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7 Reinventing the future

The global ecovillage movement as a holistic knowledge community

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Within the field of global environmental politics, a distinction is commonly made between top-down and bottom-up approaches. Top-down approaches typically focus on international environmental treaties and institutions, with the primary policy agents being technical experts and norm entrepreneurs working in states and international organizations. Bottom-up approaches generally focus on social movements and global civil society, with the primary agents being nongovernmental organizations directing their actions toward states, international organizations or, increasingly, firms. In both cases, the empirical focus tends to gravitate toward institutions and states, thereby privileging a state-centric understanding of politics. Consistent with the other chapters in this volume, this chapter seeks to simultaneously elucidate and complexify our understanding of global/local linkages. Yet it also offers a potentially more hopeful reading of the knowledge/power nexus by shifting the focus to small-scale place-based, yet tightly networked, collective efforts toward self-empowerment in response to the life-alienating forces of technocracy, the administrative state and global capitalism.

While this top-down/bottom-up distinction is a useful one, it overlooks an important group of actors who do not fit easily into the field's understanding of politics: those who are pioneering ecologically sustainable ways of living. From the perspective of global environmental politics, there are three good reasons to sidestep the lifestyle politics of ecovillages. First, their numbers are relatively small, and their actions barely register on the radar screens of media coverage and political officialdom. Second, for the most part, these individuals tend not to be organized beyond their local communities, and so therefore have little national or transnational influence. Third, as the few scholars who are attentive to such phenomena as the voluntary simplicity movement and the local currency movement are quick to note, these groups do not actively counter the broader institutional and structural dynamics that foster unsustainable ways of living (Princen et al. 2002). Yet there is a powerful counterbalance to these good reasons: if current human systems are unsustainable, it is prudent to look to those who are pioneering sustainable living practices. To ignore communities that are actually reducing their ecological footprints dramatically, that are creating models of sustainability

literally from the ground up, would be intellectually negligent and pragmatically unwise.

In response to the gradual disintegration of supportive social and cultural structures and the creeping global ecological crisis, small groups of people the world over are coming together to create modes of living in harmony with each other, with other living beings, and with the Earth. If these communities were isolated experiments, disconnected from one another and from larger social and political processes, they might not be of interest to the study of global environmental politics. Since 1995, however, with the formation of the Global Ecovillage Network (GEN), thousands of these communities have come together for the purpose of sharing and disseminating information about sustainable living practices. Network members include large networks like Sarvodaya (11,000 villages applying ecological design principles in Sri Lanka) and the Coluffa network of 350 villages in Senegal; the Ladakh project on the Tibetan plateau; ecotowns like Auroville in South India and the Federation of Damanhur in Italy; small rural ecovillages like Gaia Asociación in Argentina and Huehucoyotl, Mexico; urban rejuvenation projects like Los Angeles Ecovillage and Christiania in Copenhagen; permaculture design sites such as Crystal Waters, Australia, Cochabamba, Bolivia and Barus, Brazil; and educational centers such as Findhorn in Scotland and the Centre for Alternative Technology in Wales. These communities trace their roots to diverse lineages (Dawson 2004):

- 1 The ideals of self-sufficiency and spiritual inquiry that have historically characterized monasteries and ashrams, and which are also prominent principles in the Gandhian movement;
- 2 The "back-to-the-land" movement and, later, the co-housing movement;
- 3 The environmental, peace and feminist movements;
- 4 The appropriate technology movement;
- 5 The alternative education movement.

In this chapter, I characterize ecovillages, emerging in an astonishing diversity of culture and ecosystems, as a planetary knowledge community grounded in a holistic ontology and seeking to construct viable living systems as an alternative to the unsustainable legacy of modernity. As a global knowledge community, the ecovillage movement is remarkable both for its unity and its diversity. Ecovillages have taken root in tropical, temperate and desert regions, their religious orientations include all the major world religions, plus paganism and atheism. Their specific practices vary according to cultural and ecological context. What unites the network as a knowledge community is its members' commitment to a supportive social environment and a low-impact way of life. To achieve this, they integrate various aspects of ecological design and building, green production, renewable energy, community-building and spiritual practices. Beneath this commitment to social and ecological sustainability, one may discern a worldview premised upon holism and

radical interdependence. This basic ontological commitment is what unites the global ecovillage movement, forging a shared epistemic bond across widely disparate communities. This holistic worldview, drawing upon strands of systems theory, Gaian science, permaculture and perennial philosophy, may be understood as a form of constructive postmodernism. As such, the global ecovillage movement represents a pragmatic knowledge community in terms of its commitment to both a set of practical living skills and a common worldview.

The ecovillage movement may be understood as a conscious and pragmatic response to the material and ideational crisis of modernity, a response that is grounded in a holistic ontology. Modernity may be characterized as a historically specific story about the triumph of human reason over superstition and the vagaries of nature; about history as a progressive march toward the material liberation of humanity; about the possibility of a reductionist approach to knowledge; and about the possessive individual, replicated in the sovereign state, as the locus of political authority (Litfin 2003: 36). From a holistic perspective, the social and environmental consequences of this story make it an increasingly unviable one, thereby necessitating new ways of living premised upon a sense of deep connection to the human and biotic community. Whereas the scientific metaphors that inform the story of modernity are rooted in atomism and the machine, the metaphors that inform the worldview of the global ecovillage movement are the organism and living systems.

