Life, Liberty and the Pursuit of Sustainable Happiness

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Designing, building and inhabiting a sustainable American city — one that can continuously supply itself with the resources it needs — depends less on developing a better natural science understanding of city form than it does on reversing the entangled values people hold in regard to the built environment. More than anything else, our concepts of status and freedom and our advanced level of anomie, each entrenched in our actions and made concrete in our built environment, have blinded us to the imperative of sustainable habitation.

Our affluence has empowered us to consume nonrenewable resources at alarming rates and to provide privately many facilities that we could easily share with our community. These facilities convey status and have become a primary basis of our personal identity and security, but at great environmental cost.

At the same time, we have seemingly gained freedom from environmental constraints through technology, standardization and specialization. We no longer experience ecological dependence or community connections in our daily lives as, say, a farmer does. Our disassociation from the world around us offers us enormous short-term freedom, but with adverse long-term consequences.

If these forces are not obstacles enough, they contribute to environmental and community anomie, another barrier to sustainability. From the root anomia, meaning lawlessness, anomie in this case refers to the state of confusion individuals and society feel about how to act toward their community and landscape. Seemingly freed from dependence on our community and the environment, we must choose new relationships with both.
It is easier for us to say what we don’t want — urban renewal or disruptive free-ways, for example — than to articulate positive visions. Community plans all too often divide the benefits of the city as so many consumer items among the various vested interests. Few elected officials have been able to paint a civic vision supported by the citizens, probably because a sustainable city counters prevailing individual aspirations.

The environments we build concrete and, consequently, reinforce these notions of freedom and status and this disassociation from community and environment. Non-sustainable aspirations create non-sustainable environments, which reinforce non-sustainable values, which create more non-sustainable environments, and so on — accelerating the depletion of the resources upon which healthy cities depend.

These cycles can only be broken by changing both people and the environments we inhabit. What designers must do is imagine futures informed by ecological science and human needs and offer concrete demonstrations of positions, desirable alternatives to less sustainable environments. Designers must offer choice — zero lot line, small houses, solar power and winner streets, for example — educate people about the ramifications of these choices and help people choose sustainability.

What should guide the design of urban forms that can support themselves and that people will gladly choose? Certainly we should use the best knowledge of urban ecology, but that alone will not be sufficient, for we are crippled only in part by a lack of scientific knowledge. We need design processes and products that take into account those aspects of human behavior that are so antagonistic to sustainability. We must be aware of how present ordinances and standards hinder sustainability and of how disabled our local politics is.

Our present patterns of habitation, created almost entirely without the benefit of ecological thinking, have been centuries in the making. Disentangling ourselves from these unsustainable patterns and the associated values and lifestyles also will take time, perhaps several generations. Our most realistic goal is to pursue sustainability with enough substantive and holistic insight that our pursuit can be sustained.

Pursuing sustainability will require us to reformulate our premises about the best possible life we can achieve. To effect this transformation, the form of the city must enable us to act where we are now debilitated, withstand short-term shocks to which it will be vulnerable and be altering rather than simply limiting.

This metamorphosis must be guided by three distinctive traits: enabling form, resilient form and impelling form. Collectively these can give structure to an evolving, increasingly sustainable city that enables the incremental transfer of ecological science, reconnects a conflicted populace to both the environment and community, dismantles institutions that inadvertently hinder sustainable efforts and reinvigorates our anemic politic. Each trait, and the principles upon which it is founded, combines a social intention necessary to overcome anemic and fulfill human needs with formal implications about city design, regulations and vision.

Enabling Form

We are unprepared — emotionally and intellectually, as individuals and communities — to take the complex and comprehensive actions necessary for sustainability. We need new forms of habitation that enable us to sense, understand and empathize with the multiple roles in our ecosystems, from the broad philosophical level to the practical level of building construction. We need places that enable us to act from that basis of sensing, understanding and empathizing, as private individuals and as communities.
A number of principles can help us design these places: sacredness, shared experience, caring, connectedness and to be what we are.

Sacredness: Although many of the environments built for habitation in recent years seem to be little more than machines for living, other places touch our spirits and enrich our lives. The power of sacred places can spur conservation and restoration — both key to sustainability — and inspire new designs that result in joyful and enduring environments.

