

Sustainable Architecture and the Pluralist Imagination

In our review of the literature concerning sustainable architecture, we find a remarkably diverse constellation of ideas that defy simple categorization. But rather than lament the apparent inability to standardize a singular approach to degraded environmental and social conditions, we celebrate pluralism as a means to contest technological and scientific certainty. At the same time, we reject epistemological and moral relativism. These twin points of departure lead us to propose a research agenda for an architecture of reflective engagement that is sympathetic to the pragmatist tradition.

Introduction

Imagine ourselves as architects, all armed with a wide range of capacities and powers, embedded in a physical and social world full of manifest constraints and limitations. Imagine also that we are striving to change that world. As crafty architects bent on insurgency we have to think strategically and tactically about what to change and where, about how to change what and with what tools. But we also have somehow to continue to live in this world. That is the fundamental dilemma that faces everyone interested in progressive change.¹

The diversity of images of what sustainable architecture might be—that is, what it might look like, where it might be located, what technologies it might incorporate, what materials it might be constructed from, and so on—is quite bewildering, and rather than diminishing over time appears to be accelerating. Three decades of debate about sustainable architecture and a search for some form of consensus around universal best environmental practice appear to have failed. As Hagan puts it, “environmental architecture, in other words, is environmental architectures, a plurality of

approaches with some emphasizing performance over appearance, and some appearance over performance.”² This situation often provokes deep depression among some architects. For example, James Wines despairs that “A major proportion of the architectural profession has remained oblivious to the magnitude of its irresponsible assaults on the land and resources,” while contemporary architectural practice tends to “confuse, rather than reinforce, a progressive image of earth friendly architecture.”³ Of course, other architects disagree. Harry Gordon argues the opposite that

After decades of intense effort by designers, architects, individuals, and organisations, a tectonic shift in design thinking has occurred: sustainability is now becoming mainstream. Some might even say it has become a societal design norm.⁴

So, the debate rages on between what are often called light green and deep green architects. In this essay, we want to take a different stance. Rather than argue that we need revolution or reformation, more or less technology, more or less pious behavior, to embrace or abandon the city, or to develop clearer definitions or standardization, we

want to explore, even celebrate the diversity of contemporary debate about sustainable architecture.⁵ We want to develop the thesis that the challenge of sustainability is more a matter of situationally specific interpretation than of the setting of objective or universal goals. This is not to suggest, as radical relativists might, that environmental problems are merely imaginary or that they are no more important than any other social problem. As Steven Yearley has argued, to “show that a social problem has been socially constructed is not to undermine or debunk it,” and even more importantly, “The detachment required from social science should not become an excuse for cynical inaction.”⁶ Instead, we wish to engage the search for more sustainable architecture with debates about culture and nature in the social sciences.

The key question for David Harvey, and for us, is “what kind of architecture do we collectively want to create for the socio-ecological world in which we have our being?”⁷ While Harvey is talking here about architecture “in the broadest possible sense” about how we organize our societies, the question resonates just as strongly for building design. The challenge then is both conceptual and practical: how to become “insurgent architects,” bent on creating alternative futures, while also

recognizing the heterogeneity of and contestation over strategies and tactics of sustainable design.

This essay, then, critiques the notion that we can solve the grand problems of environmental degradation and social injustice by simply applying a “best practice” technological fix.⁸ In response to a world of “Khunian” paradigm shifts about the ways in which architects conceptualize social and ecological issues, we think that, while more and better building science is certainly needed, it might be more productive to explore what architects actually do in the everyday context of the studio and on site—to explore the cultural framing of what Bruno Latour calls “science in practice.”⁹ However, to favor a more contextual, reflective building science is not to abandon all hope of tackling environmental challenges. Like Richard Rorty, we argue that the process of achieving social, political, and environmental change is not advanced by developing universal claims about progress (as do many modernists) or by endlessly deconstructing our language and actions (as do many postmodernists).¹⁰ Following John Dewey, Rorty calls on us to abandon “the attempt to find a (*single*) theoretical frame of reference within which to evaluate proposals for the human future.”¹¹ The effect of this stance, Rorty argues, is to change our understanding of the meaning of progress. That is, “Instead of seeing progress as a matter of getting closer to something specifiable in advance, we see it as a matter of solving more [local] problems” one at a time.¹²

So while we encourage critical engagement with abstract theory about environmentalism, we are not interested in simply playing language games. Like Macnaughton and Urry, we are keen to go beyond the “rather dull debate between ‘realists’ and ‘constructivists’” and instead identify “specific social practices, especially of people’s dwellings, which produce, reproduce and transform different natures and different values.”¹³ Our hope is to encourage a deeper engagement with sustainable architecture, one that does not shy away

from broader sociological or philosophical questions or merely indulge in the narrow “how-to” debates that characterize so much of the green architecture literature. By exploring sustainable architectures in the plural, as competing interpretations of our environmental futures, we can begin to ask new questions and perhaps introduce some fresh thinking about sustainable design.