Increasingly, the dark side of modernity is inescapable: in the ever-deepening disparity between the conspicuous consumption of the North and the grueling poverty of the South; in the myriad forms of pollution that threaten air, land and sea; in the mass extinction of species; and in the feverish pursuit of security that seems to generate only greater insecurity. Whereas from a conventional social science perspective these problems are taken as distinct fields of study, from a systems perspective they are interrelated symptoms of "the global problematique," or

the problem of all problems, not merely the sum of the problems of pollution, war, famine, alienation, resource depletion, urban crowding, and exploitation of the Third World by the First. It is a systemic construct that assumes causal connections among these problems, connections that amplify the disturbance of the meta-system.

(Haas 1983: 39)

From a systems perspective, the seemingly separate problems that constitute the global problematique cannot be effectively addressed in isolation (Luhmann 1990).

Taking a systemic approach to the global problematique, the ecovillage movement addresses the interrelated problems of social alienation and ecological degradation by building sustainable communities locally from the

ground up while simultaneously constituting a global network for education and social change. Combining a supportive social environment with a low-impact lifestyle, ecovillages are consciously seeking to birth new ways of living that transcend the modern dichotomies of urban vs. rural settlements, private vs. public spheres, culture vs. nature, local vs. global, expert vs. lay-person, affluence vs. poverty, and mind vs. body. In this sense, they represent a postmodern perspective, but one that seeks to construct a viable alternative rather than merely a deconstruction of modernity. Ecovillage participants aim to create diverse models of living, compatible with their local social and physical contexts, that will be "successfully continuable into the indefinite future" (GEN 2004). They build upon varying combinations of three interrelated dimensions—ecology, community, and spirituality.

While the movement is relatively small, comprising several hundred relatively new ecovillages in industrialized countries and networks of perhaps 15,000 traditional villages in the developing world that are introducing ecovillage design principles, it is a rapidly growing movement. If the dominant human systems on the planet are not sustainable, as increasingly seems to be the case, then the rise of the global ecovillage movement is of urgent practical consequence. As a living expression of a worldview fundamentally different from that of secular modernity, the ecovillage movement is also of theoretical interest for the history (and implementation) of ideas.

In this chapter, I first explore the role of systems theory in the global ecovillage movement, focusing on Gaia theory and permaculture. The former adopts a holistic understanding of the Earth system, or Gaia, with living systems (including human systems) inextricably intertwined with one another and with geological and chemical systems. Gaia theory, as a widely accepted scientific model, at once revives the ancient image of a living Earth, and endows it with scientific legitimacy. In contrast to the mechanistic worldview of modernity, Gaia is conceived (either literally or metaphorically, depending upon the source) as an organism. The global ecovillage movement has been powerfully inspired by Gaian thinking and imagery. Permaculture, a variant of systems theory informed by elements of perennial agriculture and deep ecology, offers a holistic and practical approach to human and natural systems as mutually enhancing.

I then investigate how both the individual and the global are constituted within the holistic ontology that informs the movement. While holism represents a real challenge to the atomistic ontology of modernity, the ecovillage movement does not do away with individualism; rather, it puts a primary emphasis on individual responsibility while conceiving of the individual as inextricably embedded in larger living systems. I will also suggest that whereas, from a perspective of conventional political logic, a focus on individual responsibility might be considered an ineffective organizing strategy in the face of unsustainable global structures and processes, this focus is far more compelling when considered in light of a holistic ontology. Likewise, from a systems perspective, the global ecovillage movement's

affirmative strategy of building alternative systems rather than simply opposing existing ones turns out to have a persuasive internal logic. Moreover, if ecovillages were merely isolated phenomena, perhaps we might take a passing curiosity in them as efforts to address the global problematique on the scale of local communities. Yet they are also linked together as a global movement through the Global Ecovillage Network (GEN), whose primary purpose is information exchange among thousands of ecovillages and related projects, as well as education for social change in the larger world.

Unlike many of the chapters in the volume, my analysis does not envision environmental knowledge as solely an instrument of hegemonic domination over local communities. While the sprouting of alternative knowledge/power practices at the margins may not portend the unraveling of hegemony, the ecovillage movement's self-empowering pragmatic approach offers a small opening in the knowledge/power window through which we might envision new possibilities. The ecovillage movement seeks to offer a coherent response to the material and ideational crises of modernity, addressing the global problematique at the interconnected levels of individual responsibility, local communities and global action. The conceptual underpinnings of the movement lie in its ontological commitment to holism and radical interdependence, a commitment that unites the movement across cultural, religious, geographic and socioeconomic lines. In Tim Luke's terms, the ecovillage movement represents a "resurgence of the lived, the local and the living."

The following section outlines the holistic worldview of the ecovillage movement, especially as it is expressed in two strands of systems theory: permaculture and Gaia theory. I then turn to an analysis of the place of the individual in the ecovillage movement's pragmatic holism, followed by a discussion of the degree to which the movement is politically engaged on a transnational level. Finally, I conclude with a brief inquiry into the question of whether ecovillages are an effective response to the global problematique.

