2

SUSTAINABLE DEVELOPMENT

The concept of "sustainability" in its modern sense emerged in the early 1970s in response to growing understanding that modern development practices were leading to worldwide environmental and social crises. The term "sustainable development" quickly became a catchword for alternative development approaches that could be envisioned as continuing far into the future.

The verb "sustain" has been used in the English language since 1290 or before and comes from the Latin roots "sub" + "tenere," meaning "to uphold" or "to keep." The Oxford English Dictionary traces the adjective "sustenable" to around 1400 and the modern form "sustainable" to 1611. However, the word appears to have been used mainly in legal contexts until recently, as in "the Defendant has taken several technical objections to the order, none of which ... are sustainable" (1884). The phrase "sustainable development" appears to have been first used in 1972 by Donella Meadows and other authors of *The Limits to Growth*, and by Edward Goldsmith and the other British authors of *Blueprint for Survival* in that same year. Once in use, the term became one of those inevitable expressions that so neatly encapsulates what many people are thinking that it quickly becomes ubiquitous.[1] Yet the conceptual roots of the term "sustainability" go far deeper, and have to do with the evolution of human attitudes toward the environment within Western culture.

ROOTS OF THE CONCEPT

Environmental issues have almost always been concerns of human societies. For millennia people have had to develop their communities and livelihoods within the context of pre-existing ecosystems and geographies, and there has been frequently an uneasy balance between human and non-human worlds. Parts of the Mediterranean were extensively deforested during antiquity, and environmental collapse may have contributed to the decline of the Mayan cultures. Many societies have had elaborate rituals and institutions devoted to maintaining what we might call "sustainable" resource use, in particular norms and taboos around the use of "common pool resources" such as fisheries, forests, water

sources, and grazing land.[2] Ecosystems or individual species have often been prominently represented within many spiritual traditions, especially those of indigenous peoples living close to the land.

As early civilizations developed they profoundly changed pre-existing natural environments. Indigenous cultures cleared forests, managed landscapes by setting fires, domesticated or transplanted species, and hunted or drove into extinction many non-human forms of life. Few landscapes anywhere were undisturbed by human contact. Writers beginning with Aristotle put forth terms such as "second nature" to refer to elements of the natural world that had been influenced by interaction with humans. So in some ways current sustainability debates are the modern version of age-old concerns about how to maintain human societies within the context of natural ecosystems.

However, although many early civilizations bumped up against ecological limits, the coming of the Industrial Revolution in the late eighteenth and nineteenth centuries made the impacts of human actions far more dramatic. Skies in parts of Britain, continental Europe, and North America were blackened with coal smoke. Forests were cut down to produce lumber or charcoal for iron smelting, and rivers and streams were fouled with sewage and industrial wastes. Clearcutting and inappropriate agricultural practices such as plowing across contours often led to erosion and flooding.

One response to the negative effects of industrialization was a strong strain of romantic or transcendentalist philosophy in which nature was asserted as an antidote to industrial civilization. Writers such as Henry David Thoreau and John Muir, and Romantic poets such as William Wordsworth, Percy Shelley, John Keats, and Alfred Lord Tennyson extolled nature as a spiritually rejuvenating alternative to industrial society. As Muir put it, natural things were "the terrestrial manifestations of God." This spiritual perspective underlaid the "preservationist" strand of the early environmental movement.

Another response to the pressures of industrialization was more pragmatic: to study environmental impacts and find alternative strategies that avoided them. In 1864 George Perkins Marsh published the first systematic consideration of how humankind was altering the natural landscape in his book *Man and Nature*, based on detailed observation of environmental changes in southeastern France and New England. Marsh focused in particular on deforestation, which he saw as leading to increased runoff, floods, landslides, and other ecological disasters. Warning that humans were upsetting the balance of nature, he prophesied that long-term ecological decline would lead to decline in human populations.[3]

A few decades later, German foresters developed "sustained yield" techniques of forest management.[4] Applied particularly to the Black Forest in southwestern Germany, these concepts influenced Americans who trained at continental forestry schools in the late nineteenth century, including Gifford Pinchot, who later became President Theodore Roosevelt's chief forester. Pinchot and others imported European concepts of sustained yield resource management back into the United States, where they influenced the growing conservationist movement. In contrast to the preservationist viewpoint, which ascribed intrinsic value to nature, this sustained yield approach was relatively utilitarian, concerned with preserving natural resources for future human use. Such anthropocentric attitudes, in which ecosystem elements are viewed as valuable mainly in terms of their potential human use, are still prevalent today.

