

**On the borders of advocacy: the organizational boundary-work of the  
Ecological Society of America**

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Presented at the Triple Helix conference, Copenhagen, Denmark, November 6-9, 2002.

**Abstract**

In this paper, I discuss the ways that the Ecological Society of America (ESA), the primary professional organization for ecologists in the United States, has constructed its relationship with environmental politics since World War II. My analysis of the ESA relies on integrating three concepts: boundary-work (Gieryn 1983, 1999; Moore 1996), institutional isomorphism (DiMaggio and Powell 1983) and historically resonant discursive elements (Kleinman and Kloppenborg 1991; Kleinman and Kinchy 2001). In combining these three ideas, I provide a nuanced account of one professional scientific organization's shifting role in society. I argue that, although the ESA's boundary-work is contingent on political context, certain boundaries—such as a distinction between science and values—remain stable over time and across the organizational field, restricting the ESA, like other professional science organizations, to a fairly conservative role in the broader social world.

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Because professional scientific organizations, or scientific societies, are often a site at which science, government and industry intersect, they are a good place to observe the negotiation of the role of professions in society. In this paper, I focus on the Ecological Society of America, the primary professional organization for ecologists since the second decade of the last century. I discuss the ways that the ESA, since World War II, has constructed its relationship with environmental politics. Environmental issues have long been of concern to many ecologists, from the preservation and conservation movements of the first half of the 20<sup>th</sup> century to the contemporary environmental movement. Responding to changing political circumstances, the ESA has flexibly defined its boundaries so as to appear more or less engaged in public affairs, sometimes drawing on an ideal of ‘pure science’ in order to disassociate the organization from political issues, at other times edging closer to government, demonstrating its utility to policymakers and other government officials. Although the ESA repeatedly maintains that it provides knowledge useful to activists for social and environmental change, since the 1940s the organization has not itself served an advocacy role. Even as individual and small groups of ESA members engage in controversial environmental politics, putting their own credibility on the line in pursuit of social change, the ESA remains basically conservative, constructing careful boundaries to retain an image of value-neutrality.

This case raises doubts about the contributions professional scientific organizations can make to movements for social change and environmental protection. As scientific societies work to facilitate communication among their members and promote their disciplines to the broader social world, these organizations must balance the demands of changing political and economic circumstances with long-standing beliefs about the role of science and the appropriate behavior of scientists. In addition, professional organizations are subject to organizational legitimacy pressures, as they belong to a community that includes numerous other scientific organizations facing the instabilities of public support for science. In combination, these factors shape and constrain the actions of professional scientific organizations as they negotiate their role in broader society.

In each of the case studies presented here, I show that the ESA has made organizational changes in response to political circumstances that are perceived to threaten the credibility and/or autonomy of ecology. But I argue that the organizational changes that the ESA makes are not direct, unmediated responses to changing political contexts. Discussions around these changes and debates more broadly about the place of ecology in society are shaped by two dominant elements of discourse: ‘value-neutrality’ and ‘utility.’ These concepts, as I will argue below, are generally taken for granted in debates about the role of science in the broader social world, and therefore shape efforts to draw the boundaries of science. Furthermore, the organizational changes that the ESA makes are mediated through its organizational field, a community of science organizations all responding to similar political circumstances. Although it is difficult to make the case for institutional isomorphism without more analysis of other organizations, these case studies suggest that, when faced with legitimacy pressures and economic uncertainty, the ESA adopts the organizational structures and rules of other, more prominent scientific societies.

In the next section I lay out my theoretical approach in more detail. Then I describe three separate episodes in which the ESA makes organizational changes in response to new political pressures. The first case I discuss took place in the mid-1940s, as the United States was engaged in and ultimately recovering from World War II. My analysis of the ESA at this time is based on an examination of the *Bulletin of the Ecological Society of America*, the ESA's quarterly publication for members; scientific journals of the time, primarily *Ecology* and *Science*, where published lectures and editorials highlight the concerns of prominent ecologists and ESA leaders; and some secondary sources. The second and third case studies are more contemporary, focusing on the ESA's Public Affairs Office, established in the early 1980s, and the Sustainable Biosphere Initiative, proposed in 1991. Again, I examined the *Bulletin of the ESA*, other ESA publications, including the website, and some secondary sources, but also conducted eighteen semi-structured interviews. The ecologists I interviewed were all involved in the ESA, some holding leadership positions, others closely engaged with one or more of the organization's programs. They should be viewed as key informants, rather than as a representative sample of ESA members.

After the case studies, I conclude with a brief discussion of the implications of this study for scholars and others interested in building bridges between government, industry and science. I suggest that, while professional science organizations can and do occasionally engage in political struggles for social change, several factors constrain their ability to cross the boundaries of scientific orthodoxy. As long as credibility is perpetually linked to a refusal to advocate values, both through taken-for-granted discourses and dominant organizational forms, professional scientific organizations conform to a standard of neutrality that fails to promote social change.