Holism in the ecovillage movement

As GEN president and Findhorn ecovillage resident Jonathan Dawson observes, "two broad—and, to some degree, overlapping—approaches can be discerned in the ways that various ecovillages have sought to create low-impact settlements" (2006: 39). The "low-tech" approach reduces needs and costs by emphasizing manual labor and using locally available and recycled materials. The "high-tech" approach involves state-of-the-art environmental technologies that are often more expensive and travel farther than conventional alternatives. A striking feature of both is their "holistic and integrated character, enabling them to increase internal resource flows and reduce the need for external inputs" (Dawson 2006: 43). Gray water and kitchen waste are recycled into community gardens; human manure is composted into landscape soil; rainwater is harvested for garden and home use; woody waste from community forests warms the homes of the residents. To the extent that

ecovillages are able to generate a local economy based upon community resources, money circulates internally and automobile use decreases. Central to each of these elements of ecovillage life is the creation of virtuous cycles, as opposed to vicious cycles, which regenerate the land, enliven the community, and sustain its members in a cohesive whole comprised of integrated human and natural systems.

One expression of this holism, which mostly predates the ecovillage movement and powerfully informs it, is permaculture. As initially developed by its Australian founders, Bill Mollison and David Holmgren in the 1970s, permaculture focused on small-scale sustainable agriculture and integrated systems at the household level (Holmgren and Mollison 1978). Over the next two decades, the concept was adapted to diverse social and ecological contexts, becoming a small but global movement spanning North and South. Permaculture takes a systems approach to what it sees as the interrelated dimensions of human systems: land stewardship, buildings, agriculture, economics, tools and technology, culture and education, health and spiritual wellbeing. Most important, permaculture promotes bottom-up social change rooted in design principles observable in nature, starting with the individual and the household as the drivers for change at the market, community, and cultural levels. The original permaculture vision of "permanent" agriculture has evolved into one of sustainable culture premised upon low-energy human support systems designed in harmony with ecosystems, and has been expanded by the ecovillage movement from the household to the community level.

The systems perspective of permaculture is fundamentally related to its understanding of the primacy of energy flows. Responding in part to the growth of the new science of ecology and in part to a dawning awareness of industrial society's fossil fuel dependency, permaculture has from the beginning emphasized the importance of energy flows and cyclical processes. From this perspective, all elements of human and other living systems can be understood in energetic terms: food, trees, soil, buildings, modes of transportation, water—all are embodiments and conductors of energy. The key to permaculture is in the wise husbandry of energy resources. Permaculture farming places an enormous emphasis on enhancing soil fertility through composting, thereby minimizing the loss of energy. Likewise, the perennial edible landscapes associated with permaculture, including food trees, berries and herbs, decrease the energy input required for food production. Similarly, there is a strong emphasis on promoting the growth of forests because trees, more than any land species, accumulate biomass rapidly and thus represent a tremendous storehouse of energy.

A related permaculture concept is minimizing waste through closing cycles of production and consumption. If human systems were designed according to nature's design principles, there would be no waste. Indeed, the notion of waste is a human construct, and is deeply implicated in the growth of modern industrial societies. Permaculture seeks to minimize waste in all aspects of human settlements through such low-energy technologies as composting

toilets, the composting of food and agricultural waste, the use of renewable energy resources, the recycling of gray water into food production, and the use of local organic building materials such as cob, straw bales, and compressed earth blocks. Ecovillages, which grew in part from the permaculture movement, have become demonstration sites for these and other low-energy earth-friendly technologies.

From an ontological perspective, permaculture is deeply skeptical of modernity's notion of progress in the linear march of time, seeking instead to reorient human culture to the cyclical notion of time rooted in natural processes. Seen through the eyes of modernity, the permaculture movement has an essentially pessimistic view of the trajectory of human culture. Permaculturalists believe that some degree of technological and economic collapse is likely within the coming decades, and is a current reality for many people around the world. The permaculture vision of sustainable agriculture is premised upon the decline and eventual elimination of the "fossil fuel subsidy." The "end of oil scenarios" now coming into mainstream parlance have been commonplace among permaculturalists since the 1970s. According to this view, the profligate expenditure of energy that has spurred industrial societies, largely in the form of fossil fuels, will soon come to a peak, resulting in a climax of "postmodern cultural chaos" and a subsequent "descent culture" (or permaculture) toward an eventual low energy sustainable future in the coming centuries (Holmgren 2002: xxix). This descent, however, will not be a return to preindustrial societal forms, primarily because modernity has created an information-rich culture premised upon learning and change. Modern society, from a permaculture perspective, is a "fast-breeder system that generates new information, knowledge, innovation and culture" (Holmgren 2002: 22). Thus permaculture systems, pioneered by individuals who are the beneficiaries of this "fast-breeder system," are information and design-intensive. This macro-level perspective informs the entire pragmatic permaculture agenda and has had a strong influence on the ecovillage movement. Their use of low-energy building materials, their commitment to wind, solar and biomass energy systems, and their preference for using human (as opposed to machine) energy—all of these practical applications come as a natural corollary to this macro-vision.

Many key permaculture concepts, which follow from their systems perspective on energy, have found a welcome home in the ecovillage movement. Some of these include (Holmgren 2002: viii):

- 1 Design from nature; design from pattern to details;
- 2 Catch and store energy;
- 3 Make the smallest intervention necessary;
- 4 Use small and slow solutions;
- 5 Apply self-regulation and accept feedback;
- 6 Produce no waste;
- 7 Use and value diversity;
- 8 Integrate rather than segregate.