A mixture of preservationist and conservationist sentiments is contained in Aldo Leopold's mid-twentieth-century notion of a "land ethic"—a human responsibility to care

for particular lands and ecosystems, discussed most fully in *A Sand County Almanac* (1948). Although trained in utilitarian forest management perspectives, Leopold came to believe that humans had an ethical responsibility to steward and safeguard natural ecosystems, and that these had intrinsic value apart from human use. This more ecocentric perspective helped lay the groundwork for the rise of deep ecology in the 1970s and 1980s, an even more radical philosophy which sought to put the well-being of the global environment first, with human priorities revised to reflect their role as just one small element of the global system. These varying perspectives on the relation between humans and ecological systems helped lay the foundation for late-twentieth-century sustainability debates.

Public concern about the relation between industrial development, urban expansion, and the environment grew steadily after the Second World War. War production had stimulated a huge expansion of petrochemical industries that in the postwar period created many new pollution, toxic materials, and resource use problems. Works such as William Vogt's best-selling *Road to Survival* (1948) and Fairfield Osborn's *Our Plundered Planet* (1948) helped tie the rise of ecological problems to this growth in industrial development. Other writers called attention to the alienation and conformity of 1950s industrial society in bestselling works such as David Riesman's *The Lonely Crowd* (1953) and William H. Whyte's *The Organization Man* (1956). Meanwhile, in many books between the 1920s and the 1970s the great urban planning critic Lewis Mumford linked large-scale urbanization, technology, and warfare, warning of the dangers of the "technopolis," in which anti-humanistic technology was the primary value.[5] In books such as *The Culture of Cities* (1938), *The City in History* (1961), and *The Urban Prospect* (1968), Mumford advanced instead an ideal of the city as an organic community, designed on a human scale, oriented towards human needs, fueled by a life-enhancing economy, surrounded by undeveloped lands, and with streets filled with people instead of automobiles. This vision is remarkably similar to recent sustainable city ideals.

Modern environmentalism—in which advocates became far better organized, adopted an increasingly broad agenda, and brought about a wave of environmental legislation—is generally dated to the late 1960s and early 1970s.[6] During this time social critics, futurists, feminists, peace activists, and environmentalists critiqued existing notions of development and proposed alternative paradigms emphasizing the spiritual, the natural, and the human over values of profit and economic progress. Particularly significant were Rachel Carson's book *Silent Spring* (1962), which first called attention to the dangers of pesticides and other toxic chemicals in the environment, Kenneth Boulding's *The Meaning of the Twentieth Century* (1964), Barry Commoner's *The Closing Circle* (1971), and Theodore Roszak's *Where the Wasteland Ends* (1972).[7] Barbara Ward and Rene Dubos' book *Only One Earth* (1972) was also influential. The report of an unofficial commission set up by Maurice Strong, Secretary-General of the 1972 United Nations Conference on the Human Environment, this widely distributed volume warned about threats to global survival and included an explicit description of the greenhouse effect[8] and warnings about "unsustainable" growth in automobile usage.[9]

Current events also helped change public consciousness. Views of the Earth from space, first taken by astronauts on their way to the moon in the 1960s, helped people conceptualize the planet as a whole for the first time. The debacle of the Vietnam War helped throw into question the prevailing pattern of US economic and political control over developing countries, and exposed the underside of "the military–industrial complex" that Dwight

Eisenhower had warned against in his farewell address. Earth Day splashed environmental problems onto front pages and magazine covers in 1970. The 1972 UN Conference on Environment and Development, held in Stockholm, for the first time brought together public officials and NGOs from around the world and gave them a forum to share ideas and strategies. The 1973 energy crisis hit the pocketbooks of millions of people, many of whom suddenly realized that their fossil fuel use could not continue to expand forever.

At a more philosophical level, in the late 1960s humanistic psychologists such as Abraham Maslow and Carl Rogers pointed out ways in which human potential is shaped by the surrounding social and cultural environment, and ways in which human nature can perhaps be shaped in healthier directions in the future. Their work helped counter pessimistic views of human nature as warlike and competitive, which had been reinforced by violent events earlier in the twentieth century. The implication of this optimistic humanism, endorsed as well by spiritual philosophers such as Pierre Teilhard de Chardin[10] and later by feminist "stage theories" of psychological development,[11] is that people and perhaps entire societies can evolve towards more conscious, compassionate, and sustainable modes of existence, given the right conditions.

By the 1970s the ground had been laid for new perspectives on global development.[12] In *Limits to Growth* (1972) Meadows and other MIT researchers modeled trends in global population, resource consumption, and pollution, and found that regardless of the range of assumptions they entered the model showed the human system crashing in the mid-twenty-first century. But they argued that "it is possible to alter these growth trends and to establish a condition of ecological and economic stability that is sustainable far into the future."[13] The sooner such efforts began, Meadows and her coauthors believed, the greater the likelihood of their succeeding. This conclusion was opposed by conservative economists such as Julian Simon, who argued that economic mechanisms would naturally take care of resource problems by reducing consumption or substituting other resources for those depleted.[14] In some cases, this market-based process clearly did happen. However, both 20 years later and 30 years later Meadows and her colleagues revisited their model and found its basic predictions still accurate. Indeed, they warned that the human population had reached a situation of "overshoot" in terms of resource limits, and would need to take strong action to correct unsustainable trends.[15]