In order to do so, we must draw upon a wider set of disciplinary sources and begin to connect architectural debate to theory and practice in the humanities and social sciences. A good place to begin is with the proposals of anthropologist Clifford Geertz who has argued that;

... the shapes of knowledge are always ineluctably local, indivisible from their instruments and their encasements. One may veil this fact with ecumenical rhetoric, or blur it with strenuous theory, but one cannot really make it go away.¹⁴

Geertz argues that to comprehend the complex relationship between knowledge, action, and local culture necessitates replacing “thin descriptions” that focus on the narrowly empirical with “thick descriptions,” explorations of local contexts which look across a “multiplicity of complex conceptual stories, many of them superimposed upon or knotted into one another, which are at once strange, irregular, inexplicit . . .”¹⁵ It is the “strange, irregular, inexplicit” ways in which people interpret the world, and how these competing approaches reflect the cultures of people who are involved in this process of architectural making, that is our focus.

As is Geertz, Andrew Jamison is interested in what he terms the “making of green knowledge,” that is, the ways that “different producers of knowledge . . . take their point of departure, their problem formulation, from different aspects of reality.”¹⁶ By focusing on the process of environmental knowledge making, we can avoid setting up

bipolar oppositions between different paradigms of thought, the light versus dark green architects or the social versus natural scientists. Instead, we can recognize researchers and practitioners as reflecting a constellation of values—differing, often competing, modes of knowledge developed by different “epistemic communities.”¹⁷ Jamison puts it this way:

There have emerged a number of competing academic, or analytical, responses to the new environmental challenges . . . based on different ideals of scientific knowledge, different “epistemic” criteria, as well as different varieties of scientific practice.¹⁸

Jamison draws on Jurgen Habermas to suggest that the natural, social, and human sciences are all underpinned by differing “knowledge constituting interests” whether it be, respectively, one of control over nature, the management of nature, or a better understanding of nature. To complicate matters more, environmental advocates of every persuasion are adept at creatively drawing upon these different disciplinary traditions to support their respective visions. As Ulrich Beck remarks, “The observable consequence is that critics (i.e. environmentalists) frequently argue more scientifically than the natural scientists they dispute against.”¹⁹ Everyone it seems is involved in making what Michel Foucault called “truth claims,” each seeking to frame environmental responses in relation to a particular problem definition. Seen this way, appeals to facts and figures, or aesthetics, or experience, or spirituality, all represent alternative forms of knowledge which should be treated symmetrically. As Beck again puts it, the “claims of different expert groups collide with one another, as well as with the claims of ordinary knowledge and of the knowledge of social movements (thereby opening) up a battleground of pluralistic rationality claims.”²⁰ Moreover, given that, “Except for the name of ‘ecology’ itself, virtually nothing unites the bioregionalists,

Gaians, eco-feminists, eco-Marxists, biocentricists, eco-anarchists, deep ecologists and social ecologists,²¹ any attempt to neatly categorize or “essentialize” forms of environmentalism along a scale of light and dark, or deep and shallow, as some authors have attempted, seems fatally flawed. As David Schlosberg suggests, “There is no such thing as environmentalism. Any attempt to define the term in a succinct manner necessarily excludes an array of other valid definitions.”²²

Departing from an understanding founded on a predefined conception of the environmental problem in which appropriate ends (sustainability) and means (technology) are simply assumed, we argue that it will be more productive to explore the ways in which individuals, groups, and institutions embody widely differing perceptions of what environmental innovation is about. As Marteen Hajer argues,

... the present hegemony of the idea of sustainable development in environmental discourse should not be seen as the product of a linear, progressive, and value-free process of convincing actors of the importance of the Green case. It is much more a struggle between various unconventional political coalitions, each made up of such actors as scientists, politicians, activists, or organisations representing such actors, but also having links with specific television channels, journals and newspapers, or even celebrities.²³

We have only to think of the tensions and interlinkages between the various contributors to the urban environmental debate to spot the opportunity for contestation. In the United Kingdom, we could think of Prince Charles, Energy Saving Trust, Friends of the Earth, British Council of Offices, Royal Institution of British Architects, Alternative Technology Centre, Building Research Establishment, etc. In North America, we can similarly think of the U.S. Green Building Council,

Sierra Club, Earth First!, the Rocky Mountain Institute, the First Nations of Canada, and former Vice President Al Gore as sitting uncomfortably in the same category. Each of these actors and institutions possesses a particular way of thinking and talking about environmental politics, reflecting the rather different social and cognitive commitments which become reflected in the story lines each actor develops about what a green building is or is not.²⁴ As Schlosberg summarizes in relation to the strongly related challenge of environmental justice, “An environmental justice movement can be unified, but it cannot be uniform. An insistence on uniformity will limit the diversity of stories of injustice, the multiple forms it takes, and the variety of solutions it calls for.”²⁵

So, from this analytical standpoint, we cease to view green buildings as merely differently configured technical structures but as pluralist practices, often competing and contested, of design and development. As Hajer points out, to analyze environmental questions in terms of “quasi-technical decision-making on well defined physical issues misses the essentially social questions that are implicated in these debates.”²⁶ Analyzing discourses of environmentalism “as a specific ensemble of ideas, concepts, and categorisations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities” allows us to view green buildings as representations of alternative ecological visions, or material embodiments of the competing discourses that make up the green buildings debate.²⁷ Tracing the resonances and dissonances between each of these discourses supports John Dryzek’s argument that “... language matters, that the way we construct, interpret, discuss, and analyze environmental problems has all kinds of consequences.”²⁸ But if “language matters,” how is it possible to accept, let alone celebrate, the existence of diverse sustainability discourses without collapsing into total relativism?

