: Shaping the Policy Agenda*, David A. Rochefort and Roger W. Cobb, eds. (Lawrence: University Press of Kansas), pp. 1-31; Mary Hawkesworth, "Epistemology and Policy Analysis," in *Advances in Policy Studies since 1950*, William N. Dunn and Rita M. Kelly, eds. (New Brunswick, NJ: Transaction Publishers 1995), pp. 295-329.

14. Feminism, in particular, would also appear suited to analysis in these terms. Environmentalism draws attention to the category of nature in a way which advances a critique of industrialism. Feminism, similarly, draws attention to the category of gender in a way which advances a critique of patriarchy. In policy terms, this critique also involves agenda formation, problem definition, and epistemology, as can be seen from feminist contributions to the policy literature. See, e.g., Mary Hawkesworth, "Policy Studies Within a Feminist Frame," *Policy Sciences*, 27 (1994): 97-118; Martha A. Ackelsberg, "Feminist Analyses of Public Policy," *Comparative Politics*, 24 (1992): 477-93; Diane Gibson and Judith Allen, "Parasitism and Phallogentrism in Social Provisions for the Aged," *Policy Sciences*, 26 (1993): 79-98; Stephanie S. Rixecker, "Expanding the Discursive Context of Policy Design: A Matter of Feminist Standpoint Epistemology," *Policy Sciences*, 27 (1994): 119-42.

15. Samuel P. Hays, *Beauty, Health and Permanence: Environmental Politics in the United States, 1955-1985* (Cambridge: Cambridge University Press, 1989), p. 394.

16. Ibid., p. 412.
17. Edith Stokey and Richard Zeckhauser, *A Primer for Policy Analysis* (New York: W.W. Norton, 1978), p. 4
18. David Easton, *The Political System: An Inquiry into the State of Political Science* (New York: Alfred A. Knopf, 2nd ed., 1971), p. 81.
19. Emmanuel G. Mesthene, *Technological Change: Its Impact on Man and Society* (New York: Mentor, 1970), pp. 79-80.
20. Tribe, "Policy Science," pp. 97-98.
21. Robert Paehlke and Douglas Torgerson, "Environmental Politics and the Administrative State," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), pp. 285-301.
22. Richard Nixon was a prototypical figure in this regard. See Richard N.L. Andrews, *Environmental Policy and Administrative Change* (Lexington, MA: Lexington Books, 1976), pp. 24-25. For an early statement on the fortunes of environmentalism, see Anthony Downs, "Up and Down with Ecology--The 'Issue Attention Cycle,'" *The Public Interest*, 28 (1972): 38-50; for an effort, framed largely in response to Downs, to explain the "persistence" of environmental regulation despite determined resistance by powerful forces, see Ted Schrecker, "Resisting Environmental Regulation: The Cryptic Pattern of Business-Government Relations," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), pp. 165-197.
23. See, e.g., Laurence H. Tribe, "Technology Assessment and the Fourth Discontinuity: The Limits of Instrumental Rationality," *Southern California Law Review*, 46 (1972-73): 617-60; Douglas Torgerson, *Industrialization and Assessment: Social Impact Assessment as a Social Phenomenon* (Toronto: York University, 1980), ch. 7.
24. Robert V. Bartlett, "Ecological Reason in Administration: Environmental Impact Assessment and Administrative Theory," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), p. 82.
25. Serge Taylor, *Making Bureaucracies Think: The Environmental Impact Statement Strategy of Administrative Reform* (Stanford: Stanford University Press, 1984).

26. See Barry Commoner, *The Closing Circle* (New York: Alfred A. Knopf, 1971).

27. Samuel S. Epstein, Lester O. Brown, and Carl Pope, *Hazardous Waste in America* (San Francisco: Sierra Club Books, 1982), p. 37. Toxic wastes, strictly speaking, are only the most dramatic form of hazardous wastes. However, the distinction is not pertinent to the purposes of this essay.