Permaculture is essentially a practical approach to the design of integrated human and natural systems, which the ecovillage movement has adopted and tailored to local contexts and community life. Not surprisingly, most of GEN's Living and Learning Centers include permaculture courses in their curricula.

The ecovillage movement is also influenced by certain intellectual strands of systems thinking. One powerful scientific expression of a systems approach is Gaia theory, a now widely accepted view of the Earth as a holistic, self-regulating biogeochemical system.¹ Gaia theory at once revives an ancient symbol, endows it with scientific legitimacy, and inspires the political imagination (Litfin 2005). As a symbol of wholeness, interdependence and dynamic complexity, Gaia offers an alternative to the atomistic, reductionist scientific metaphors that inform modern social thought.

Both as conceptual underpinning and imaginal metaphor, Gaia circulates widely in the ecovillage movement. For instance, there are ecovillages with "Gaia" on several continents, and "whole earth" images are popular in ecovillages everywhere. In the 1990s, Ross and Hildur Jackson, two founders of GEN working in Denmark, started three "Gaian" entities: Gaia Trust, which funnels financial assets from investments into seed grants for ecovillages; Gaia Technologies, which develops sustainable technologies, and Gaia Villages, to conduct research on the global ecovillage network. More recently, the leadership of GEN has formed a collective, Gaia Education, which has developed a four-week comprehensive course on Ecovillage Design Education. This curriculum is now available as a distance-learning course through the Open University of Catalonia in Spain. A related venture is Gaia University, which began offering undergraduate and graduate degree programs in Integrated Eco-Social Design in 2006. If any icon can be said to elicit universal appeal in the global ecovillage movement, it is Gaia. Whether that allure is primarily rational, aesthetic or emotive is beyond the scope of this essay; for now, it is sufficient to note its ubiquity and to comment more generally on some plausible reasons for this appeal.

Paradoxically, Gaia theory is simultaneously at the cutting edge of Western science even as it represents a return to the ancient organismic worldview. Gaia theory brings the premodern idea of a living Earth into the realm of falsifiable science, conferring upon the "anima mundi" the mantle of scientific legitimacy. Yet Gaia theory departs from conventional science in some important ways. Whereas past science, divided into separate disciplines of biology, chemistry, and physics, provided an inventory of the Earth's parts, Gaia theory offers us a view of the Earth as an integrated whole—a complete, dynamic and self-sustaining living system. Gaia is, at a minimum, a symbol of wholeness, interdependence, and dynamic complexity. For many, Gaia also evokes a sense of awe and reverence, restoring a sense of connection to the cosmos that Western culture abandoned when it adopted a mechanistic worldview. By evoking a sense of the sacred, Gaia challenges modernity's utilitarian and reductionistic orientation, while grounding its holism

in an integrative approach to Earth's geological, hydrological, atmospheric and biological systems.

Gaia theory offers scientific grounding for a radical ontology of interdependence and a more intimate perspective on globalization. Like ecovillage designers, Vaclav Havel takes inspiration from Gaian science for a globalized approach to human thinking and living. He observes that we experience a sense of helplessness before the global problematique because "our civilization has essentially globalized only the surface of our lives" (Havel 1997: 167). Our external lives—our communication, transportation, financial exchanges, agriculture and medicine—have become globalized, but our inner lives orbit inside the myopic constraints of egoism and parochial identities. Gaia theory, Havel suggests, calls us back from our isolation, connecting us to the wondrous whole of creation and calling us to a greater sense of responsibility. Embracing our embeddedness in the whole of creation and "trusting [our] own subjectivity as the principle link with the subjectivity of the world" (Havel 1997: 93), we claim our *responsibility as an ability to respond* to planetary challenges. This emphasis on individual responsibility within a symbiotically connected whole is an essential tenet of the global ecovillage movement, and seems to be a common thread across ecovillages in the diversity of their approaches to spirituality

Situating the individual in a whole-systems approach

Ecovillage designers address what they perceive to be the intertwined ecological, socioeconomic, and cultural-spiritual dimensions of the global problematique through an integrated systemic understanding of the world. In this view, we are not atomistic individuals; rather, people are radically embedded in larger systems. The whole-systems approach of the ecovillage movement is not only pragmatic in its design from nature, but also serves as a source of meaning for the individual. Thus, ecovillagers view themselves as pioneering an alternative socioeconomic system to the unsustainable legacy of modernity. They seek to mend the modern split between people and the rest of nature by placing human existence within a holistic cosmology while simultaneously granting humans a special place as conscious designers of harmonious systems. And they seek to mend

the divorce between head and heart that the current global economy enforces (whereby people often make consumer choices that they know to be socially or ecologically exploitative because they feel they have little choice). This ecovillage model enables people to bring back into alignment their desire for justice and sustainability with their aspiration to live well and happily.

(Dawson 2006: 50)

In their whole-systems approach to sustainable development, ecovillage designers understand ecological, social and spiritual issues as fitting together

into a holistic unity. In the words of one of the founders of the movement, ecovillagers see themselves as trying to "heal the fragmented aspect of the prevailing culture by living a holistic worldview" (Jackson and Svensson 2002: 106).