Generally, sacred places can be characterized as everyday spots that are smaller and less consumptive, with somewhat higher density, more mixed uses and more pedestrian-oriented travel, than environments we produce today. Many consist of unplanned landscapes or parts of natural systems.

In making individual and collective decisions about our habitat, there seems to be a conflict between conscious values regarding place and unconscious values of sacredness. Conscious values urge us to standardization, convenience and economic decisions. Sacredness pulls us towards actions more sympathetic to sustainability.

Helping people reacquaint themselves with sacred places and their feelings about sacred places holds considerable promise as a means of making sustainable cities. An attachment to place and first-hand, everyday experiences with natural processes (be they saltmarshes or natural air conditioning) can combat amnesia effectively.

Shared Experience: To pursue sustainable design, local communities must take collective and calm action about difficult problems that typically spark emotional, knee-jerk

In Manteo, N.C., one of the most sacred areas to local people was the saltmarshes surrounding the city, essential in maintaining a healthy coastal and ocean ecology but often subject to destructive development. (Ralph Melzer, Jr.)
reactions. For communities to work in such a way, their citizens — who are often segregated along lines of special interest (or worse), who rarely interact face to face, and who often act out of fear and mistrust of each other — must have shared experiences.

There must be places that foster special rituals where large parts of the community come together in common pursuit, celebration and observance (such as places for harvest festivals and July Fourth parades). There must be places that support multiple public activities, settings arranged to encourage safe, daily, personal exchanges among people who might otherwise remain strangers or stereotyped, abstracted others. There must be eductive environments that remind us of our shared experiences and connections. And there must be processes that invite hands-on community involvement in projects.

The small city Main Street with a city hall, post office, churches, school, library, banks, hardware, grocery and other stores and housing, all within walking distance, is one archetype of such a place. Citizens share daily activities and community is enhanced — seemingly by chance but actually by design. A trip to the post office can lead to a conversation over coffee at the diner about the upcoming bond issue to reclaim the river.

Caring: Caring about place and people is fundamental to sustainability. The shift to caring exclusively for the private domain, rather than the broader interconnected landscape, has serious implications for sustainability. The totality of the system, whether river corridor or city, must be kept healthy in order to sustain even the smallest niche. For us to care about places and act as stewards of them, we must understand them better and reverse our disassociation from the larger landscape.

The Common Ground effort in England is an impressive effort to promote place caring. The group helps citizens map their local parishes and record aspects they care about. This place stewardship has resulted in the creation of parish boundary walls, preservation of habitat and community sharing of derelict orchards and open spaces.

In New York City, Wendy Brewer and Hal Drellich's Green Apple Map (profiled in this issue) has been a useful reference, helping people know places they haven't visited and making the connections between the natural and built environments more evident. Places designed to do research and demonstrate findings also merit special attention. California's Demonstration State Forests were established, in part, as places for researching sustainable yield and demonstrating the impacts of various logging methods on stream quality. Other place understanding strategies include transparent designs (which urban designer Michael Soutisworth calls "the educative city") and towns and scored walls like ones used in planning Big Wild (profiled in this issue).

Connectedness: The interconnectedness of an ecosystem's many parts is fundamental to the survival of the whole. Both a general understanding and specific scientific understanding of the principle of interconnectedness are keys to enabling form.

A general understanding may trigger thoughtful action in everyday decisions. The Miamis River Basin study (profiled in this issue) heightens awareness of the connections among the various parts of that watershed and may enable the residents to act more sustainably at many levels, from household choices to political decisions. Scientific understanding of interconnectedness, such as the spotted owl's dependence on diminishing forest habitat or the interdependence of wealthy and poorer citizens in an urban region, may change behavior and influence policy choices, with significant cumulative effects.

Social connectedness is as important as ecosystem connectedness because, if for no other reason, there can be no peaceful sustainability without the city being more just.
Nationally we are increasingly disconnected by social class, and there are few voluntary examples of how to rectify this barrier to sustainability.

Unfortunately, environmental impact statements, which are often relied upon to protect biodiversity and achieve other goals related to sustainability, focus on mitigating the negative consequences of individual projects. Project-by-project approval for large subdivisions produces sprawling low-density suburbs (with greenways that often do not connect) and sometimes sever critical regional wildlife corridors, creating island effects, local extinctions and reductions in biodiversity.