## **Theoretical Approach**

My analysis of the ESA relies on integrating three concepts: boundary-work (Gieryn 1983, 1999; Moore 1996), institutional isomorphism (DiMaggio and Powell 1983) and historically resonant discursive elements (Kleinman and Kloppenborg 1991, Kleinman and Kinchy 2001). In combining these three ideas, I provide a nuanced account of one professional scientific organization's shifting role in knowledge society.

The struggles over the role of the ESA in policy debate are clearly examples of boundary-work. Thomas Gieryn defines boundary-work as “the discursive attribution of selected qualities to scientists, scientific methods, and scientific claims for the purpose of drawing a rhetorical boundary between science and some less authoritative residual non-science” (1999: 4-5). In general, Gieryn focuses on the ways that individuals use rhetorical distinctions between “science” and “non-science” in order to secure credibility for their claims. He demonstrates that boundaries of science are not static, but rather are contingent on context and the interests of those drawing the boundaries. While some maps of science are successfully used time and time again, there is a perpetual process of construction and reconstruction. Kelly Moore (1996) extends this concept, arguing that boundary-work can be organizational as well as rhetorical. Thus, for example, by organizing activist activities separate from scientific activities, scientists maintain the appearance of “purity” while demonstrating social responsibility. Organizational boundary-work is central to my analysis of the ESA.

If boundary drawing is a response to specific pressures in particular contexts, we still need to know why, as Gieryn puts it, some “maps of science” are “opened” again and again (1999). While the ESA's efforts to construct boundaries between ecology and politics are diverse, certain patterns emerge to suggest that the organization does not construct fresh

boundaries each time its credibility is at stake. Rather, a close look reveals that the ESA's boundary-work, while certainly contingent on changing political context, is rooted solidly both in history and in the broader organizational field. I find that the ESA's boundary work is shaped by 1) historically resonant discourses about the utility and value-neutrality of science; and 2) organizational legitimacy pressures that prompt the ESA to adopt boundary strategies similar to other, more prestigious scientific organizations.

I borrow the concept of historically resonant discursive elements from the work of Daniel Kleinman and Jack Kloppenburg (1991; see also Kleinman and Kinchy 2001). If discourse is a resource in struggles over the boundaries of science, the most successful rhetoric will be that which draws on beliefs and concepts that are taken for granted by arbiters of the debate. Those elements of discourse with the greatest historical resonance dominate the discursive terrain and lend legitimacy to those who use them. In debates over the boundaries of science, some of the most common elements of discourse are 'the pure-science ideal' and 'science for the public good.' Because the meanings of these concepts are generally taken for granted in debates over the relationships between science and society, they typically remain uninterrogated, and boundary-workers often use them to their advantage.

Dorothy Nelkin contends that the authority of scientific expertise rests on assumptions about scientific neutrality. She argues that "The interpretations and predictions of scientists are judged to be rational and immune from political manipulation because they are based on data gathered through objective procedures" (1995: 452). Because one of the more common threats to scientific authority is the appearance of bias or lack of objectivity, the acceptable extent of political engagement is often a concern for scientists and scientific organizations. Claims to value-neutrality tend to confer legitimacy onto disputed knowledge claims and protect the

credibility of scientific boundary-workers. Arguments for politically neutral—or “value free”—science have substantial legacy. Robert Proctor (1991) documents the history of the notion of value-free science, tracing it from Plato to early modern philosophers to the present day. George Daniels (1967) suggests that the ‘pure-science ideal’ emerged in the 1870s, gaining momentum through the 20<sup>th</sup> century. This ideal “demands that science be as thoroughly separated from the political as it is from the religious or utilitarian” (Daniels 1967: 1704). Julie Reuben (1996) also demonstrates that by the early 1900s, the ideal of morally-neutral science was dominant in American universities. The continued potency of this element of discourse is evident in contemporary debates about scientific and technical decision-making (cf Kleinman and Kinchy 2001).

At the same time that an ideal of value-neutrality shapes much scientific boundary-work, the concept of utility is also a prominent element of discourse. Like the argument for value-free science, discussions of the utility of science, or science for the public good, have a long history. Daniels (1967) points out that scientists used a utilitarian argument to gain public support at least until the end of the 19<sup>th</sup> century. Discussions of the contributions of science to national affairs again became prevalent after the Second World War (Greenberg 1999: 126-131). During the 1940s and the post-War period, scientists routinely appealed to the benefits of science in defending national security and improving standards of living—and were rewarded with unprecedented levels of funding. Similarly, for ecologists after the start of the contemporary environmental movement, the ability to provide guidance in solving pressing environmental problems became an important part of public image of the discipline. Major federal initiatives, like the National Environmental Policy Act (NEPA) and the large-scale International Biology Programme (IBP), which was partly funded as a special budget item from Congress (Nelkin

1977: 84), highlighted the unprecedented funding opportunities for ecologists who could demonstrate the relevance of their work to the social concerns of the day.