The Challenge of Relativism

“You have to choose,” roar the guardians of the temple. “Either you believe in reality or you cling to constructivism.”²⁹

To be absolutely clear, we categorically reject epistemological or moral relativism—the notion that all claims are equally true or just. It seems necessary to make this bald statement as reception to our argument has been met with the accusation that “. . . everything is equally valid, nothing is wrong, all seems worthy of taking on board, no judgment ensues, and we learn nothing.”³⁰ Horrified by any deviation from a design script, often written by an industry of paid consultants with a vested interest in the dominance of one set of solutions over another, such critics claim that we must close down debate about sustainable design and leap into action. This fundamentalist backlash can mean, as Latour has joked, that “in order to show that one is not a dangerous outcast, it seems compulsory to swear a pledge of allegiance to ‘realism’—now meaning the *opposite* of constructivism.”³¹ We prefer to concur with Latour that “constructivism may be our only defence against fundamentalism.”³²

One way to avoid the perils of relativism, yet remain tolerant of diversity, is to look to the epistemology of Donna Haraway. She has rejected the seemingly objective “god’s eye view” of worldly phenomena, a view favored by traditional science, in favor of “situated knowledges” in which we interact from particular vantage points with a world of interactive subjects. In Haraway’s view,

... only partial perspective promises objective vision. All western cultural narratives about objectivity are allegories of the ideologies governing the relations of what we call mind and body, distance and responsibility.³³

Haraway reconstructs the modern Cartesian assumption that scientists who objectively study

nature at a distance have no immediate responsibility for what they see through their instruments. She continues, “Feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to see.”³⁴ In other words, one can acknowledge the existence of competing views of reality that emerge from other perspectives without abdicating one’s responsibility to act upon what one has learned to see from one’s own particular perspective. Seen this way, “accounts of a ‘real’ world do not, then, depend upon a logic of ‘discovery’ but on a power-charged social relation of ‘conversation.’”³⁵ Relativism, for Haraway, is only the flip side of modern totalizing objectivity because both positions deny the stakes shared by humans and nonhumans. In this way, she argues that relativism constructs barriers to “seeing well.” The obstacles constructed by our distance from phenomena, or by their overwhelming scale, arise only when one adopts a “god’s eye view” of reality.³⁶ Seeing a single truth “out there” and seeing all interpretations of reality as equally true are, in the end, the same Cartesian attitude.

David Schlosberg has argued that Haraway’s epistemology ultimately stands on the shoulders of the “radical empiricism” proposed by the American pragmatist William James at the turn of the twentieth century.³⁷ Drawing upon similar sources, Richard Rorty usefully describes this analytical approach as “antirepresentationalist,” one that “does not view knowledge as a matter of getting reality right, but rather as a matter of acquiring habits of action for coping with reality.”³⁸ Learning “how to see” from the limitations of a particular place is, then, the only way to appreciate human complicity in and responsibility for constructing and reconstructing the world.

Our approach is then to analyze sustainable buildings as sociotechnical artifacts constructed and reconstructed in situationally specific contexts. Our use of the term “technology” here is an

expansive one. We mean by it not only the artifacts associated with sustainable architecture—solar collectors, wind generators, biomass boilers, and the like—but also the knowledge required to construct and use these artifacts, as well as the cultural practices that engage them.³⁹ This stance echoes that of Andrew Feenberg, who has similarly explored these approaches and emphasized the need to avoid the essentialist fallacy of splitting technology and meaning and to focus instead on the “struggle between different types of actors differently engaged with technology and meaning.” For Feenberg, the contexts of technology include such diverse factors as “relation to vocations, to responsibility, initiative, and authority, to ethics and aesthetics, in sum, to the realm of meaning.”⁴⁰ Wrapped up in each technological artifact, or in the case of our architectural interests, each building, are an assembly of ideologies, calculations, dreams, political compromises, and so on. Seen this way,

... technologies are not merely efficient devices or efficiency orientated practices, but include their contexts as these are embodied in design and social insertion.⁴¹