Rather than becoming lost in the whole, which from the atomistic perspective of modernity would be the inevitable fear, each individual inhabits the center of a series of concentric circles beginning with home and extending to community, ecosystem, nation and planet. One of the most compelling aspects of this holism is the deliquescence of the dichotomy between internal values and external action, revealed in a deep acceptance of personal responsibility for creating viable social and ecological structures (Mollison 1988: 1). First and foremost, an ontology of radical interdependence challenges the possessive individualism of modernity by integrating person and planet within the context of community. Recognizing their own complicity in replicating the social structures that threaten to unravel Earth's life-support systems, ecovillage participants accept responsibility for their own lives and seek to invent alternative social structures. As Jonathan Dawson puts it, a defining feature of ecovillagers is that "they are in the business of *wresting back control over their own resources* and, ultimately, their own destinies" (Dawson 2006: 35, emphasis in original).

Yet some observers are critical of ecovillagers' "life-style strategies" as a means of building sustainable democracies (Fotopoulos 2000). They see ecovillages as a self-indulgent, escapist and ineffective response to the powerful global structures that perpetuate socioeconomic injustice and environmental degradation. Without addressing the question of the effectiveness of the ecovillage strategy, which I take up in the next section, we should note that the ecovillage movement's perspective on political change is different from more mainstream understandings because it is rooted in a holistic worldview. From a mechanistic perspective, neither the lone individual nor tiny communities have the power to effectively counter enormous institutions; they are simply too small. Yet from a holistic perspective, the networks of interdependence within a system are so intricate and tightly interwoven that one can never say for certain that an individual's actions will be insignificant. Thus, for instance, ecovillage proponent J. T. Ross Jackson applies the systems thinking of chaos theorist Ilya Prigogine to the global ecovillage movement. Ross Jackson suggests that

we are like individual molecules being perturbed on a global scale by a technology that is too powerful for us to handle in the dream state. We will have to wake up soon. ... And what would be the mechanism to bring this about? Prigogine's work suggests an answer—self-organizing systems! ... a grassroots local initiative, a decentralized explosion of energy with a global vision.

(Ross Jackson 2000: 37–38)

A common metaphor in chaos theory is that of a butterfly's wings influencing planetary weather systems. From this perspective, it is quite possible that effective responses to the global problematique could come from the actions of individuals and small communities—especially if these local entities can organize themselves into a global network such as GEN.

From the holistic perspective of the ecovillage movement, the cosmos is holographic, with universal patterns replicated at every level of organization. Ecovillages, then, can be understood as “holons,” integrating the social, ecological dimensions of human life in a single place. Thus, many ecovillages see themselves as microcosms of the world, with the individual playing a key role in hastening cultural change. Gaia Education, an educational initiative of GEN, articulates this systems theoretic perspective on the centrality of the individual for cultural transformation:

In preparation for the emergence of a new worldview, “seed” people will begin to appear, inoculating the collective consciousness with new ideas and concepts—evolved interpretations about the nature of reality. Initially, these seed people will be perceived as a cultural “fringe,” an idiosyncratic minority whose new interpretations can be easily discounted and disregarded because of their incongruity with established, officially sanctioned, interpretations of reality. Eventually, however, as the precepts of the old paradigm are revealed to be increasingly inept at managing and providing a meaningful context for the evolving, emerging situation, the seed people will gain credibility. ... Ecovillages are the “seed” communities of the not-too-distant future.

(Gaia Education: Epilogue)

Seed people and seed communities sowing global transformation: again, the metaphors are organic, not mechanical, and the stimulus to change is individual action rippling across concentric circles and interconnected networks. This is a far cry from the conventional top-down view of meaningful change as coming from legislative and policy reform, or even the grassroots social movement model of social change through pressure and lobbying.

The global ecovillage movement is politically unconventional for another reason: it is an affirmative movement, not a protest movement. Rather than resisting what they oppose, ecovillages are building an alternative from the ground up. Like their emphasis on the individual, this positive approach also stems from their holistic worldview. If the world is radically interdependent, then establishing the alternative social structures on the ground may very well be a more effective strategy than simply saying “no” to unsustainable systems. This is particularly true if their perception of imminent crisis turns out to be valid. The permaculture understanding of systems also comes in here: smaller is safer. There is a pervasive wariness among ecovillagers of the scale and complexity of global social and technological systems, and a sense that empowerment and responsible action are most viable at the scale of the individual and community.

Global engagement

Despite this emphasis on lifestyle politics, an important consequence of the ecovillage movement's commitment to pragmatic holism is its engagement with the larger world. From a systems perspective, global engagement is a necessary corollary to a systemic understanding of the world because the individual and the community are always embedded in larger ecological and human systems. Ecovillages, unlike earlier intentional communities and back-to-the-land experiments, are not isolated enclaves; rather, they are, in general, deeply engaged in national and transnational politics. From my initial research, including visits to ecovillages on three continents, my sense is that ecovillagers tend to see themselves as engaged participants in planetary socio-ecological systems rather than utopian fugitives. This global engagement manifests itself in four primary ways. First, on a principled level, the movement has consciously constituted itself as a pragmatic response to the interrelated global dynamics of North/South inequity, global commodity chains, structural violence, and fossil fuel consumption. Second, at the level of action, ecovillage activists have been prominent players in the peace movement and the movement against neoliberal globalization. Even here, however, their emphasis is on establishing a positive example on the ground rather than simply opposing what they do not want. Third, many ecovillages in the North are deeply engaged in conflict resolution, sustainable development and human rights projects in the South. Fourth, in a more institutional vein, the movement has established itself since 1995 as a global network. GEN has established fourteen Living and Learning Centers on six continents in order to offer holistic education in sustainable living skills to people from around the world. GEN has also positioned itself as a significant presence for sustainability education among United Nations agencies.