While dominant and historically resonant discourses shape debates over the boundaries of science, there are additional factors that affect organizational boundary-work. Here, the new institutionalism in organizational theory is useful. In their seminal work in this tradition, DiMaggio and Powell suggest that organizations facing similar environmental conditions confront pressures to resemble the others in their field (1983, see also Powell and DiMaggio 1991). They argue that “organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful” (1983: 152). This mimicry does not necessarily improve the operations of the organization, but organizations that conform may be rewarded (with credibility and legitimacy, for example) for being similar to others in their field. The ESA works as an organization among other similar organizations (other scientific societies) and also serves as a representative of a profession. DiMaggio and Powell suggest that “professions are subject to the same coercive and mimetic pressures as are organizations” (1983: 152). Therefore, on two counts, it is possible that scientific societies are subject to the mechanisms of institutional isomorphism that DiMaggio and Powell describe.

By combining the concepts of boundary-work, institutional isomorphism and historically resonant discursive elements, I give attention to both the constructed and constraining nature of scientific boundaries. In each of the three case studies to follow, the ESA, responding to new social, political and economic pressures, reworks the boundaries between ecology and environmental politics. While the context is different in each of these cases, I demonstrate that a specific set of factors—namely the pressures of organizational and discursive legitimacy—shape and constrain the ESA’s actions in its pursuit of credibility.



## **The Battle over the Preservation Committee**

Indicating an early connection between scientific research and policy advocacy, one of the first committees established by the ESA was the Committee on the Preservation of Natural Conditions. Upon its initiation in 1917, the ESA's president, Elsworth Huntington, indicated that the preservation committee would address relevant legislative issues and work to compile a list of areas that should be preserved across the country (Shelford 1938). A founding member of the ESA, Victor Shelford, insisted that conservation and preservation efforts were most effective when conducted by scientists; the two activities, in his view, should not be separated. But by the late 1930s, some ESA leaders, reflecting what Daniels (1967) has called the 'pure-science ideal', began expressing concerns about the Society's position on involvement in legislative affairs. By the end of WWII, faced with massive increases in science funding and a corresponding shift in scientific culture, the executive committee proposed eliminating the preservation committee altogether. Finally, on July 20, 1945, the ESA voted to amend its by-laws, excluding from its activities direct action to influence legislation. As a result, an organizational boundary was constructed between science and politics. Ecologists wishing to continue to advocate for preservation policy formed a new organization, called the Ecologists' Union, which operated independently of the ESA.

Some members of the ESA argued fiercely against the elimination of advocacy activities. For example, Victor Shelford's public rhetoric in favor of advocacy often appealed to the need to preserve natural areas for ecological research. However, this and other arguments in favor of ESA's advocacy role failed to resonate with the dominant discourses of the time, and, perhaps more crucially, they contradicted the organizational behavior of other scientific organizations and disciplines in the WWII and post-War period. I argue that the ESA's boundary-work to

exclude advocacy from professional ecology's role was primarily shaped by the 'pure-science ideal,' a concept that was a central element of discourse regarding the role of scientists in the post-War world. Yet the pure-science ideal was not only a rhetorical device; it also appeared in the structure and culture of prominent scientific organizations. Faced with legitimacy pressures, the ESA modeled itself on these organizations that embodied the belief that science and values should not mix.

During the War, the practical reasons why some ecologists argued that the ESA should become politically neutral are fairly obvious. Conservation often ran counter to the war effort, making support for conservation policy a politically unpopular position. It was "quite unfashionable to question the motives of American free enterprise in developing the nation's resources regardless of social costs," and in this context, it was difficult for ecologists to advocate the conservation or preservation of natural resources (Allin 1982: 264). In a 1944 editorial in *Science*, Shelford identified a conflict between preservation and industry. He suspected that the primary reason for the withdrawal of scientific societies from politics was that the viewpoints of some scientists conflicted with those of the "biological industries." Government agencies and politicians seemed to take the side of industry. Shelford argued that while ecologists were not directly ordered to stay out of politics, government administrators suggested that it was improper and ineffective for science societies to engage in political advocacy. As a result, Shelford lamented, "it is now generally understood in the national capital that a scientific society should not exert pressure on governmental agencies or legislative bodies" (Shelford 1944a: 450). In other words, the US government was exerting a kind of covert isomorphic coercion (DiMaggio and Powell 1983), pressuring scientific societies to conform to a model of political neutrality.