Feenberg usefully gives us an example of a modern, Western house which on the one hand has increasingly become an “elaborate concatenation of devices,” the center of “electrical, communications, heating, plumbing, and of course, mechanized building technologies.”⁴² For builders, houses are often little more than this. On the other hand, houses are much more than “an efficient device for achieving goals,” and as home dwellers, we are all skilled at creating a domesticated environment, which has “little or nothing to do with efficiency.”⁴³ Feenberg acknowledges that a distinction between the technical (the electric circuit) and the social (the experience of warmth and light) has a certain validity, in that it influences the development of professional technical disciplines. However, to treat each as an essentially distinct

category would be to deny that “. . . from an experiential standpoint these two dimensions—device and meaning, technical and life-world practice—are inextricably intertwined.”⁴⁴ While we acknowledge how a technical, performative approach to understanding environmental design has brought undoubted benefits in terms of highlighting the issues of energy efficiency in buildings, our aim is to fundamentally revise the focus and scope of the debate about sustainable architecture and to reconnect issues of technological change with the social and cultural contexts within which change occurs. To be clear, this is not a plea to relieve architects of yet more responsibility and render it up to social scientists as another in the long list of consultants employed to solve problems external to design. It is, rather, a plea for architects to expand the variables of design practice itself. It is a plea for both designers and building scientists to design and develop environmental futures that are not only technologically possible but also socially desirable.⁴⁵

Reflections and Engagements

To this point, we have identified and critiqued singular models of sustainable architecture and begun to reconstruct an alternative theoretical framework for better understanding the plurality of sustainable architecture. However, there remains the task of escaping from the trap of endless speculation and interpretation. Recalling the admonition of Richard Rorty to stop theorizing and get on with the business of solving the real problems of women and men, we must think about engagement with the design process and how we might connect our theoretical flexibility with the materiality of design in particular contexts.⁴⁶ Or to put it another way, how do we connect debates about pluralism with both critical theory and pragmatism. This tension between practices of interpretation and engagement, contemplation and action, or reflection and emancipation is not a recent challenge. These debates have a history,

a politics, and even a geography, as we noted in an edited collection of essays on sustainable architecture from European and American authors.⁴⁷ Andrew Jamison, an American environmental academic who has lived and worked in Europe for thirty years, similarly finds "... a huge difference between American writings, with their patriotic enthusiasms and their sticking to the 'facts', and European writings, with their cosmopolitan sophistication and speculative theories." Jamison is "... struck by the discursive dissonances, the interpretive imbalances, between the hemispheres."⁴⁸ We have found that Jamison is not the first to categorize Europeans and North Americans in this way. Critical theorists, Max Horkheimer principal among them, have tended to paint American engagement in the world as dangerously naive. Horkheimer and his colleagues were critical, not just of American political and business interests but found the cultural attitudes of American politics and business to be exemplified by the writings of American pragmatist philosophers, John Dewey in particular. Horkheimer describes pragmatists as Enlightenment positivists overly impressed with the "institutions and goals of industrial technology."⁴⁹ Dewey, a contemporary of Horkheimer, was characterized as simply too unsophisticated to recognize the degree to which modern technology is complicit with the underlying values of liberal capitalism.

In response to this line of criticism, the philosopher Larry Hickman argues that Horkheimer's critiques are themselves deluded by the myth of elite objectivity and distanced from community-based inquiry held accountable by adequate checks and balances. Dewey himself argued the reverse of Horkheimer—that it is not the fault of technology if it is imagined and controlled by the few for their own benefit. Rather, the fault lies with a more general failure to employ technology in solving real problems. For Dewey, the problem was not too much democracy or too much technology as Horkheimer proposed, but too little of both.

So, where critical theorists reduced American pragmatism to a simple "philosophy of action," Hickman retorts that pragmatism is a "philosophy of production." He means by this that "... the goal of inquiry is not action, but the construction of new and more refined habits ..."⁵⁰

Richard Rorty has also responded to the critical theory characterization of American pragmatism. Rorty begins his response, however, by acknowledging that critical theory and pragmatism share two key assumptions: First, that the Enlightenment substituted faith in human reason for faith in supernatural guidance, and second, that human reason is still not capable of describing nature as it is.⁵¹ As important as these shared assumptions may be, any further agreement between Horkheimer and Dewey then seemed unlikely. Where critical theorists find Americans generally naive, Rorty finds the American optimism to be courageous because they have been the first society to "... renounce hope of justification from on high—from a source which is immovable and eternal."⁵² From Rorty's partial perspective, the advocates of critical theory have come "... to prefer knowledge to hope," and as a result, their "disengagement from practice produces theoretical hallucinations."⁵³ According to Rorty, the pragmatists Whitman and Dewey felt that modern Europeans tried much too hard to produce knowledge and authority as a precursor to action.⁵⁴

Our geographical frame, however, must not be applied too rigidly as there are other European traditions of thought that connect strongly to American pragmatism. Rorty points to Wilhelm Von Humboldt's argument that any form of social organization must pursue "human development in its richest diversity," while David Schlosberg highlights the pluralist philosophy of Isaiah Berlin and his argument that recognition of multiple points of view and the incommensurability of values is not relativistic.⁵⁵ Bruno Latour has also sought to distinguish the productive effects of "constructivism" from the destructive effects of "deconstructivism,"

emphasizing how "everywhere, building, creating, laboring means to learn how to become sensitive to the contrary requirements. To the exigencies, to the pressures of conflicting agencies where none of them is really in command."⁵⁶ Which brings us back to William James and his claim that knowledge "is made by relations that unroll themselves in time."⁵⁷