Meanwhile, in their own 1972 book *Blueprint for Survival* Goldsmith and other editors of the British journal *The Ecologist* drew on the work of the *Limits to Growth* group as well as nineteenth-century British economist John Stuart Mill in calling for the creation of a stable global society.[16] More synthetic and polemical than the Meadows group, Goldsmith et al. began with a sweeping critique of industrial society, stating that

> The principal defect of the industrial way of life with its ethos of expansion is that it is not sustainable. ... Radical change is both necessary and inevitable because the present increases in human numbers and per capita consumption, by disrupting ecosystems and depleting resources, are undermining the very foundations of survival.[17]

In ways that presaged much later sustainability literature, they then systematically reviewed various strategies for resource management, agriculture, and social and political reform. As they quite eloquently put it,

> Our task is to create a society that is sustainable and will give the fullest possible satisfaction to its members. Such a society by definition would depend not on expansion but on stability. This does not mean that it would be stagnant; indeed, it could well afford more variety than does the state of uniformity that at present is being imposed by the pursuit of technological efficiency. We believe that the stable society ... is much more likely than the present one to bring the peace and fulfillment that hitherto have been regarded, sadly, as utopian.[18]

Once introduced, the concept of sustainable development diffused rapidly not just through the networks of environmental activists but also among economists, ethicists, and spiritual leaders concerned about the course of global development. A 1974 conference of the World Council of Churches issued a call for a "sustainable society," and the earliest book with the word "sustainability" in the title appeared in 1976, a volume entitled *The Sustainable Society: Ethics and Economic Growth* by Lutheran theologian Robert L. Stivers. Herman Daly's writings about a "steady state economy," discussed further in the next chapter, were also influential at this time. The sustainability literature got one of its strongest pushes from Lester Brown and others at the Worldwatch Institute, a Washington, DC-based organization which in the late 1970s began publishing an extensive series of papers and books related to global sustainability, including the Worldwatch Papers and annual *State of the World* reports.[19] The tide of literature on sustainability swelled in the 1980s with the International Union for the Conservation of Nature (IUCN)'s influential *World Conservation Strategy* (1980), the President's Council on Environmental Quality's *Global 2000 Report* (1981), and above all the 1987 report of the World Commission on Environment and Development, chaired by Norwegian Prime Minister Gro Harlem Brundtland. These reports documented the growth of global environmental problems and critiqued notions of "development," although generally accepting the desirability of continued economic growth. Even fiction writers contributed to the re-evaluation of development trends. Ursula Le Guin's science fiction novels explored alternative societies wrestling with problems of overconsumption, inequality, and environmental destruction. Ernest Callenbach's *Ecotopia* books laid out a vision of a harmonious and sustainable society created when local activists in Northern California secede from the United States.[20]

With the release of the Brundtland Commission report *Our Common Future* in 1987 and the United Nations Rio de Janeiro "Earth Summit" conference in 1991, calls for sustainable development entered the mainstream internationally. The influence of the IUCN and Brundtland reports in particular flowed from the broad participation of mainstream governmental officials within these bodies, which gave their findings an air of authority going beyond the "alarmist" reports of the *Limits to Growth* researchers, *Global 2000*, or the Worldwatch Institute. The Brundtland Commission in particular received input from literally thousands of individuals and organizations from around the world. Initiated at the request of the United Nations Secretary-General, it followed in the footsteps of two other highly respected UN-sponsored commissions, the Brandt Commission on North-South Issues and the Palme Commission on Security and Disarmament Issues. A more authoritative body to explore the topic would have been hard to find. Following Brundtland and the Rio Earth Summit, national reports such as the *Sustainable America* report of the President's Council on Sustainable Development (PCSD) in 1996 attempted to establish sustainable

development directions for particular countries. The 1996 United Nations Habitat II "City Summit" in Istanbul also took slow but significant steps towards establishing global consensus on how the sustainability agenda can be applied to urban planning. The tide of academic and professional literature related to sustainability grew steadily during the 1990s and early 2000s, and although some initially expected the subject to be a passing fad, has shown no sign of diminishing in the early decades of the new century.