After the War, ecologists remained concerned about the propriety of their involvement in controversial policy issues. Legitimacy pressures appear to have pushed the ESA toward isomorphism with other professional scientific organizations. In the mid-1940s, ecology was still a young (inter)discipline, and in comparison to physicists and chemists during this period, ecologists had very little prestige or credibility. ESA leaders concerned with the status of ecology modeled the organization on other scientific societies that they perceived to be more successful and legitimate. At the time, other scientific societies like the American Physical Society existed primarily to facilitate professional communication (Lustig 1999). Until the late 1960s, “it was a rare professional science organization that had a committee or program that linked the interests of scientists with those of ordinary people” (Moore 2000: 108). Victor Shelford insightfully interpreted the ESA’s withdrawal from politics as an attempt to conform to the norms of scientific behavior. He wrote in 1945 that “It is merely that certain people do not think that the action of the [preservation] committees constitute good form. It is something like cutting your salad with a knife or eating your lettuce leaves” (quoted in Tjossem 1994: 54). And in a letter to ecologist W.C. Allee, Shelford wrote:

I am convinced that those who take part in the running of the society—rank and file who attend the business meetings and hold offices—are smugly conservative and unwilling to admit anything into the Society not characteristic of such organizations as the Society of Naturalists (quoted in Croker 1991: 134).

Shelford celebrated the fact that the ESA was atypical of science societies of the time, writing in 1944:

The Ecological Society is not of the ordinary type, such as the majority which are affiliated with the A.A.A.S. [American Association for the Advancement

of Science]. The fact that it has carried on this work, which fundamentally is concerned with the preservation of research materials for its members, for twenty-seven years is an indication of its unique character (Shelford 1944b: 12).

This “unique character,” however, was precisely what elite ecologists on the ESA’s executive committee sought to eliminate. Ultimately, the explanation for the 1946 decision on the ESA’s stance on advocacy lies largely in the organization’s leadership, which reflected the dominance of the pure-science ideal at the time. Key debates over the ESA’s advocacy role were dominated by several prominent ecologists with direct ties to the National Research Council (NRC) and other national science funding bodies. The NRC created tight links between universities, private industry and foundations, which became “the taken-for-granted means of organizing science after the war” (Kleinman 1995: 30), and NRC officials, being closely engaged with government and philanthropic providers of science funding, likely had a heightened awareness that overt political activity not only weakened the credibility of scientists’ claims, but might also threaten chances for funding. As DiMaggio and Powell argue, the exchange of personnel is one force that pushes organizational isomorphism (1983). Elite ecologists with ties to the NRC brought dominant ideas about the appropriate boundaries between science and advocacy into the ESA, and much of the ESA’s membership readily accepted the model for their scientific society that these prominent scientists proposed.

Robert Griggs, the president of the ESA in 1944, also served as Chairman of the National Research Council’s Division of Biology and Agriculture and chaired the Rockefeller Foundation’s Natural Sciences Division (Croker 1991; Mitman 1992). While Griggs viewed conservation issues as important, and had even pushed for some conservation policy in the

1930s,<sup>1</sup> he was very concerned about whether it was appropriate for ecologists to act as lobbyists. He saw engagement in politics as outside of the range of activities appropriate for a scientific society. Griggs was clearly very well connected to the elite scientific community, and he certainly would have been aware of the struggles involved in establishing the National Science Foundation and Vannevar Bush's push for funding for "pure" research (see Kleinman 1995). In his position at the National Research Council, in 1943 Griggs abolished that organization's preservation committee, saying that "it is against the policy of the Council...to engage in agitation" (quoted in Tjossem 1994: 53). He then pursued a similar organizational change in the ESA. In 1946, addressing the ESA membership, a committee led by Griggs wrote "the Ecological Society is devoted to the 'promotion of the interests of ecology.' The Society therefore exists *solely to advance ecology* by all reasonable means" (Griggs, et al. 1946: 40; my emphasis).

Thus, by the mid-1940s, the 'pure-science ideal' was a powerful argument in favor of eliminating the ESA's advocacy activities. Advocacy for nature preservation and conservation was politically unpopular at the time, and discouraged by the federal government. Furthermore, leading ecologists believed that the proper model for organizing a scientific society was to restrict the society's activities to those believed to be central to the pursuit of science, and to avoid engagement in politics. The legitimacy of the pure-science ideal was arguably taken for granted by many scientists at the time, as evidenced by its prominent role in the founding goals of the National Science Foundation (Kleinman 1995) and in the actions of the National Research Council. For these reasons, it makes sense that Griggs and others on the executive committee were able to convince the ESA's members to vote to end the organization's role as an advocate for environmental causes, thus constructing an organizational boundary between ecology and

political affairs. While many ecologists continued to advocate for the protection of natural areas, they would no longer do so in the name of their profession.