28. Albert Gore, Jr., "Foreword" to Epstein, Brown, and Pope, *Hazardous Waste in America*, p. x.

29. See Bruce A. Williams and Albert R. Matheny, *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation* (New Haven: Yale University Press, 1995), Part II, "Hazardous Waste Policy: Regulatory Failure and Grass Roots Response," esp. pp. 98 ff.

30. Thomas F. Williams, deputy director, EPA Office of Public Awareness, quoted in *ibid.*, p. 98, from Mary Worobec, "An Analysis of the Resource Conservation and Recovery Act," *Environment Reporter*, (August 22, 1980): 634. Also see Richard Ripley, "Toxic Substances, Hazardous Wastes, and Public Policy: Problems in Implementation," in *The Politics of Hazardous Waste Management*, James P. Lester and Ann O'M. Bowman, eds. (Durham, NC: Duke University Press, 1983), pp. 24-42.

31. Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, ch. 7, provide a particularly useful discussion of the rise of the anti-toxics movement. On Love Canal, see Adeline Gordon Levine, *Love Canal: Science, Politics, and People*, Lexington, MA: Lexington Books, 1982).

32. Epstein, O'Brown, and Pope, *Hazardous Waste in America*, p. 357.

33. *Ibid.*, p. 181.

34. See T.F. Schrecker, *Political Economy of Environmental Hazards* (Ottawa: Law Reform Commission of Canada, 1988).

35. On the misadventures of Superfund in the United States, see Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, pp. 101 ff; also see Robert Paehlke and Douglas Torgerson, "Toxic Waste and the Administrative State: NIMBY Syndrome or Participatory Management?" in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), pp. 259-281; Steven Cohen and Marc Tipermas, "Superfund: Preimplementation Planning and Bureaucratic Politics," in *The Politics of Hazardous Waste Management*, James P. Lester and Ann

O'M. Bowman, eds. (Durham, NC: Duke University Press, 1983), pp. 43-59.

36. Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, p. 167; also see Barry Rabe, *Beyond Nimby: Hazardous Waste Siting in Canada and the United States* (Washington, D.C.: Brookings Institution, 1994).

37. Joe Castrilli, "Hazardous Wastes Law in Canada and Ontario," *Alternatives: Perspectives on Society and Environment* 10:2/3 (1982): 55. Also see Paehlke and Torgerson, "Toxic Waste and the Administrative State: NIMBY Syndrome or Participatory Management?"

38. Robert A. Frosch, "Industrial Ecology: A Philosophical Introduction," *Proceedings of the National Academy of Sciences U.S.A.*, 89 (1992): 800.

39. See John S. Dryzek, *Rational Ecology: Environment and Political Economy* (London: Basil Blackwell, 1987), ch. 3. Lovins' proposal for "soft energy paths," which shifts attention from supplying energy to using it more efficiently, provides an example of environmentalist problem redefinition, linked directly to a critique of technocratic policy professionalism. See Amory B. Lovins, "Cost-Risk-Benefit Assessments in Energy Policy," *George Washington Law Review*, 45 (1977): 911-43; *Soft Energy Paths* (Cambridge, MA: Ballinger Publishing, 1977).

40. See Robert Paehlke and Douglas Torgerson, "Toxic Waste as Public Business," *Canadian Public Administration*, 35 (1992): 339-62; Rabe, *Beyond Nimby*.

41. See Paehlke and Torgerson, "Toxic Waste and the Administrative State"; cf. Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, chs. 7-8.

42. Statement made in August 1980 by Harry Parrott, Ontario Minister of Environment, quoted in Paehlke and Torgerson, "Toxic Waste and the Administrative State," p. 271.

43. For a discussion of some complexities that arise in this connection, see Paehlke and Torgerson, "Toxic Waste as Public Business."

44. Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, p. 96.

45. Sylvia N. Tesh, "Environmentalism, Pre-environmentalism and Public Policy" *Policy Sciences* 26 (1993): 2-7.

46. Sylvia N. Tesh and Bruce A. Williams, "Identity Politics, Disinterested Politics, and Environmental Justice," *Polity* 28

(1996): 297.