DEFINITIONS AND PERSPECTIVES

Despite several decades of discussion, no perfect definition of sustainable development has emerged. The most widely used is that of the Brundtland Commission: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[21] However, this formulation is open to criticism for being anthropocentric and for raising the difficult-to-define concept of needs. (Does every household really need two cars? A VCR? A 2000-square-foot house on a 5000-square-foot lot? What happens if every household worldwide has these things?) Many groups have also criticized the Brundtland Commission's approach for being too accommodating to the interests of the industrialized countries and for not questioning the desirability of continued economic growth.[22]

Other definitions include that given by the World Conservation Union in 1991: "improving the quality of human life while living within the carrying capacity of supporting ecosystems." This version raises the problematic notion of "carrying capacity," which is useful to think about for educational purposes but extremely hard to pin down in practice. It is one thing to say that the carrying capacity of a given watershed is a certain number of deer; deer populations can be counted and analyzed over time, and are relatively rooted to a particular place. It is far more difficult to say that a given region or the planet as a whole can support a certain number of human beings, when humans readily transport themselves and the resources they use over vast distances, and can substitute some resources for others if these become scarce.

Still other writers prefer to define sustainability in terms of preserving existing stocks of "ecological capital" and "social capital." This approach builds on the economic wisdom of living on the interest of an investment—in this case the Earth's stock of natural resources—rather than the principal. For example, British economist David Pearce argues that sustainable development "is based on the requirement that the natural capital stock should not decrease over time."[23] Although conceptually appealing, this approach likewise has an anthropocentric flavor, and involves difficult questions of measurement and whether resource substitution should be allowed.

Most sustainability advocates throw up their hands when faced with the definitional question and fall back on the Brundtland formulation. My own preference is to use a relatively simple, process-oriented definition emphasizing long-term welfare: "Sustainable development is development that improves the long-term health of human and ecological systems." This definition avoids fruitless debates over "carrying capacity," "needs," or sustainable end states, while emphasizing the process of continually moving towards healthier human and natural communities. In theory at least the directions of this process can be agreed on through participatory processes in which all relevant stakeholders are represented, and progress can be measured by means of various performance indicators (see Box 2.1).

Box 2.1 SOME DEFINITIONS OF SUSTAINABLE DEVELOPMENT

Theme: meeting the needs of future generations
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
—*Brundtland Commission (1987)*

Theme: carrying capacity of ecosystems
Sustainable development means "improving the quality of human life while living within the carrying capacity of supporting ecosystems."
—*World Conservation Union (1991)*

Theme: maintain natural capital
"Sustainability requires at least a constant stock of natural capital, construed as the set of all environmental assets."
—*David Pearce (1988)*

Theme: maintenance and improvement of systems
"Sustainability ... implies that the overall level of diversity and overall productivity of components and relations in systems are maintained or enhanced."
—*Richard Norgaard (1988)*

Theme: not making things worse
Sustainable development is "any form of positive change which does not erode the ecological, social, or political systems upon which society is dependent."
—*William Rees (1988)*

Theme: sustaining human livelihood
Sustainability is "the ability of a system to sustain the livelihood of the people who depend on that system for an indefinite period."
—*Otto Soemarwoto (1991)*

Theme: protecting and restoring the environment
"Sustainability equals conservation plus stewardship plus restoration."
—*Sim Van der Ryn (1994)*

Theme: oppose exponential growth
"Sustainability is the fundamental root metaphor that can oppose the notion of continued exponential material growth."
—*Ernest Callenbach (1992)*

Theme: grabbag approach
"Sustainable development seeks ... to respond to five broad requirements: (1) integration of conservation and development, (2) satisfaction of basic human needs, (3) achievement of equity and social justice, (4) provision of social self-determination and cultural diversity, and (5) maintenance of ecological integrity."
—*International Union for the Conservation of Nature (1986)*

Although writers on sustainability share the same basic concerns about the directions of global development, there are also several recurrent debates between them. One main rift is between those who maintain a faith in technology, scientific rationality, and economic growth and those who don't. The former approach often fits well with the mainstream conservation movement within industrialized countries and with large international development agencies and research institutes that are used to engaging in detailed scientific, economic, and policy analysis. The aim becomes to achieve ecological goals by quantifying environmental impacts, analyzing economic policy options, fine-tuning regulation of private industry, and adjusting market incentives. In contrast, others believe that sustainable development is fundamentally incompatible with current capitalist economic structures, attitudes, and lifestyles. For example, Australian sociologist Ted Trainer argues that "a sustainable society must be based on non-affluent living standards, on highly self-sufficient and small-scale local economics, and on zero economic growth."[24] This camp has definitely been in the minority in official circles, but finds considerable support at the grassroots level.

A second main division is between those who focus on ecological crises and those who emphasize social needs and equity. Deep ecologists and mainstream environmentalists in the industrialized countries tend to fall into the first camp, while social ecologists and grassroots activists in developing countries take the latter perspective. Activists in the so-called "developing countries" often see First World concern about the global environment as a way to deny them the advantages that industrialized countries already enjoy, and criticize sustainability advocates in North America and Europe for not focusing sufficiently on the problem of First World overconsumption. Some also criticize the Brundtland Commission's work for embracing conventional concepts of economic growth without paying attention to overconsumption and exploitation in developing countries. However, many others recognize "the intimate connection between the ecological crisis and the broader issues of social and economic justice," as *Ecologist* co-editor Nicholas Hildyard puts it,[25] and have sought to conceptualize "sustainable development" in a way that takes both environmental and equity needs into account.