### **The Public Affairs Office**

While many ecologists remained concerned about the protection of nature after the preservation committee was disbanded, it was not until the 1970s that the ESA again debated its role in environmental politics. With the emergence of the American environmental movement in the 1960s, the ESA could no longer avoid dealing with issues of conservation and environmentalism. One obvious, but important reason why ecologists were attentive to the environmental movement was the growing concern among ecologists that the natural areas they studied were being destroyed. Some ecologists began to direct their research and knowledge toward solving environmental problems. Another major factor in forcing ecologists to deal with their relationship to environmentalism was the adoption of the term “ecology” in popular culture and the reliance on ecological concepts by environmental activists. After decades of obscurity, ecology, still a relatively young discipline, was suddenly thrust into the spotlight with the burgeoning environmental movement. Ecology was being drawn into public debate, regardless of ecologists’ intentions.<sup>2</sup> Furthermore, new funding opportunities related to solving environmental problems increased the appeal of pursuing “relevant” science and discussing environmental issues. The ESA first reacted to the emergence of environmentalism with enthusiasm, because it transformed the previously obscure discipline of ecology into one of the most relevant and fashionable sciences. But by 1971 “the popularity of ecology also led to disillusion within the discipline” (Nelkin 1977: 80). Ecologists became frustrated with ineffective environmental legislation, and, more significantly, they began to fear a loss of

autonomy, as numerous organizations and agencies began to advertise their ‘expertise’ in ecology (Nelkin 1977: 81). The ESA then turned its attention to protecting the credibility of ecology in light of the popular environmental movement.<sup>3</sup>

Debates within the organization over the proper approach to controversial issues have continued since the 1970s, by some accounts increasing in the late 1990s (Brown 2000). Today, the ESA works to establish a boundary between ecology and environmental politics, arguing that ecology is a value-free, objective science, while environmentalism is a political stance. At the same time, however, the organization’s leaders want policymakers and the public to perceive ecology as relevant to environmental problem-solving, and in recent years have explicitly aimed to demonstrate ecology’s usefulness in the policy-making arena. This strategy of dual boundary-work is certainly not unusual—scientists have been making arguments about the simultaneous purity and utility of their work since at least the end of WWII (Kleinman and Solovey 1995; Gieryn 1999). Nevertheless, the highly controversial nature of environmental decision-making in the United States, as well as the common usage of the word ‘ecology’ to suggest a particular political or moral stance, makes boundary-work an especially difficult challenge for ecologists.

The ESA’s caution in regard to political issues is in part a reaction to public perceptions of and attacks on ecology. Many of the ecologists I interviewed worried that the common association of the science of ecology with radical elements of the environmental movement threatened the respectability of their discipline. This association is not simply the result of a confused public; it is also a strategy of industry groups who seek to discredit ecological critiques of their practices. More than one ESA leader described the ways in which those whose interests are threatened by the results of ecological research try to discredit ecologists by accusing them of being environmentalists—in other words, of having a political bias toward preserving the

environment. This kind of labeling discourages ecologists from speaking out in the policy arena. As one ESA official explained:

the reason so many of our members are gun shy about [expressing opinions is] because boom, you know, someone will label them, ‘well you’re just an environmentalist’. I was in a hearing a number of years ago, a Congressional hearing that focused on endangered species, and I remember one of the representatives tried to attack the credibility of one of our members who was a very highly respected scientist witness, by trying to say, ‘...don’t you study ecology because you really love the environment?’ -- as if that made all his research suspect, as if you can’t have passion (interview data).

While this scientist dismissed the idea that caring about the environment would have an impact on the objectivity of scientists’ findings, this kind of argument, accusing ecologists of political bias to detract from the credibility of their research, tends to be effective because the pure-science ideal is commonly taken for granted.

The ESA’s current attempts at boundary drawing typically involve ‘purifying’ ecology through engagement in public affairs. Stephen Hilgartner explains why engagement in public affairs, through the provision of science advice, can serve to establish the value-neutrality of science:

Many contemporary public problems are complex ‘hybrids’ of the scientific and the political. Science advice plays an important role in ‘purifying’ these hybrid issues, separating them into ‘scientific’ and ‘political’ components, and thereby defusing some of their destabilizing tendencies (Hilgartner 2000: 4).

As science advisors, or communicators of ecological knowledge to policymakers, ecologists find opportunities both to promote the utility of their discipline and to construct distinctions between



facts and values. While bringing ecologists closer to the political realm, the ESA's efforts to increase communication between ecologists and policymakers actually enable ecologists to distance their science from political concerns—they provide a perfect opportunity for boundary-work. In its encounters with the public, the ESA constructs boundaries between appropriate and inappropriate approaches to political involvement—for example, by distinguishing between “communication” of relevant (but value-neutral) information by experts and “advocacy” for a cause.