47. Tesh, pp. 8-13.

48. Tesh and Williams, pp. 299 ff.

49. Tesh, p. 9.

50. Ibid, pp. 13-14 (original emphasis).

51. Ibid., p. 14.

52. See, e.g., Jürgen Habermas, *Knowledge and Human Interests*, Jeremy Shapiro, trans. (Boston: Beacon Press, 1971), esp. pp. 4, 67.

53. Max Weber, "Science as a Vocation," in *From Max Weber: Essays in Sociology*, H. H. Gerth and C. Wright Mills, eds. and trans. (New York: Oxford University Press), p. 139. Also see William Leiss, *The Domination of Nature* (Boston: Beacon Press, 1974); Carolyn Merchant, *The Death of Nature: Women, Ecology and the Scientific Revolution* (New York: Harper and Row, 1983).

54. John Kenneth Galbraith, *The New Industrial State* (New York: Mentor Books, 2nd rev. ed., 1972), p. 37.

55. However much "bounded rationality" may be ascribed to intrinsic limitations of human individuals and collectivities, it is characteristically accentuated in administrative organizations, where Simon first identified it. See Herbert A. Simon, *Administrative Behavior: A Study of Decision-Making in Administrative Organization* (New York: The Free Press, 3rd ed., 1976), esp. pp. xxix-xxx; cf. John S. Dryzek, "Complexity and Rationality in Public Life," *Political Studies*, 35 (1987): 424-42. Lasswell's stress on contextual orientation may be regarded as an effort to press against such boundaries; see Torgerson, "Contextual Orientation."

56. Merchant, *Death of Nature*, p. 205, quoting a letter from Descartes to Mersenne of April 15, 1630.

57. See Douglas Torgerson, "Limits of the Administrative Mind: Problems of Defining Environmental Problems," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds., (Peterborough, ON: Broadview Press, 1990), pp. 115-161.

58. F.E. Emery and Eric Trist, "The Causal Texture of Organizational Environments" (1965) in *Systems Thinking*, Vol. 1, F.E. Emery, ed. (Harmondsworth: Penguin Books, rev. ed., 1981), p. 254 (original emphasis); also see Eric Trist, "A Concept of

Organizational Ecology," *Australian Journal of Management*, 2 (1977): 161-175.

59. C.A.Hooker and R. van Hulst, "The Meaning of Environmental Problems for Public Political Institutions," in *Ecology versus Politics in Canada*, Williams Leiss, ed. (Toronto: University of Toronto Press, 1979), pp. 131-34. Cf. Frosch, "Industrial Ecology."

60. Merchant, *Death of Nature*, p. 293; cf. chs. 4, 8-9, 10. Yet, there is an important distinction between ecology as a scientific discipline and the influence that certain ideas drawn from ecology have had in a broader cultural context. Commoner, e.g., in *The Closing Circle*, pp. 29-42, popularized four now famous "laws of ecology"; he called them "informal," and no one would seriously regard them as "scientific laws." As a scientific discipline, ecology is heterogeneous and not necessarily governed by great unifying ideas. The practices of scientific ecology appear to be substantially influenced by particular political and institutional contexts. See Stephen Bocking, *Ecologists and Environmental Politics: A History of Contemporary Ecology* (New Haven: Yale University Press, forthcoming 1997), esp. ch. 8.

61. Donald Worster's *Nature's Economy: The Roots of Ecology* (Garden City, NY: Anchor Press, 1979) portrays the tension between scientific tendencies in ecology and the rise of ecological consciousness. Also see Gregory Bateson, *Steps to an Ecology of Mind* (New York: Ballantine Books, 1974); Murray Bookchin, "Ecology and Revolutionary Thought" in his *Post-Scarcity Anarchism* (San Francisco: Ramparts Press, 1971), pp. 55-82, and *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy* (Palo Alto, CA: Cheshire Books, 1982); Bill Devall and George Sessions, *Deep Ecology: Living as if Nature Mattered* (Salt Lake City: Peregrine Smith Books, 1985); Robyn Eckersley, *Environmentalism and Political Theory* (Albany: SUNY Press, 1992); Ynestra King, "Healing the Wounds: Feminism, Ecology, and the Nature/Culture Dualism," in *Reweaving the World: The Emergence of Ecofeminism*, Irene Diamond and Gloria Geman Orenstein, eds. (San Francisco: Sierra Club Books, 1990), pp. 106-121; Robert Paehlke, *Environmentalism and the Future of Progressive Politics* (New Haven: Yale University Press, 1989); John Rodman, "Four Forms of Ecological Consciousness Reconsidered," in *Ethics and the Environment*, Donald Scherer and Thomas Attig, eds. (Englewood Cliffs, NJ: Prentice-Hall, 1983), pp. 82-92.