To Be What We Are: Many cities suffer from inferiority complexes and try to compensate by being something they are not. Usually this leads to a loss of collective identity and authenticity and to an increase in placelessness and wasteful public consumption.

For many years, Astoria, Ore., a port on the Columbia River, compared itself to Seaside, a cute oceanside town nearby. Astoria felt ashamed of its history of fish processing plants, shipping and port activities. To become a tourist destination like Seaside, it approved a plan to remove much of its downtown and port and replace
them with a highway and parking. This would have been costly and wasteful and would have resulted in the city becoming more dependent on scarce outside resources.

Some years later, Astoria leaders, working with the Oregon Downtown Development Association, developed an alternative reinvestment strategy that embraced its working port as both a primary industry and an attraction for visitors. The old port buildings are being reused rather than razed; walking is encouraged downtown rather than driving. Visitors view the port activity from “people places” located so as not to interfere with the working waterfront. By acknowledging the social, place and economic value in being itself, Astoria is conserving, restoring and adapting, and it is a more sustainable city.3

Resilient Form

To be sustainable, cities must become more resilient. They must live within bioregional limits, repair natural systems that have been stressed to the point of dysfunction and create new forms of habitation that respond joyfully to these limits rather than simply being constrained by them.

Communities need to pursue place-appropriate economic activity. Big, overspecialized, single-function economies eventually become environmentally estranged and resource-addicted and are, by their nature, susceptible to ecological catastrophes. In Gloucester, Mass., as the fishing industry used ever-improving techniques and fished only selected species, those species experienced a catastrophic decline. Gloucester is now diversifying its fish industries in response to the catastrophe, but decisions are best made prior to disaster.

At the scale of land use, places with mixed land uses and pedestrian and transit access are more resilient. They are less dependent on nonrenewable energy sources and they can adapt more easily to changing use of built and open space. At the scale of building design, architects who make audits of projected energy use and the sustainability of and toxicity in building materials are likely to increase resiliency. So, too, are
buildings that accommodate a range of shifting uses without resource consuming changes and building arrangements that provide community and privacy, light and air in compact surroundings.

The following guidelines seem important to making cities that are more resilient: particularness, selective integration, density and smallness, limited extent, adaptability, finding fish heads and everyday future.

Particularness: In every region, the landscape and built form have particular distinguishing characteristics. These characteristics offer clues about how to live within that region’s limits, what systems to repair and how to build more resiliently. These precedents are found in the natural environment and in the way people built before technology allowed wholesale control of natural systems.

Particularness can be expressed in the architectural forms that respond to climate, such as the elements that cool buildings in Haleiwa, Hawaii. Or it can be reflected in combinations of natural and humanmade systems. Stuttgart, Germany, plagued by air pollution and temperature inversions, created a network of parks, forests and agricultural lands (based on topography, settlement patterns, microclimate and vegetation) that enhances the natural flow of air and helps clean and cool the city.

These peculiar patterns of buildings, used as elements of new design, can appeal to local pride and identity, strengthening a sense of community, place and sustainability.

Selective Integration: Communities are more resilient when they are integrated. Yet the concepts of niche, territory and economies of scale suggest that segregation has value, too. The sustainable answer seems to lie in achieving a balance by selectively integrating social life, land use and government. Just in what dimensions integration should occur, and how, is not so clear.

In St. Paul, for example, Weining Lu has had success in creating an integrated community in the Lowertown neighborhood by building housing of multiple types, from modest studios to renovated warehouses and new towers. Nearly 1,500 housing units have been built, encouraging integration of lifestyles, ages and classes by targeting both upper and lower ends of the housing market. This could be a precedent for
using public funds to reward communities that integrate rather than penalizing ones that segregate.

Government also needs new models for selectively integrating decision-making processes. When I served on the Raleigh, N.C., city council, I often thought that city government was the wrong level of management for almost everything we did. The solution lies in strengthening regional and neighborhood governance, integrating them and eliminating the levels between.

Density and Beauty: Density remains one of the most important ingredients of a sustainable community for several reasons, from the enabling power of street life to matters of safety and the support of affordable public transit. As with selective integration, what densities are most appropriate and how to achieve them are not so clear.