The Public Affairs Office, established in the early 1980s, is the primary example of the ESA's boundary-work in this vein. In the early 1980s, some ESA members began to discuss ways in which the Society could, in an organized way, become more engaged in environmental politics. The first and most significant way in which the organization increased its involvement in public affairs was by opening a Public Affairs Office (PAO). The PAO enables the ESA to extend the boundaries of ecology into the world of environmental politics while at the same time protecting the discipline's credibility as a value-free science. The PAO was established at a time when most other scientific societies were creating similar programs (Moore 2000: 112). These programs were made possible by changes in the political landscape, driven by scientist-activists in the turbulent 1960s and 70s. The PAO satisfies ESA members' desires for and creates a public image of social relevance and engagement, while maintaining the boundaries that protect ecology's credibility in a context that demands political neutrality.

Throughout the 1970s, practically every major scientific society adopted programs that linked science with the concerns of citizen groups (Moore 2000: 112). As scientist-activists involved in anti-war and environmental movements founded public interest organizations like the Union of Concerned Scientists and Science for the People, professional scientific societies

adopted similar—although less radical—activities (Moore 2000: 112). For example, in 1975, the American Physical Society (APS) established a Panel on Public Affairs, which conducts studies on topics relevant to social concerns (Lustig 1999). The ESA’s Public Affairs Office is one of numerous such programs operated throughout the scientific community. Kelly Moore (2000) argues that the adoption of public affairs programs across scientific societies was a direct result of the political activism of dissenting scientists. These transformations were possible because “science was vulnerable ideologically as well as organizationally” during that period (Moore 2000: 113).

The ESA established its Public Affairs Office, shaping the boundaries between ecology and politics, in this context. Thus, the organization’s boundary-work was contingent on the political struggles of the time and the particular vulnerabilities of science in the decades of growth after World War II. The actions of scientist-activists made possible a reorganization of science, but at the same time, the ESA’s boundary-work makes evident the constraints on scientists to protect the appearance of value-freedom. While it is now normal for scientific societies to address public affairs, overt activism is still off limits. This highlights the resilience of the pure-science ideal even through radical changes in the political and scientific structure.

Staffed by just one part-time volunteer in 1981, the PAO was the first segment of the ESA to be based in Washington DC. The rest of the organization’s headquarters relocated to Washington in following years. A review of the *Bulletin of the Ecological Society of America* from the 1980s indicates that there was a great deal of enthusiasm for the PAO, and little (published) dissent. Arguments in favor of opening the office included the suggestion that ecologists should make available the information they have that would be of interest and importance to public debates and decision-making—in other words, an argument for the utility of

ecology.<sup>4</sup> The President of ESA in 1985 considered the creation of a Public Affairs Office to be an important step in the maturation of the Society.

...it is now clear that the Society must become a more active and visible Society in a broader context. That is, the ecology of the biosphere demands that ecologists, and ergo, their Society, play a much more active and vigorous role in ensuring that decisions and actions affecting the world's natural resources are based on the strongest and best scientific information. This realization means that the Society must solidify its programs internally, and externally must mature into a more active organization (Risser 1985).

Opening the PAO not only demonstrated the relevance of ecology, however; it also provided a stage on which the ESA could assert the value-freedom and objectivity of ecological research. One ecologist summarized the reasons why he welcomed the Public Affairs Office. He suggests that by having an organized and official way to comment on political issues, ecologists would have less reason to worry that environmental advocacy would damage their credibility:

The ESA is complex and has had difficulty coming to grips with its responsibility toward public policy and legislation in the past. There have been those in the Society who have had such interests, but they generally have had to find other societies or groups such as The Nature Conservancy, The Institute of Ecology, AIBS [American Institute of Biological Sciences], Environmental Defense Fund, etc., through which to express those interests. While it has been most helpful to work through these other organizations, we have often harmed our interests by excessive concern for maintaining the credibility of our profession... It is time to develop a means of permitting the Society to comment officially on legislative and administrative issues that affect our environment, and time to support the efforts of the Public Policy Director in Washington (Halvorson 1983).

This argument suggests an expectation that, as an organized body, the ESA could address environmental issues in ways that benefited the whole of the discipline, rather than destabilizing its credibility. Furthermore, having a presence in Washington created opportunities for the ESA to emphasize that ecology is part of the respectable scientific community. As one ESA staff member put it:

You have to actively associate yourself with the scientific community, so it's a job and it's part of what I think the Society wants its staff and the Public Affairs Office to do, to make that clear over and over again in a very positive and constructive way...We are scientists, that's the world we want you to associate [with] us. (interview data).