Though ecovillages might look like isolated experiments or misguided attempts to withdraw from mainstream society, their deeper impetus comes from their analysis of the global problematique. In the words of two GEN founders, Hildur and Ross Jackson,

The twentieth century was polarized by extreme wealth and poverty, disintegrating families, increasing violence and drugs, degraded environments, species depletion, no political leadership on a global scale, and democracy undermined by the power of corporations. The reasons for this situation include the spiritual (the loss of contact with the divine) and macro-economic (hitting the physical limits of a finite planet). It is all going to come to a crisis point, and change can only come from the bottom up.

(Ross Jackson 2000: 60)

From a systems perspective, any effective response to the global problematique must simultaneously address its ecological, social, economic and spiritual

causes, which is precisely the intention of ecovillages. The movement seeks to produce long-term fundamental change by creating viable alternatives on the ground. Again, in the words of Ross Jackson,

The logic is simple. If the examples are good enough, they will be replicated. From then on, it is only a question of time until the strategy succeeds and ecovillages become the basis for a new culture based on a holistic paradigm ... Ecovillages are ideal vehicles for this task because they are by definition holistic, representing all the different aspects of sustainability in one place where it can be seen in an integrated solution. (Ross Jackson 2000: 64).

In this context, the fact that ecovillages are a conscious response to socio-ecological realities in the global North and South becomes centrally important. Within affluent countries, ecovillages seek to reinvigorate social life and decrease material consumption. In developing countries, ecovillages aim to preserve village life and enhance material living standards in a sustainable manner, thereby providing an alternative to poverty, urbanization and corporate-led globalization. Because a large number of people in developing countries still live in village settings, the foremost concern of Third World ecovillage movements is to incorporate appropriate technologies and community-building skills into existing villages. In industrialized countries, where small-scale communities have been overtaken by the forces of urbanization and suburbanization, ecovillagers find themselves starting more from scratch, establishing islands of relative sustainability in a sea of affluence, alienation and wastefulness. Yet, like their counterparts in the South, they seek to meld the best of new appropriate technologies, (e.g. solar, wind and biofuel energy sources) with traditional practices (e.g. mud building and organic farming). In both contexts, there is a shared motivation to create communities that can serve as a compelling response to the global problematique, succumbing to neither the affluence of the over-consuming North nor the grueling poverty of much of the South. Thus, the ecovillage movement represents an effort to forge a third way, applying and integrating the best practices of North and South with sensitivity to local context.

At the level of political action, opposition to economic globalization serves as a rallying point for ecovillagers around the world. Yet even in their opposition, they move beyond the politics of protest. For instance, during the 2005 G8 summit in Scotland, thousands of activists supported by a core group of Findhorn residents created a temporary ecovillage as a counterpoint to the unsustainable policies being promoted at the summit. The demonstration ecovillage included nine composting toilets, over twenty graywater systems, electricity generated by solar panels and wind turbines, and thirteen kitchens serving, as much as possible, fair trade, local and organic food. BBC News Online carried a front-page story under the headline, "Eco-Village Is 'Model for Us All'" (Mitchell 2005). Dawson suggests that

the G8 action "illustrates the primary gift of ecovillages to the wider sustainability family; namely, the impulse to move beyond protest and to create models of more sane, just and sustainable ways of living" (Dawson 2006: 38).

Dawson also outlines how peace activism and international solidarity pervade the ecovillage ethic. Just to offer a few examples: Sarvodaya, GEN's largest member, has been an active peace broker in Sri Lanka's long-term civil war. Both Sarvodaya and Auroville assisted in tsunami relief work. Plenty International, an NGO created by The Farm in Tennessee, specializes in bringing soybean agricultural training to the Third World. Tamera ecovillage in Portugal, which considers itself a "research center for lived peace," is involved in conflict resolution work in Colombia and the Middle East. Ecovillagers in Denmark have partnered with ecovillagers in Senegal to send thousands of bicycles there (Dawson 2006: 15-18). Far from being exclusive enclaves of escapists, ecovillages are very often dynamic nodes of global engagement.

With the formation of GEN, an institutional context emerged to support this vision of global engagement and give the disparate movement a greater sense of cohesiveness. In 1995, Findhorn hosted a conference, "Ecovillages and Sustainable Communities," that drew over 400 people from over forty countries, with 300 more turned away for lack of space. Here, GEN was formally founded by a consortium of ecovillages from Europe, Asia, North America and Oceania (Bang 2005: 22). In the past decade, GEN has continued to expand, with community members in seventy countries; it has also divided into continental regions: GEN-Europe and Africa; GENOA-Oceania and Asia; and Ecovillage Network of the Americas.