For Rorty, these ideas come together in John Dewey's call to treat ideas of right and wrong, "... not as signifying a relation to some antecedently existing thing ... but as expressions of satisfaction at having found a solution to a problem."⁵⁸ In this way, we move from being what Rorty, referencing Dewey, calls "spectators" to being "agents" of change, committed to "protocols of social experiments whose outcomes are unpredictable."⁵⁹ Seen this way, the endless assessment of sustainable architectures in terms of their ideological purity that might help us to distinguish ecofeminists from deep ecologists, ecosocialists from Earth-firsters!, or gaias from Sierra Club members is not productive. As Schlosberg argues, "plurality is not a phenomenon to be categorized, but rather needs to be the concept at the centre of the analysis."⁶⁰ It is to the development of a pragmatic architectural practice that embraces a critical pluralism that we finally turn.

A Case of Pluralist Practice

To this point, we have constructed a theory for practice drawn from the literature and empirical study. Naturally skeptical practitioners will, of course, want to understand how such theory can be operationalized or put to use. It will, then, be useful to briefly consider an exemplar of pluralist practice that we have fully investigated elsewhere—the Commerzbank tower of Frankfurt⁶¹ (see Figure 1).

As architects, we tend to think of the Commerzbank tower as a *work* of Sir Norman Foster, or perhaps of Sir Norman Foster & Associates. The distinction here is whether or not we choose to recognize the many junior members of the firm who contributed to the project's apparent success. Some

1. Commerzbank tower seen from the Alte Bridge over the Main River. (Courtesy of Steven A. Moore.)



may even choose to recognize the contribution made by the project's very creative engineers, Ove Arup & Partners. Yet, still others, depending upon their vantage point, may choose to recognize the designer and manufacturer of the innovative façade system, the interior designers, the landscape architects, and the city planning agency of Frankfurt. But this list of contributors should not end with those who contributed only to the physical realization of the project. What about the bankers themselves and those activist citizens who shaped the competition brief to which the design team responded? The point is, of course, an old one and questions how tightly one draws the circle of

authorship. To consider the person Norman Foster to be the singular author of such a large project is naive at best. Yet, this observation, however, should not diminish the firm's very significant accomplishment.

Our argument is that the Commerzbank tower can be considered a major work of architecture, even a significant new building type, not only because of Norman Foster's skill in the design of artifacts but also because the design team as a whole was capable of first hearing, and then materializing, the story line articulated in the long history of public talk about urban form in the City of Frankfurt. The story line of banking in Frankfurt goes back at least to the eleventh century but became a dominant public focus after the devastation of World War II (see Figure 2). In the revived German economy of the 1960s and 1970s, conflict between a banking industry (starved for space) and an emergent environmental movement (fearful of American-style urbanization) reached epic proportions in what locals refer to as the *Häuserkampf*, or housing struggle. The first round of this struggle

degenerated into street violence, and it took another twenty years of patient planning, more debate, design, and redesign before the so-called red/green coalition of the liberal Social Democratic Party (SDP) and the German Green Party, itself a coalition of *Fundis* (environmental fundamentalists) and *Realos* (environmental realists), managed to forge a banking district plan acceptable to all parties. Unlike the prior low-rise plan supported by the conservative Christian Democratic Union (CDU), the red/green banking district plan was not a conventional compromise. Through public talk, the coalition government managed to transform how they themselves, and Frankfurters in general, understood the skyscraper as a building type.

In the 1970s, virtually all Frankfurters, Left or Right, rejected the skyscraper as a degenerate American architectural form associated with urban decay. By the late 1980s, however, that perspective had been transformed by citizens who could imagine an "ecological skyscraper"—a concept that had previously existed for locals only as an oxymoron (see Figure 3). The unexpected outcome

2. The nearby Römer district—the reconstructed, faux medieval context into which the Commerzbank was thrown. (Courtesy of Steven A. Moore.)



3. The Frankfurt Skyline following twenty years of public talk about how citizens want to live and the nature of tall buildings. (Courtesy of Simon Steiner.)



of this long public conversation is what Bryan Pfaffenberger calls a “technological drama”—a discourse in which there are “technological statements and counter-statements” that eventually reconstitute norms as new ways of living—in this case, new modes of constructing and inhabiting tall buildings.⁶² The technological drama enacted in Frankfurt articulated tools like absorption chilling, diurnal thermal mass storage, stack effect atrium ventilation, and daylighting, but these technological tools were employed not in the name of efficiency itself but in the name of how Frankfurters said they want to live (see Figure 4).

Pluralist practice is, then, seeking out the synthetic opportunities that are latent in the conflicting imaginations of citizens.