There is another way in which the PAO draws a boundary between science and environmental politics. The establishment of the PAO created an organizational divide between 'scientific' and 'non-scientific' activities in the ESA. While not nearly as dramatic as the ESA's 1946 decision to banish advocacy activities from the ESA, described above, leading conservation-minded ecologists to form an outside organization, the ESA's approach to dealing with "public affairs" suggests a similar reluctance to consider politics and advocacy to be a part of ecology proper. The PAO deals with all issues pertaining to public policy, as well as education and outreach and other activities considered peripheral to 'doing science'. It is revealing to note that the Director of Public Affairs is not a PhD scientist.<sup>5</sup> As one ESA official said, "you need someone in [the] job who is not a scientist," explaining that it was more important to have someone who was good at dealing with the complexities of managing the PAO than someone who was an expert scientist (interview data). While of course this makes practical sense, it also assumes that science and public affairs are two distinct categories and marks public affairs as "outside" of science.

The case of the PAO makes evident the role of both the organizational field and taken for granted science discourses in a professional organization's response to new political pressures. The ESA's response to the environmental movement mirrored the actions of its organizational peers, but was also shaped by long standing beliefs about the utility and value-freedom of science. This response, the opening and operation of the ESA's Public Affairs Office, is a kind of organizational boundary-work, although these boundaries are complex and sometimes contradictory. This case, much like the controversy over the preservation committee after World War II, indicates that a combination of political context, organizational legitimacy pressures and dominant discourses shapes the actions of professional science organizations as they negotiate their role in broader society.

### **The Sustainable Biosphere Initiative**

In another example of organizational boundary-work resulting from political changes on a national level, the ESA established the Sustainable Biosphere Initiative in 1991. The initiative sets socially relevant research priorities for ecologists. At the end of the 1980s, a shift in attitudes about public control over scientific priorities, combined with the relevance of ecology to popular concerns about the environment, threatened the autonomy of ecologists to choose their own research directions. By taking the initiative to define and address environmental problems themselves, ecologists resisted outside control. Rather than arguing for the 'purity' of ecology, ecologists preserved their autonomy by defining environmental problems and setting socially-relevant research priorities themselves. Like the Public Affairs Office, the SBI was not a unique program. Many other scientific societies and organizations established similar initiatives, in response to the same funding pressures.<sup>6</sup> This case, like that of the Public Affairs Office,

illustrates that the ESA's boundary-work is contingent on political context, but shaped by historical, discursive and organizational patterns.

By the beginning of the 1990s, the pursuit of basic research with no practical applications had lost much of the public appeal it had in the first two decades after World War II, and segments of the scientific community began setting their own agendas, "in order to head off a public role in priority setting" (Kleinman 1995:191). The ESA's approach to the problem of priority-setting was part of a trend across scientific societies, initiated by the president of one of the most prestigious scientific organizations, the National Academy of Sciences. As two commentators observed, the SBI "was born from" the lessons of astronomers, particle physicists and other disciplines more familiar with the politics of generating funding (Grubb and May 1991). In what observers considered a remarkable move, astronomers set research priorities through a special committee of the National Research Council (Waldrop 1991). Similarly, the American Physical Society (APS) appointed a Physics Planning Committee to set research priorities in hopes of receiving federal funding (Lustig 1999).

The autonomy of ecology in particular was impacted by the discipline's increasing relevance to public affairs. Stephen Bocking explains:

Shifting from the view, prevalent in the 1950s and 1960s, that the scientific community should determine its own priorities (subject to certain national objectives relating to security or development of technology), it has become increasingly accepted that science can be directed toward specific social or economic objectives. This evolution has affected the role of ecology in environmental politics by helping to establish whether this role is determined by ecologists or nonecologists (Bocking 1997: 8-9).

Bocking goes on to elaborate that a “chief lesson of the ecological revolution for ecologists was that they could not take for granted a central role in addressing environmental concerns” (1997: 204). Following the recommendation of Frank Press, the President of the National Academy of Sciences, ecologists joined the trend toward priority-setting in the early 1990s. In the report that initiated the ESA’s Sustainable Biosphere Initiative (SBI), the panel of authors wrote that

Financial resources are finite. Competing national demands range from national security to social services, and various major priorities vie for attention and funding.

Consequently, it is not feasible to support all scientific research. If we as scientists do not set our own priorities, others will do so for us. (Lubchenco et al. 1991).

The SBI, like the similar programs and initiatives pursued by other disciplines at the time, was an innovative approach to addressing an immediate problem, yet it drew on long-established beliefs about the place of science in the social world. Expecting opposition to a proposal to direct ecology toward addressing environmental problems—an idea considered to be “radical” at the time (Gross 2001)—authors of the report were surprised and relieved when the ESA accepted the report and began the Initiative with little controversy (interview data). Today, SBI programs “fortify the link between scientists and decision makers by reinforcing the critical role of scientific investigation and providing mechanisms for the scientific community to be responsive to policy needs” (ESA website). The emphasis of the program is to demonstrate the utility of ecological research to solving critical environmental problems. While this approach might have been considered radical at the moment of the program’s initiation, the basic argument—that science should be recognized for its services to the public good—is by no means unprecedented. In the years after WWII, to preserve autonomy from outside control, scientists sought to demonstrate their ability to generate useful knowledge without the pressures of external

governance (Kleinman and Solovey 1995). Arguments for utility have long bolstered the public image of science, even when the actual work done by scientists has little direct application to ‘real-world’ problems (Greenberg 1999: 137).