A third area of contention concerns the extent to which indigenous peoples should be used as models of sustainability. On the one hand, many deep ecologists and social activists agree with Helena Norberg-Hodge and Peter Goering that "traditional societies are the only tested models of truly sustainable development."[26] Writers such as Jerry Mander point to the wisdom of native cultures that have learned to live relatively harmoniously with the land, and argue that such cultures illustrate a quality of spirit that is a necessary antidote to Western materialism.[27] On the other hand, others dismiss this viewpoint as romanticism, and argue that indigenous peoples frequently behaved in unsustainable ways themselves. The Plains Indians, for example, reportedly stampeded large herds of buffalo off cliffs, and Paleolithic hunters may have caused the mass extinction of many species. There is probably something to be said for both points of view, though on the whole traditional peoples seem to have lived with a reverence for land and nature that industrial society would do well to learn from.

A final area of potential confusion concerns changes within ecological science itself, in particular the move away from the notion that ecosystems naturally reach a point of balance or harmony, towards a more process-oriented view that acknowledges the somewhat

chaotic, unpredictable, constantly changing nature of natural systems. The former viewpoint, developed following the traditional ecological theories of Eugene P. Odum and others, might imply a search for steady-state conditions of human development. The latter perspective would allow for more continual change as long as it headed in directions that nurtured human and ecological well-being.

As the preceding history suggests, advocates of sustainable development have brought a number of different perspectives to the table. A good starting place is to look at four main groupings of writers: environmentalists, economists, equity advocates, and spiritually and ethically oriented writers. Environmentalists tend to be motivated by the threat of ecological crises; they range from environmental managers working within large corporations (adopting a more-or-less utilitarian attitude toward the environment) to deep ecologists and Earth First! sympathizers (adopting more ecocentric attitudes). Economists use the language and tools of economics, a quasi-science that emphasizes monetary valuation of things and the goal of efficiency. The tendency of economic writers is to bring environmental and social issues into an economic framework of analysis, for example by viewing sustainable development as a process of maintaining natural capital, or by seeking market-based mechanisms for cleaning up environmental pollution. Equity advocates often focus on inequality, exploitation, and First World overconsumption, and develop detailed analyses of how concentrations of political and economic power lead to exploitation. Such individuals and groups often mobilize politically against economic globalization and to regain local control over economic activity. Spiritual writers and ethicists dwell on the need for a transformation of values and mind-sets as a precondition to sustainable development. By reconnecting with the Earth, each other, and our own relation to the universe, this viewpoint suggests, humans will become better able to coexist with one another and the planet. Ecofeminist critiques of development follow a similar path, arguing that specifically male values, mind-sets and institutions are much of the problem.

Such a categorization is simply a useful way of organizing the sustainability literature, and parallels the "Three Es"—environment, economy, and equity—that are often seen as the goals of sustainable development. It should be stressed that many writers combine more than one approach. Box 2.2 provides a general overview of how some authors may be viewed in relation to these groupings, with lists of names arranged in rough order of chronology.

MODERNIST, POSTMODERNIST, AND ECOLOGICAL WORLDVIEWS

Any pivotal concept like "sustainable development" must be seen against a backdrop of the slow, massive shifts in outlook that shape history at particular times. In this case, the sustainable development movement can be seen as part of a larger reaction against the modernist worldview that dominated global development during the twentieth century and that continues its influence today, although often under a postmodern guise. (Whether postmodernism should be viewed separately from modernism is an ongoing debate, as will be discussed further in a later chapter.) In contrast, sustainability can be seen as a key goal of an ecological worldview that has been slowly gaining adherents for many decades, and that represents a potential alternative to both these others.

Box 2.2 PERSPECTIVES ON SUSTAINABLE DEVELOPMENT

Environmentalists

Environmental concerns paramount; ranges from "environmental management" to "deep ecology"

Predecessors
Malthus
Thoreau
19th-century German forestry

Conservationists
Gifford Pinchot

Preservationists
John Muir

20th-century natural resource scientists
Aldo Leopold
Rachael Carson
Barbara Ward
Rene Dubos

Global environmentalism
Donella Meadows
Lester Brown/WW Institute
World Resources Institute
Brundtland Report
Earth Summit/Agenda 21
President's Council on Sustainable Development

Deep ecologists
Arne Naess
Bill Devall/George Sessions

Bioregionalism
Kirkpatrick Sale

Environmental management
ISO 14000

Economists

Economics as the focus and language of choice; emphasis on incorporating environmental concerns into an economic framework

Predecessors
John Stuart Mill
Kenneth Boulding
E.F. Schumacher

Steady state economics
Herman Daly

Environmental economics
David Pearce
Michael Redclift

Ecological economics
Robert Repetto
Robert Costanza
Kerry Turner
Johan Holmberg
Richard Norgaard