Sustainable Architecture in a Pluralist Universe

As pluralism indicates that no one perspective may lay claim to epistemic, moral or rational authority, the task of theory is to examine what each perspective provides, how to adjudicate among them, and how to reconcile conflicting perspectives in democratic practice.⁶³

Through this article, we argued for diversity in ways of seeing and practicing sustainable, green, regenerative, or ecological architecture. In doing so, we have been influenced by David Schlosberg’s proposal for a “critical pluralism.”⁶⁴ For Schlosberg, “Environmentalism” is simply a convenience—“a

4. The Commerzbank atrium which provides daylight and natural ventilation to the building interior. (Courtesy of Steven A. Moore.)



vague label for an amazingly diverse array of ideas that have grown around the contemplation of the relationship between human beings and their surroundings.”⁶⁵ Drawing upon a pragmatic logic similar to the above, Schlosberg argues, therefore, that “pluralism demands engagement.”⁶⁶ Critically, the “dilemma” of difference will not be overcome simply by liberal tolerance but by what he calls “agonistic respect,” which makes it tactically possible for those who may hold thoroughly allergic metaphysical beliefs—deep ecologists and ecological modernists, for example—to act together in achieving a particular limited goal, if not a totalizing utopian order. By responding to Schlosberg’s call to “acknowledge” and “recognize” the diversity of practices that might point to alternative sustainable futures, we may begin to chart an agenda for future research that would challenge the orthodox isolated categories of building design, building science, social science, and industrial ecology and “engage” in critical transdisciplinary research.⁶⁷ Our agenda, preliminary as it is, includes four proposals for action.

First, as must be clear by now, we find significant resources of salient theory in the writings of those who are productively blurring the distinction between critical theory, pluralism, and

pragmatism—James, Dewey, Hickman, Feenberg, Haraway, Latour, Schlosberg, and Rorty in particular. Unfortunately, these authors have written relatively little on the topic of architecture and even less on the topic of sustainable architecture. The absence of research in this area provides a call for architectural theorists, such as Joan Ockman and Daniel Friedman, to continue investigating any affinity between pragmatism and architectural production.⁶⁸ It also creates a demand for symposia and other dialogic spaces that would initiate dialogue between interested practitioners, architectural theorists, philosophers, and the public.

Second, proposals for critical pluralism are also coming out of the discourse concerning “civic environmentalism” initiated by Dewitt John, William Shutkin, Andrew Light, and Craig Hanks.⁶⁹ This literature recognizes the relationship between democratic participation and the resolution of environmental problems. Alternately called “ecological citizenship,” such proposals have in common the belief that environmental problems will not be solved without substantial civic participation. Related concepts have been explored for some years in the European Union by Lucien Kroll, Peter Hubner, Peter Blundell Jones, and others.⁷⁰ In North America, Donald Schön’s proposal for “reflective practice” pioneered this direction.⁷¹ Introducing the related discourses of critical pluralism and participatory design into architectural education is, then, a way of renovating practice itself over time. The pedagogical practices of Sergio Palleroni, Bryan Bell, and Sam Mockbee demonstrate the growing linkages between environmental sustainability and civic engagement.⁷² Alternative modes of engaging citizens in architectural production are, then, a second agenda item for further research.

Third, we need to open up and explore the language we use to talk about sustainable architecture. As Andrew Jamison has suggested, “More

fluid terms are needed: dialectical, open-ended terms to characterize the ebbs and flows, nuances and subtleties and the ambiguities of environmental politics.”⁷³ There is a need for “statements that are open rather than doctrinaire” and statements that “conscript” rather than alienate.⁷⁴ We must encourage a debate in which “discourse is never-ending, and solidarity is forever creating new networks and mosaics.”⁷⁵ As we have argued elsewhere, public engagement in the design of sustainable communities includes the social construction of urban “story lines” which are “something like a meta-conversation—a shared way of making sense of the past and speculating about what might become true in the future.”⁷⁶ It is by exploring these stories, through “public talk,” that we will better guide the making and remaking of sustainable cities.

And finally, practice is itself a topic for research. We need to investigate how the social systems of reward and penalty that now isolate practice from research, and research from practice, can be modified to stimulate new modes of architectural production that might alternately be described as reflective practice or grounded research. In this way, debates about sustainable architecture may be constantly reshaped by the experience of practice, while practice might be reframed by the public talk advocated above.

Notes

1. David Harvey, *Spaces of Hope* (Berkeley: University of California Press, 2000), p. 233.
2. S. Hagan, *Taking Shape: A New Contract Between Architecture and Nature* (Oxford: Architectural Press, 2000), p. 4.
3. James Wines, “The Art of Architecture in the Age of Ecology,” in D.E. Brown, M. Fox, and M.R. Pelletier, eds., *Sustainable Architecture: White Papers* (New York: Earth Pledge Foundation, 2000), pp. 11, 12–18.
4. H. Gordon, “Sustainable Design Goes Mainstream,” in D.E. Brown, M. Fox, and M.R. Pelletier, eds., *Sustainable Architecture: White Papers* (New York: Earth Pledge Foundation, 2000), p. 34.
5. The argument about the diversity of sustainable architecture was developed in an earlier JAE article: S. Guy and G. Farmer, “Reinterpreting Sustainable Architecture: The Place of Technology,” *Journal of Architectural Education* 54, no. 3 (February 2001): 140–48.