While it is possible to imagine other ways that the ESA could have protected its autonomy during this period—perhaps by emphasizing ecology’s disengagement from social and political interests—the organization took the approach advocated by other, more prominent scientific societies. Again, this case demonstrates that, while the ESA’s boundary-work varies as political contexts are transformed, the organization does not draw a new map of ecology every time its credibility and autonomy is challenged. Rather, the ESA draws on historically resonant discourses and organizational patterns across scientific disciplines as it constructs its boundaries in relation to politics.

## **Conclusion**

The case of the Sustainable Biosphere Initiative seems to suggest that, although the ESA may be reluctant to advocate for environmental legislation, the organization contributes to such advocacy by focusing research in areas of most concern to environmental activists. And in fact, ESA leaders have made similar arguments in regard to the abolition of advocacy activities in the 1940s and the establishment of the Public Affairs office in the 1980s. For the ESA, it appears that, over time and across political contexts since WWII, the appropriate role for a scientific society is to be a communicator of “value-free” knowledge to the broader social world, where this knowledge may then be used for practical and political ends. To critics of these policies, including many ecologists, this distinction between science and values is both undesirable and



unfeasible. Yet as a professional science organization, the ESA has little flexibility in its approaches to social and political issues.

The ESA's efforts to construct boundaries between science and politics vary with political context, yet the resultant boundaries remain approximately the same over time. That is, although the organizational efforts to protect the credibility and autonomy of ecology are contingent on particular circumstances, the end result—the reinforcement of a boundary between science and values—remains stable. In this paper, I have shown that dominant elements of science discourse—namely the 'pure science ideal' and 'utility of science' arguments—have shaped the ways that the ESA addresses environmental issues. Furthermore, I demonstrated that, in each case, organizational changes were not unique to the ESA but rather appeared in science organizations across the organizational field. This suggests that organizational boundary-work is shaped not only by political context and dominant discourses, but also by pressures to conform to prevailing organizational models.

In a context in which scientists and scientific organizations are often criticized for their lack of political engagement or social concern, it is important to recognize these constraints on professional scientific organizations to refrain from overt advocacy. While professional science organizations, like the ESA, can and do occasionally engage in political struggles for social change, they are constrained by orthodoxy, both through taken-for-granted discourses and dominant organizational forms. As long as credibility is perpetually linked to a refusal to advocate values, professional scientific organizations conform to a standard of neutrality that fails to promote social change. Scholars and others interested in the possibilities of social change through the relationships between science, industry, government and popular social movements may benefit from attention to factors like those that have constrained the ESA.

## NOTES

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<sup>1</sup> For example, in 1936 Griggs urged ESA members to oppose a piece of Congressional legislation that aimed to create a tunnel through Rocky Mountain National Park. (Ecological Society of America 1937: 310).

<sup>2</sup> Bocking argues that “Specific environmental concerns, then, actually can affect the place of ecology in society, pushing it toward the center or the periphery of environmental politics” (Bocking 1997: 8). Nelkin also suggests that the environmental movement “forced [ecologists] to face many of the issues and implications of social responsibility” (1977: 75).

<sup>3</sup> A further issue that may have posed a problem for the field of ecology was that some ecologists, most notably Rachel Carson, criticized science for promoting human exploitation of nature. After the mid-1950s, concerned scientists in many fields began to criticize science for its negative impacts on humans and the planet, particularly in reference to the Vietnam War, and ecologists may have been seen as instigators of this critique. Still a “dreadfully weak field in the mid part of the century” (interview data), the association of ecology with the critique of science may have been a factor in its inferior status among the other sciences.

<sup>4</sup> The main opposition to the idea was that it would be expensive to have a paid staff in Washington. Opponents also argued that “having a Washington office is too proactive and it would take away from [the] central goals for our professional society” (interview data).

<sup>5</sup> Nor is the Executive Director of the ESA, which again suggests that attention to the administrative details of running a professional society is considered to be “outside” of science.

<sup>6</sup> A review of *Science* throughout 1991 is revealing: “priority setting” is the main concern of opinion pieces, letters from the editor and other policy discussions. See, for example, Daniel E. Koshland, “The Best of Times, the Worst of Times” (1991) and John N. Bahcall, “Prioritizing Scientific Initiatives” (1991).

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