62. See, e.g., Milton M.R. Freeman, "The Nature and Utility of Traditional Ecological Knowledge," in *Consuming Canada: Readings in Environmental History*, Chad Gaffield and Pam Gaffield, eds. (Toronto: Copp Clark, 1995), pp. 39-46; John Visvader, "Gaia and the Myths of Harmony: An Exploration of Ethical and Practical Implications," in *Scientists on Gaia*, Stephen H. Schneider and Penelope J. Boston, eds. (Cambridge, MA: The M.I.T. Press, 1993), pp. 33-37; Rodman, "Four Forms of Ecological Consciousness

Reconsidered."

63. John S. Dryzek, "Ecological Rationality," *International Journal of Environmental Studies*, 21 (1983): 5, 8; also see Dryzek, *Rational Ecology*, chs. 3-5.

64. Robert V. Bartlett, "Ecological Rationality: Reason and Environmental Policy," *Environmental Ethics*, 8 (1986): 229.

65. Dryzek, *Rational Ecology*, p. 245.

66. See Merchant, *Death of Nature*, ch. 10; Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (New York: Antheneum, 1975).

67. Leiss, *The Domination of Nature*, p. 22. On implications for administrative and policy practices, see Robert Paehlke and Douglas Torgerson, eds., *Managing Leviathan: Environmental Politics and the Administrative State* (Peterborough, ON: Broadview Press, 1990).

68. For the formulation of this concept, see Alvin M. Weinberg, "Science and Trans-Science," *Minerva*, 10 (1972): 209-222. For some striking applications, see Lovins, "Cost-Risk-Benefit Assessments in Energy Policy," pp. 920 ff.

69. Robert B. Gibson, "Respecting Ignorance and Uncertainty," in Erik Lykke, ed., *Achieving Environmental Goals: The Concept and Practice of Environmental Performance Review* (London: Belhaven Press, 1992), pp. 158, 173.

70. Robert B. Gibson, "Out of Control and Beyond Understanding: Acid Rain as a Political Dilemma," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), p. 243.

71. Gibson, "Respecting Ignorance and Uncertainty."

72. Gibson, "Out of Control and Beyond Understanding," p. 253

73. Gibson, "Respecting Ignorance and Uncertainty," p. 167

74. Williams and Matheny, *Democracy, Dialogue and Environmental Disputes*, pp. 193, 196, 200-03, 177 ff; cf. Albert R. Matheny and Bruce A. Williams, "The Crisis of Administrative Legitimacy: Regulatory Politics and the Right To Know," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), pp. 229-241.

75. See Scöhn, *The Reflective Practitioner*, pp. 338-54; Frank

Fischer, *Technocracy and the Politics of Expertise* (Newbury Park, CA: Sage Publications, 1990). Also see Aat Peterse, "The Mobilization of Counter-Expertise: Using Fischer's Model of Policy Inquiry," *Policy Sciences*, 28 (1995): 369-73.

76. One possibility is a kind of "science court" designed to avoid constraints on participation that might be suggested by conventional legal practice. See Frank Fischer, "Citizen Participation and the Democratization of Policy Expertise: From Political Theory to Practical Cases," *Policy Sciences*, 26 (1993): 165-87. For other possibilities of "discursive design" in an environmental context, see "Designs for Environmental Discourse," in *Managing Leviathan: Environmental Politics and the Administrative State*, Robert Paehlke and Douglas Torgerson, eds. (Peterborough, ON: Broadview Press, 1990), pp. 97-111.