6. S. Yearley, *The Green Case: A Sociology of Environmental Issues, Arguments and Politics* (London: Harper Collins, 1991), p. 186.
7. Harvey, *Spaces of Hope*, p. 14.
8. Simon Guy, “Designing Urban Knowledge: Competing Perspectives on Energy and Buildings,” *Environment and Planning C: Government and Policy* 24 (2006), pp. 645–49.
9. Bruno Latour, *Science in Action* (Cambridge: Harvard University Press, 1987).
10. Richard Rorty, *Achieving Our Country: Leftist Thought in Twentieth-Century America* (Cambridge: Harvard University Press, 1998).
11. *Ibid.*, p. 20.
12. *Ibid.*, p. 28.
13. P. Macnaughton and J. Urry, *Contested Natures* (Cambridge: Polity Press, 1998), p. 2.
14. Clifford Geertz, *Local Knowledge* (London: Fontana Press, 1993), p. 4.
15. Clifford Geertz, *The Interpretation of Cultures* (London: Fontana Press, 1973), p. 10.
16. Andrew Jamison, *The Making of Green Knowledge: Environmental Politics and Cultural Transformation* (Cambridge: Cambridge University Press, 2001), p. 32.
17. P. Haas, *Saving the Mediterranean: The Politics of International Environmental Cooperation* (New York: Columbia University Press, 1990).
18. Jamison, *The Making of Green Knowledge*, pp. 27–28.
19. Ulrich Beck, *Ecological Politics in the Age of Risk* (Cambridge: Polity Press, 1995), p. 60.
20. Ulrich Beck, *Democracy without Enemies* (Cambridge: Polity Press, 1998), p. 91.
21. R. Ross, *The Chicago Gangster Theory of Life: Natures Debt to Society* (London: Verso, 1994), p. 5.
22. D. Schlosberg, *Environmental Justice and the New Pluralism* (Oxford: Oxford University Press, 1999), p. 3.
23. Marteen Hajer, *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process* (London: Oxford University Press, 1995), p. 12–13.
24. *Ibid.*, p. 13; See also Steven A. Moore, *Alternative Routes to the Sustainable City: Austin, Curitiba, and Frankfurt* (Lanham, MD: Rowman & Littlefield, 2007).
25. D. Schlosberg, “Reconceiving Environmental Justice: Global Movements and Political Theories,” *Environmental Politics* 13, no. 3 (Autumn 2004): 534–35.
26. Hajer, *The Politics of Environmental Discourse*, p. 18.
27. *Ibid.*, p. 44.
28. J. Dryzek, *The Politics of the Earth: Environmental Discourses* (Oxford: Oxford University Press, 1997), p. 9.
29. Bruno Latour, “The Promises of Constructivism,” in Don Ihde and Evan Selinger, eds., *Chasing Technoscience: Matrix for Materiality* (Bloomington, IN: Indiana University Press, 2003), pp. 27, 27–47.
30. Anonymous, “Reviews” of *Sustainable Architectures: Cultures and Natures in Europe and North America*, Simon Guy and Steven A. Moore, eds. (London: Spon Press, 2005); in *The Future Cities Project*, http://www.futurecities.org.uk/archive/arch_rev/4.html (accessed July 17, 2006).
31. Latour, “The Promises of Constructivism,” p. 27.