Coincidentally, GEN got started just as the Internet was gaining widespread use. Given the global nature of the movement and the commitment of ecovillagers to minimize their use of fossil fuels, the Internet has been an indispensable organizing tool for the movement. The Internet has been key to disseminating information, sharing best practices, and organizing regional and global conferences. GEN has also developed a web-based Community Sustainability Assessment to measure how well ecovillages meet the criteria for a holistic vision of social and ecological sustainability.

This sense of wider responsibility is taken to another level through global outreach and the development of GEN's Living and Learning Centers. These ecovillage training centers, including three new ones at communities in Brazil, Senegal and Sri Lanka, offer full-immersion hands-on training in developing green technologies and living systems in a community and local cultural context. They teach a compendium of sustainable living skills, including organic gardening, living systems for water cycling, renewable energy sources, earth-friendly building from local materials, alternative economics, and community building and conflict resolution skills. GEN's initial partners in this venture are Sarvodaya in Sri Lanka, IPEC in Brazil and EcoYoff in Senegal, which are linked together in a South-South exchange network, and, in turn, with Living and Learning partners in the North. The intention is to create a learning web of shared resources in an evolving,

collaborative system of experience, education and research to develop sustainable systems on the ground around the world. The orientation of the Living and Learning Centers is both global and local. Closely connected with an existing ecovillage, each Center models a comprehensive set of sustainable systems designed for its specific social and environmental conditions. This creates a practical base for whole-systems educational programs. Rich in experiential opportunities, the Living and Learning Centers' interactive learning community embody a "learn by doing," partnership pedagogy. The traditional skills and knowledge of each society are woven together with permaculture methodology and related appropriate technologies, forging workable solutions to the problems faced in each culture (Snyder 2006).

While these Living and Learning Centers are situated in strikingly diverse social and ecological contexts, even more striking is their common adherence to a systems theoretic perspective on the global problematique. The Centers exemplify the movement's holistic approach to the interrelated problems of North/South inequity, unsustainable resource depletion, war, hunger, social alienation and urbanization. Almost universally, their curricula emphasize permaculture design concepts and the interconnectedness of the social, ecological and spiritual dimensions of ecovillage living. Their commitment to a participatory pedagogy is rooted in an underlying belief that systemic change occurs from the bottom up, and can only be fostered through a pragmatic educational process that empowers individuals to take responsibility for their own lives.

GEN is increasingly visible as an organized presence at the transnational level. After gaining consultative status at the United Nations, GEN was the largest NGO presence at UN Habitat II Conference in 1996 (Ross Jackson 2000: 78) and is currently a significant player in the UN Decade for Education on Sustainable Development (2005–14). GEN's educational work at its Living and Learning Centers has received institutional endorsement from the United Nations Institute of Training and Research (UNITAR). GEN was also an active participant at the World Summit on Sustainable Development at Johannesburg in 2002, hosting several side events on ecovillage development. GEN's activities within the United Nations Economic and Social Council and its subsidiary bodies are detailed in its 2004 quadrennial report (GEN 2004).

The holistic vision of the ecovillage movement, while initially focused on sustainable living practices at the individual and community level, is increasingly expressing itself globally. Individual ecovillages are engaged in international solidarity networks for peace, human rights and sustainable development, and the movement itself has gained a transnational presence and cohesiveness through GEN. At all levels, from the individual to the global, the focus is on establishing ecologically and socially viable alternatives on the ground.

Lifestyle politics and the question of effectiveness

Even if ecovillages are internationally engaged and demonstrating the practical viability of a holistic worldview, their numbers and influence are so small

that one must wonder if they should be taken seriously. They might offer a few lucky individuals a socially and ecologically harmonious way of living, but can the movement ever hope to be effective as a transformative force in the face of global capitalism and the culture of consumption? To consider the question of effectiveness, we must first know what the problem is that they seek to address and then be able to discern when it is being adequately met. As I suggested above, the ecovillage movement seeks to address not just one problem, but the global problematique as a systemically linked nexus that includes environmental degradation, hunger, war, social alienation and North–South inequity. If anything, these problems have only worsened since the inception of the ecovillage movement, and to the extent that there has been significant improvement, ecovillages cannot be credited. Yet, on a smaller spatial scale and a longer temporal scale, there are good reasons to be impressed by the actual and potential effectiveness of the ecovillage movement. First, ecovillages are demonstrating that it is possible to substantially reduce material throughput while enhancing the quality of life. This has two very important effects at the level of knowledge and discourse: (1) it undercuts the prevailing assumption that high levels of consumption are correlated with wellbeing; and (2) it demonstrates the practical viability of a holistic worldview. Second, in terms of long-term effectiveness, the ecovillage approach to systemic change bears a strong resonance with the anarchist strategy of *prefiguring*, or the creation of parallel structures for self-governance in the midst of the prevailing social order. Given the depth and breadth of the global problematique and the range of currently available options for addressing it, the strategy of prefiguring may well turn out to be an effective one in the long term.