Restorative economics
Paul Hawken

Local self-reliance
David Morris

Ecological footprint analysis
William Rees

Economic democracy
Martin Carnoy
Derek Shearer

Socially responsible investment
The CERES principles

Equity advocates

Structural inequality, exploitation, and First World overconsumption as primary concerns; emphasis on resisting economic globalization, reclaiming the commons and local control over development

Predecessors
Marxist, Socialist, Anarchist critiques of capitalism

Social ecologists
Murray Bookchin

Dependency theory
Andre Gunder Frank

Development critics
Edward Goldsmith
Nicholas Hildyard/*The Ecologist* magazine
Frances Moore Lappe
Helena Norberg-Hodge
Arturo Escobar
Anti-WTO Activists

Third World activists
Vandana Shiva
Martin Khor

Environmental justice
Robert Bullard
Carl Anthony

Spiritual writers and ethicists

Focus on a transformation of values and mind-sets; reconnection with the Earth and each other; search for an alternate paradigm to 20th-century modernity

Predecessors
Teilhard de Chardin
Gregory Bateson
Paul Goodman
Ivan Illich

New paradigm writers
Ervin Laszlo
Fritjof Capra

Environmental ethicists
Baird Callicott
Timothy Beatley

Ecopsychology
Theodore Roszak

Green politics/ ecofeminists
Charlene Spretnak
Petra Kelly
Carolyn Merchant

Spiritual writers
Gary Snyder
Thomas Berry
Matthew Fox
Thich Nat Hahn
Dalai Lama

The modernist worldview has taken on different manifestations at different times in the visual arts, in literature, in architecture, in science, and in philosophy. However, it is based on a number of core elements:

- a desire to leave traditional forms behind and to create a new, "modern" world often oriented around technology;
- a faith in science, rationality, and an objective viewpoint;
- a search for universals often connected with science;
- methodological approaches that break problems down into their constituent parts and that tend to view the world atomistically and mechanically; and
- a frequent discomfort with normative statements and value-based discourse.[28]

Between the 1920s and 1970s modernist architects cast aside traditional or classical forms and experimented with sleek new designs that often used new materials such as glass, steel, and concrete. The modernist movement in architecture was represented by the Congrès International des Arts Modernes (CIAM) and the 1938 Charter of Athens, authored in large part by the most famous modernist architect, Le Corbusier. Although many modernists endorsed a humanistic political philosophy with laudable social goals, their design aesthetic emphasized forms of development—in particular the slab-like "towers in a park" scheme emulated by low-budget US public housing and urban renewal—that were later seen as anti-human. The style and works of many modernists also exhibited an arrogance that led quite understandably to a backlash.[29]

In the urban planning field, modernists moved away from the ecological holism of Geddes and Mumford to embrace the social sciences and highly quantitative forms of analysis. The ideal of the planner as a detached, objective expert took over. At the same time, planners adopted an unquestioning faith in material progress and economic development. Towards the end of the twentieth century these goals came into question owing to the bleakness, ecological degradation, inequities, and questionable livability of the resulting urban environments.

Within international development, modernist attitudes meshed well with the rise of post-Second World War development practices relying on large-scale infrastructure and technology. The "Green Revolution"—through which Western countries convinced developing countries to substitute fertilizers, pesticides, and hybrid seeds for indigenous agricultural practices—is a classic example. Biotechnology may represent a more recent version of this approach, which relies on science, technology, and large inputs of nonrenewable resources and capital to increase agricultural yields. Worldwide, developing countries also rushed to emulate modernist First World urban development by building automobile infrastructure, huge industrial plants, and North American-style suburbs, often with disastrous results.

To some extent the postmodernist viewpoint represents a rethinking of the values and assumptions of modernism. The ideal of universal development principles or design ideas has been shattered—these have been shown to often create sterile and monotonous communities. Instead the postmodern perspective acknowledges the value of many different cultures and viewpoints. "Anything goes" might be the mantra. Within architecture, postmodernism

is characterized by a mixing of styles and forms within a single building. Buildings often become playful, borrowing from here and there, as in Philip Johnson's famous AT&T building in New York, which emulates a piece of Chippendale furniture. The results are often a welcome relief to bland, faceless modernist design. But the motivations underlying postmodern design are far more than just playfulness. Whereas modernism followed Le Corbusier's dictum "Form follows function," Nan Ellin points out that postmodernism might be said to follow a number of new principles with less commendable motives: "form follows fiction" (Disney World, Las Vegas), "form follows fear" (gated communities, sanitized semi-public spaces such as malls), "form follows finesse" (projects designed by egotistical architects trying to carve out niches for themselves), and "form follows finance" (urban landscapes most fundamentally shaped by flows of capital).[30]

As geographer Michael Dear notes in his study of Southern California, urban regions have been fragmented into a postmodern melange of edge cities, gated communities, and social groups more connected to global electronic networks than to particular places.[31] The relatively simple model of a central city and suburbs that prevailed until recently is fading as a wide variety of different spaces and cultures emerge within the postmodern urban environment. However, urban geographer David Harvey has argued that postmodernism may not be a radically new state—the underlying logic of capitalist production has not changed in his view, simply some of its surface manifestations.[32] Shiny new suburban office towers, regional malls, and gated communities are just new window-dressing for the same dynamics of economic power that fueled modernism.