32. *Ibid.*, p. 28.
33. Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in Andrew Feenberg and Alastair Hannay, eds., *Technology and the Politics of Knowledge* (Bloomington, IN: Indiana University Press, 1995), pp., 175–94, 198.
34. *Ibid.*, p. 181.
35. Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no. 3 (Autumn 1988): 575–99, 593.
36. Haraway, "Situated Knowledges," p. 182.
37. Schlosberg, *Environmental Justice and the New Pluralism*, p. 16; See also Jozef Keulartz, Maartje Schermer, Michiel Korthals, and Tsjalling Swierstra, "Ethics in Technological Culture: A Programmatic Proposal for a Pragmatist Approach," *Science, Technology & Human Values* 29, no. 1 (2004): 2–29.
38. Richard Rorty, *Objectivity, Relativism and Truth* (Cambridge: Cambridge University Press, 1991), p. 1.
39. Donald MacKenzie and Judith Wajcman, eds., *The Social Shaping of Technology*, 1st ed. (Philadelphia: Open University Press, 1985), p. 3–4.
40. Andrew Feenberg, *Questioning Technology* (London: Routledge, 1999), p. xiii.
41. *Ibid.*
42. *Ibid.*, p. xi; See also Ruth Schwartz Cowan, "The Industrial Revolution in the Home," in Donald MacKenzie and Judith Wajcman, eds., *The Social Shaping of Technology* (Philadelphia: Open University Press, 1999), pp. 269–300.
43. *Ibid.*, *Questioning Technology*.
44. *Ibid.*, p. xii.
45. Elsewhere, we have discussed this problem as one of the "system boundaries" within which various disciplines consciously restrict the limits of their expertise. See Peter Kroes, Andrew Light, Steven A. Moore, and Pieter Vermass, *Philosophy of Design: From Engineering to Architecture* (Berlin: Springer, 2007), pp. 1–10.
46. Rorty, *Objectivity, Relativism and Truth*, p. 91.
47. Guy and Moore, *Sustainable Architectures*.
48. Jamison, *The Making of Green Knowledge*, p. 90.
49. Cited in Larry A. Hickman, *Philosophical Tools for Technological Culture: Putting Pragmatism to Work* (Bloomington, IN: Indiana University Press, 2001), p. 72.
50. *Ibid.*, pp. 80, 179.
51. Richard Rorty, *Philosophy and Social Hope* (New York: Penguin, 1999), p. xvi.
52. Rorty, *Achieving Our Country*, p. 28.
53. Rorty, *Philosophy and Social Hope*, pp. 36, 94.
54. For an example of contemporary architectural theory that conforms to the European version of critical theory in its critique of American naïveté, see Paul Shephard, *Artificial Love: A Story of Machines and Architecture* (Cambridge: MIT Press, 2003). By simplistically categorizing all environmentalists as "Twenty-first century Jesuits" (p. 193), Shephard associates sustainable architecture with "American tribal hegemony" (p. 194).
55. Rorty, *Achieving Our Country*, p. 23; David Schlosberg, "The Pluralist Imagination," in John Dryzek, ed., *The Oxford Handbook of Political Theory* (Oxford: Oxford University Press, 2006), pp. 142–60, 147.
56. Latour, "The Promises of Constructivism," p. 33.
57. Cited in Schlosberg, "The Pluralist Imagination," p. 152.
58. Rorty, *Achieving Our Country*, p. 28.
59. *Ibid.*, p. 37.
60. Schlosberg, *Environmental Justice and the New Pluralism*, p. 38.
61. The Commerzbank tower was first investigated by Steven A. Moore and Ralf Brand as "The Banks of Frankfurt and the Sustainable City," *Journal of Architecture* 8, no. 1 (Spring 2003): 3–24. A revised analysis is being published in Moore, *Alternative Routes to the Sustainable City*, pp. 117–52.
62. Bryan Pfaffenberger, "Technological Dramas," *Science, Technology & Human Values* 17 (Summer 1992), no. 3: 282.
63. Schlosberg, "The Pluralist Imagination," p. 149.
64. Schlosberg, *Environmental Justice and the New Pluralism*.
65. *Ibid.*, p. 1.
66. Schlosberg, "The Pluralist Imagination," p. 149.
67. Schlosberg, *Environmental Justice and the New Pluralism*, p. 4.
68. See Joan Ockman, *The Pragmatist Imagination: Thinking about 'Things in the Making'* (New York: Princeton Architectural Press, 2000); Daniel Friedman, "Case Studies," presentation at the Annual ACSA/AIA Teachers' Workshop, Cranbrook Academy, Dearborn, MI, July 8–11, 2003.
69. The discourse concerning civic environmentalism includes: Dewitt John, *Civic Environmentalism: Alternatives to Regulation in States and Communities* (Washington, DC: CQ Press, 1993); William Shutkin, *The Land That Could Be: Environmentalism and Democracy in the Twenty-First Century* (Cambridge: MIT Press, 2000); Andrew Light and Eric Katz, eds., *Environmental Pragmatism* (London: Routledge, 1996); and J. Craig Hanks, "Cities, Aesthetics, and Human Community: Some Thoughts on the Limits of Design," in Peter Kroes, Andrew Light, Steven A. Moore, and Pieter Vermass, eds., *Philosophy of Design: From Engineering to Architecture* (Berlin: Springer, 2007). The topic was also the subject of an interdisciplinary conference, *The Civic Environmentalism Workshop*, held at the University of Texas, School of Architecture, Austin, Texas, November 12–15, 2003.
70. Peter Blundell Jones, Doina Petrescu, and Jeremy Hill, eds., *Architecture and Participation* (London: Spon Press, 2005).
71. Schön, Donald A., *The Reflective Practitioner* (New York: Basic Books, 1983).
72. For publications that document examples of architectural production that combine environmental and social agendas, see Sergio Palleroni in collaboration with Christina Eichbaum Merkelbach, *Studio at Large: Architecture in Service of Global Communities* (Seattle: University of Washington Press, 2006); Bryan Bell, *Good Deeds, Good Design: Community Service Through Architecture* (New York: Princeton Architectural Press, 2004); Andrea Oppenheimer Dean, *Rural Studio: Samuel Mockbee and the Architecture of Decency* (New York: Princeton Architectural Press, 2002).
73. Jamison, *The Making of Green Knowledge*, p. 178.
74. For definitions of such "statements," see Schlosberg, *Environmental Justice and the New Pluralism*, p. 189; Kathryn Henderson, *On Line and on Paper: Visual Representations, Visual Culture, and Computer Graphics in Design Engineering* (Cambridge: MIT Press, 1999), pp. 53, 204.
75. Schlosberg, *Environmental Justice and the New Pluralism*, p. 103.
76. Moore, *Alternative Routes to the Sustainable City*, p. 11.