At a minimum, ecovillages show that it is possible to live well while dramatically reducing consumption and waste. In a context where reductions in greenhouse gas emissions at the order of 60–80 percent are required to stabilize Earth's climate and the USA, the largest per capita emitter, refuses to be party to a treaty that would require it to reduce its emissions by only 5 percent, such a demonstration project is important. For instance, on my visit to Crystal Waters Permaculture Village in Australia, I found that the 230 residents there have been able to reduce their per capita solid waste by 80 percent. Jonathan Dawson cites two more detailed studies. A 2003 study by the University of Kassel found that the carbon footprints of Sieben Linden and Kommune Niederkaugungen were, respectively, 58 percent and 72 percent below the German average. Bear in mind here that the per capita footprint of Germany is already less than half of that of the USA. Studies at Cornell University and MIT found that the per capita ecological footprint of the suburban ecovillage at Ithaca, NY, was more than 40 percent lower than the national average. Jonathan Dawson cites three major reasons for these numbers. First is communality, or high levels of sharing and holding possessions in common. Second is the fact that ecovillages grow much of their own food and eat with the seasons, thereby reducing their food miles. Third,

to the extent that ecovillages generate internal employment, they reduce their transport footprint (Dawson 2006/7: 1–2). Thus, at the local and individual level, ecovillages are highly effective in terms of reducing material throughput. Moreover, if ecovillage living offers a sense of meaning, satisfaction and personal integrity, then the movement is also effective on a subjective level. At the larger level of social discourse and received wisdom, their positive example helps to disentangle the good life from resource intensity while simultaneously demonstrating the practical viability of a holistic worldview.

While ecovillages may show that another world is possible on a very small scale, the question remains: can global systemic change come about through a network of communities committed to social and ecological sustainability? The short answer is that we don't know. There are good reasons to doubt that it can, yet also countervailing considerations to all of these good reasons. In the absence of more far-reaching forms of political engagement directed toward structural change, the ecovillage strategy of lifestyle politics is a doubtful one. Yet, as we have seen, much of the ecovillage movement is also working at that level. If ecovillages were isolated enclaves, we might also be dubious about their strategy. Yet, they have been globally linked since the formation of GEN and have also shown a tremendous commitment to education and outreach. So we must admit at least the possibility that the ecovillage movement could play an important role in the transition to a just and sustainable society.

In the present context, there are three other considerations that should make us pay attention to ecovillages. First is the dearth of compelling alternatives. There is at present no large-scale mass movement capable of adequately addressing the global problematique. And while elements of such a movement may be present, the ecovillage movement is already intersecting strongly with those elements. A strategy of prefiguring need not preclude engagement with electoral or protest politics. Second, the old leftist strategies of seizing state power have no place in the holistic worldview of the ecovillage movement. As Ted Trainer explains,

We cannot expect to develop the sorts of communities that are required (for the transition to a just and sustainable world), with their great dependence on autonomous, skilled, conscientious, responsible and active citizens, via means that involve top-down control or authoritarian relations of any kind.

(Trainer 2000: 277)

Third, and perhaps most important, if existing ways of living are not sustainable, then at some point they must change. Whether the impetus for change comes gradually as a consequence of the creeping ecological megacrisis, or precipitously in the face of collapse of the petroleum economy, sweeping changes are inevitable. At that point, the viable alternatives already established on the ground will become enormously salient. This is precisely

the rationale for prefiguring which, as political theorist Stephen Condit observes, represents “a causal engagement with the future which does not accept its determination by the prevailing social structures of the present” (Condit 2007: 24). A priori, there can be no way of knowing whether this strategy of prefiguring, of seeding a new society within the husk of the old, will be effective in the long run. Given the range of possibilities, it is at least worthy of genuine consideration.

Of course, the internal and external challenges facing the movement are colossal. If one takes seriously the systemic character of the global problematique, one can hardly avoid feeling overwhelmed by the immensity of the human predicament. And the ecovillage movement faces critical internal limitations. Because it is loosely organized and highly disparate in its membership and its approaches, it may not live up to its full potential as a global knowledge community. Many ecovillagers are, no doubt, simply “trying to build better circumstances for themselves, often ... in quite self-indulgent ways” (Trainer 2000: 277). In place of prefiguring, ecovillages “may settle for marginalization and reduce self-governance to mere self-gratification” (Condit 2007: 24). These are real dangers, and they should not be minimized. Nonetheless, because the ecovillage movement represents a global knowledge community giving practical expression to a holistic worldview, it offers a powerful counterpoint to modernity in ideational and material terms.

The ecovillage movement's commitment to *living* a holistic worldview makes it a unique kind of knowledge community, one that is grounded in individual empowerment, cooperative relationships, virtuous cycles and global engagement. No doubt, there are other examples of knowledge communities rooted in pragmatic holism; if the underlying significance of the global problematique in terms of consciousness is its challenge to modernity's atomistic worldview, then surely there must be. The participatory development movement comes to mind as one possibility, and perhaps ecovillages can be understood one strand of that multifarious movement. A key contribution of the ecovillage movement is its power of example. It has become commonplace to observe that current human systems, particularly those in the affluent North, are unsustainable. Yet, that recognition is rarely given its full weight: if they are not sustainable, then they will cease. The only questions are when and how. In that light, even if its seeds are sparsely sown, the pragmatic holism of the ecovillage movement takes on a different hue.

Note

1 For a basic explication of Gaia theory, see Lovelock 1979 and Margulis 1998.

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Part III

From the global to the local