The main problem with postmodernism as a philosophical framework lies in establishing grounds for ethical and moral judgments—that is, for action of any sort that might seek goals such as a sustainable society. For many, the result of the postmodernist outlook is a nihilistic relativism that denies the existence of any shared values or grounds for social change. If anything goes, is there any point in trying to build cities one way as opposed to another? Are there grounds for adopting certain planning policies, economic development strategies, or design guidelines as opposed to others?

The ecological worldview, in contrast, acknowledges cultural diversity but seeks to ground the development of society in fundamental values that we all share by virtue of being human and sharing a small planet. This perspective emphasizes interdependence, based in part on scientific understandings of the radical interconnectedness of the "web of life." It views the world in terms of overlapping complex systems and organic unity, rather than as an atomistic collection of people and material things, as in positivistic science and neoclassical economics. It emphasizes flexible, evolving systems that can learn and adapt. Unlike postmodernism, the ecological perspective holds the possibility of justifying ethical belief and action, in that these are necessary to sustain social and ecological systems.[33] This ecological worldview—and the challenge of sustainable development in particular—can be seen as a grand narrative replacing the modernist ideals of technological and material progress.[34]

Differences between the modernist, postmodernist, and ecological viewpoints are summarized in Box 2.3.

Modernism advances a very strong value set, one that places priority on scientific and technological tools and methods. Within planning and urban development, modernist

Box 2.3 MODERNIST, POSTMODERNIST, AND ECOLOGICAL WORLDVIEWS

	Modernist worldview	Postmodernist worldview	Ecological worldview
Values	Universal values based on modern science	Pluralistic values based on cultural and cognitive traditions	Acknowledges pluralism but also a shared core value set based on common problems
Cognitive approach	Atomistic (break problems down into constituent parts; view world as collection of individual elements)	Acknowledges pluralistic ways of viewing the world	Emphasizes interrelationships, networks, systems
Core influences	Newtonian physics; neoclassical economics	Twentieth-century physics (relativity, uncertainty principle)	Ecological science; chaos theory; systems theory
Political implications	Reinforces centralized political authority	Undermines centralized political authority	Emphasizes flexible and evolving relationships between different political institutions
Preferred planning modes	Rational, comprehensive planning	Decentralized local planning to meet pluralistic community needs; communication to gain consensus on directions	Emphasizes communication and education to help evolve public understanding; advocacy planning to achieve shared goals; evolving incentives and mandates between different levels of government

outlooks have underlain the expert-driven, technocratic planning common during the mid-twentieth century, within which planners determined urban problems through abstract quantitative analysis and saw themselves as impartial analysts and researchers. Neoclassical economics, with its even stronger value set oriented around economic efficiency, growth, and material progress, went hand-in-hand with this mind-set. The modernist approach forbade planners from acting in any normative fashion, even while it advanced such strong values of its own.

Postmodernism works against value-based planning for a different reason—all viewpoints are seen as equally valid. Since truths are seen to be relative to culture and the existence of any universal beliefs is questioned, no rationale remains for choosing a certain

path of development over others. But still, as Harvey points out, the values of capitalist economics underlie the postmodern perspective. Radical pluralism itself can also be seen as a value. These give postmodernism a strong though unacknowledged normative bias.

The ecological viewpoint respects different cultural perspectives, and it values maintaining this diversity. However, it also calls for common values and rules that are fundamental to survival on a small planet. Thus without being backed by modernist science (although supported by more recent scientific findings showing a radically interrelated universe), universals can be reached. Many of these points of global agreement have been expressed since the 1940s in United Nations conventions and declarations, in particular the UN's Universal Declaration of Human Rights in 1948, and have been expressed more recently through the Agenda 21 agreement emerging from the 1992 Earth Summit and the 2000 Earth Charter.

Sustainability, then, can be seen as one of the core values and goals of an emerging ecological worldview that weaves together recent developments in physics, ecology, and psychology along with core elements of many of the world's great spiritual traditions (which support the importance of ethical action within an interdependent world). This cognitive outlook sees the world in terms of interdependence and coevolving complex systems, and supports values, ethics, and actions that likewise emphasize interdependence.