77. Giandomenico Majone, "Technology Assessment and Policy Analysis," *Policy Sciences*, 8 (1977): 174.

78. Giandomenico Majone, *Evidence, Argument and Persuasion in the Policy Process* (New Haven: Yale University Press, 1989), pp. 5-6.

79. Amory B. Lovins and John H. Price, *Non-Nuclear Futures: The Case for an Ethical Energy Strategy* (Cambridge, MA: Ballinger Publishing, 1975), p. xix.

80. Thomas Berger, *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry*, 2 Vols. (Ottawa: Supply and Services Canada, 1977), Vol. 1, p. 161.

81. *Ibid.*, Vol. 2, p. 229.

82. See D.J. Gamble, "The Berger Inquiry: An Impact Assessment Process," *Science*, 199 (1979): 946-52; Torgerson, "Between Knowledge and Politics"; Dryzek, "Policy Analysis as a Hermeneutic Activity."

83. Majone, "Technology Assessment and Policy Analysis," p. 174.

84. See John S. Dryzek, "Policy Analysis and Planning: From Science to Argument," in *The Argumentative Turn in Policy Analysis and Planning*, Frank Fischer and John Forester, eds. (Durham: Duke University Press, 1993), pp. 213-232. Also see John S. Dryzek, "Discursive Designs: Critical Theory and Political Institutions," *American Journal of Political Science*, 31 (1987): 656-79.

85. See Frank Fischer, *Technocracy and the Politics of Expertise* and "Participatory Expertise: Toward the Democratization of Policy Science," in *Advances in Policy Studies since 1950*, William N. Dunn and Rita M. Kelly, eds. (New Brunswick, NJ: Transaction Publishers, 1992), pp. 351-376.

86. Frank Fischer and John Forester, eds., *The Argumentative Turn in Policy Analysis and Planning* (Durham: Duke University Press, 1993).

87. See Torgerson, "Policy Analysis and Public Life" and "Power and Insight in Policy Discourse."

88. On counter-hegemony, see, e.g., Carroll, ed., *Organizing Dissent*. Proposals for policy dialogue, discursive designs, and participatory expertise also tend to carry with them the conviction that there are discernable criteria to discriminate, if not between better and worse policies, at least between better and worse policy processes and arguments. There is a significant tension between this conviction and the tendency toward relativism characteristic of some positions in postpositivism and in transformative politics.

89. See Douglas Torgerson, "Reuniting Theory and Practice," *Policy Sciences*, 25 (1992): 211-224; Frank Fischer, "Reconstructing Policy Analysis: A Postpositivist Perspective," *Policy Sciences*, 25 (1992): 333-39.

90. Cf. Nancy Fraser, *Unruly Practices: Power, Discourse, and Gender in Contemporary Social Theory* (Minneapolis: University of Minnesota Press, 1989).

91. Antonio Gramsci, *Selections from the Prison Notebooks*, Quintin Hoare and Geoffrey Nowell Smith, eds. and trans. (New York: International Publishers, 1971), p. 200.

92. See Laclau and Mouffe, *Hegemony and Socialist Strategy*; Ernesto Laclau and Chantal Mouffe, "Post-Marxism without Apologies," *New Left Review*, 166 (1997): 79-106; Carroll, ed., *Organizing Dissent*; Dalton and Kuechler, eds., *Challenging the Political Order*. For further treatment of these issues in the context of environmentalism, see Douglas Torgerson, "Strategy and Ideology in Environmentalism: A Decentered Approach to Sustainability," *Industrial and Environmental Crisis Quarterly*, 8 (1994): 295-321.

93. For a relevant case study, influenced more by Foucault than Habermas, see Michael Gismoni and Mary Richardson, "Discourse and Power in Environmental Politics: Public Hearings on a Bleached Kraft Pulp Mill in Alberta, Canada," in *Is Capitalism Sustainable? Political Economy and the Politics of Ecology*, Martin O'Connor, ed. (New York: Guilford Press, 1994), esp. p. 236.