Environmental, economic, equity, and spiritual or ethical perspectives on sustainability can all fit with this worldview. "Sustainability" itself is a code word for other values—principally the sustaining and nurturing of life on the planet—that become a starting point for action in urban planning as in other fields. Acknowledging this normative foundation implies a conscious direction to future action that is very much needed (see Figure 2.1).

THE ROLE OF VALUES AND INSTITUTIONS

Values are priorities that people adopt—consciously or otherwise—based on their worldviews and assumptions about reality. These priorities then motivate behavior that follows from these more general cognitive outlooks. If they were being logically consistent someone subscribing to a worldview based on free-market economics might value competition, entrepreneurship, and individual freedom. Someone subscribing to an ecocentric view of

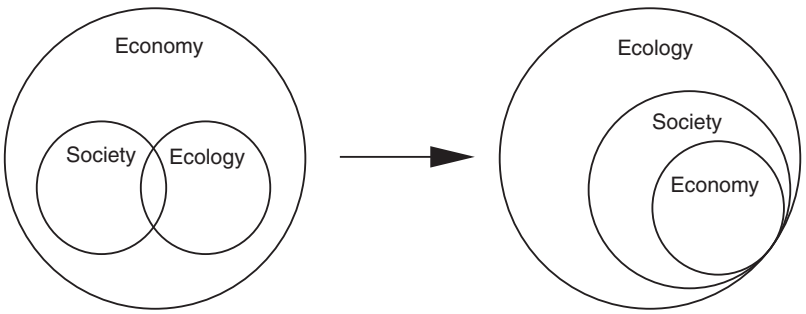

Figure 2.1 Transition from economic to ecological perspective

the world might value the integrity of natural ecosystems, closeness to nature, and a low impact lifestyle. Someone with a strongly feminist perspective might value equality, civil rights, and social welfare policies aimed at caring for women, children, and the elderly.

Values either can be explicitly developed as the basis for action, or they can be adopted unconsciously as a set of de facto guidelines for how an individual or society leads life. Societies have often set out a few basic values as representing their core beliefs. For example "life, liberty, and pursuit of happiness" is perhaps the most basic statement of American values, while the Canadian constitution refers instead to "peace, order, and good government." However, in practice daily social or individual life may be based on a hodgepodge of different and frequently conflicting values.

Talk of values has unfortunately often been co-opted by "family values" conservatives in the United States and by similar reactionary groups elsewhere. These groups often use "values" language in hypocritical ways—valuing "family" may mean advocating for a traditional, patriarchal model of the family with the wife staying at home, rather than endorsing good child care, education, health care, and parental leave policies to support today's working parents; valuing "life" may simply mean opposing abortion, rather than actively nurturing human welfare. (One common joke is that for "pro-life" protestors life begins at conception and ends at birth.)

However, defining sets of progressive values can be extremely useful in bringing about social change—and in planning activities of all sorts—in that stating values helps groups clarify their goals and then move on to look at what politics and programs might achieve them. For example, the Global Green Party, building on the work begun by the German Green Party in the early 1980s, adopted a list of six core political values at a 2001 conference in Canberra that includes ecological wisdom, social justice, participatory democracy, non-violence, sustainability, and respect for diversity. For its part the Green Party USA has adopted a somewhat broader set of ten key values that adds decentralization, community-based economics, feminism, and personal and global responsibility.

The "Three Es" of sustainable development can be considered to represent a rather condensed value set as a basis for change. Some sustainability advocates have sought to expand this list to include concepts such as empowerment, education, and the like. Others might come up with much larger sets of values such as those of the Green Party USA. In the end the exact formulation is not as important as the fact that sustainability-oriented politics is based on *something*—some set of core beliefs and priorities that can then be planned around, and that reflects global needs for healthy societies and ecosystems. Developing such values explicitly helps eliminate the deep gulf that often occurs between stated and de facto values in a society, producing a politics of hypocrisy in which constructive change is difficult. Arguably the United States is in such a situation, professing to value democracy while tolerating a weak and corrupted version, claiming to value peace while waging wars, and touting the virtues of free markets while actually subsidizing large quasi-monopolistic corporations.

Within societies values are in turn propagated and shaped by a wide variety of institutions—social, political, cultural, and economic structures and traditions that to a large extent determine the ways we see the world and live our lives. These institutions include systems of laws, courts, and government; corporations, advertising, and the media; and a

large number of informal rules and codes of behavior. A substantial literature, led in part by the "structuration theory" of British sociologist Anthony Giddens and the shared resource theory explorations of Elinor Ostrom,[35] has grown to examine how such institutions structure values and behavior within society.

Changing institutions, then, is a way to change values, and vice versa. Working to reform institutions—for example, election processes, government agencies, planning codes and procedures, and tax structures—can be seen as central to establishing a context in which more sustainable development can come about. The role of institutions will therefore be a recurrent theme in later chapters. Institutions, values, and worldviews all form part of the context in which people develop their individual approaches to sustainable development.