Transit requires densities of 15 to 20 units an acre to be financially self-supporting, a rarely realized benchmark. Such density can be achieved through various design strategies, including small or attached houses, small or reconfigured lots and decreasing the space allocated to cars (typically 25 percent of the land in a residential development is dedicated to street rights of way). Donald Appleyard and Allan Jacobs contend that 48 units per acre can be designed to provide for a spacious, gracious urban life, observing that San Francisco’s four-story Victorians provide private or shared gardens for most of their inhabitants.

In my research about residential preferences, almost every group tested, including environmentalists, has chosen the largest housing and lowest density — a challenge to which designers should respond. People may be willing to live in smaller houses at 15 to 20 units per acre if the units are designed to feel spacious, if view and private gardens are provided, and if street trees and other public amenities are increased. Public education about the ecological consequences of housing choices (similar to that which has strengthened interest in recycling) is badly needed.

Limited Extent: There are numerous reasons to limit the extent of urban development: to maintain functioning ecosystems and regional biodiversity, to preserve agricultural land, to provide identity and wildland experiences for urbanites, to encourage increased density and to maintain manageable and participatory jurisdictions. Limiting extent responds directly to all aspects of resilience but impacts most directly the maintenance and repair of stressed natural systems by setting parameters whereby urbanization can be directed to areas most beneficial to those systems.

Gencinske in hydrological and geological systems can accomplish this, especially when associated with a land purchase program. This approach is being pursued by the Santa Monica Mountains Conservancy and other public agencies to acquire a functional ecosystem in the Los Angeles basin. Another largely successful approach is Oregon legislation that preserves prime agricultural land and creates urban growth limit lines, within which higher density is encouraged, and beyond which urbanization is curtailed.

Adaptability: A primary characteristic of resilience for a species or an ecosystem is its ability to change to suit the circumstances. The adaptability of cities is a function of human choice, resource supplies and the use of space. Generally, adaptable environments are designed to serve more than one purpose, connect things not originally meant to be connected, be suitable for new uses, be flexible but not entirely open-ended and be suggestive, not dictatorial. Instead, cities are made up of highly specialized, single-purpose components, like research hospitals or freeways, that have little potential for adaptability. They need to be supported by a variety of more flexible environments. It might be wise to follow the dictum of urban designer Robert Harris regarding his work in downtown Los Angeles: “We will not abide single purpose plans.”
Finding Fish Heads: In every region, the most obvious resources have been, are or are about to be exploited. Using a fishing metaphor, in the past the obvious resource was the filler; fish heads were regarded as useless by-products. No more. Today, fish heads, guts and tails can be made into value-added products like organic fertilizer and specialty foods, while reducing costs of wastewater treatment and waste disposal.

One key to making cities more resilient is identifying “fish heads” that can be put to use without environmental degradation (and often with environmental benefits). Finding fish heads requires us to pay attention to the interconnectedness of things, to consider the absurd and to make the strange familiar and the familiar strange. Fish heads can be old buildings, historical events, trash or abandoned uses; they can be scenic beauty, retired people or everyday real work. Another source of discovery is poverty, which encourages inventive improvisations to solve problems of scarcity.

The howling, off-curséd winds in the Columbia River gorge were discovered by wind surfers to offer some of the most exciting surfing conditions in the world. As the number of wind surfers increased, local leaders began promoting the wind conditions around Hood River, Oregon. Entrepreneurs began reusing abandoned buildings for surfing-related products and services. The public sector retrofitted existing facilities to provide surfing access and has encouraged manufacturing related to surfing. This fish head has turned once declining economies into multimillion dollar industries.

Everyday Future: Resilient cities will be radically different from present ones, but the transition must accommodate everyday patterns of life. Alternatives that are shocking and upset peoples’ fundamental sense of security may serve educational purposes but will likely be rejected. Transformations that are recognizable and accommodate valued ways of living while encouraging healthier dwelling patterns are more likely to succeed.

When Walter Hood undertook the restoration of Oakland’s Courtland Creek (profiled in this issue), he discovered that neighbors disregarded or feared the creek. Most of the neighborhood use occurred along streets and vacant trolley rights of way adjacent to the creek. Rather than forcing a purely natural restoration plan, Hood meshed the daily use patterns particular to these residents with creek reclamation. He proposed an active linear park parallel to and with playful connections to the creek.
Impelling Form

Recent defeats and delays of federal environmental legislation suggest that it is increasingly difficult to address sustainability through national mandates. The nature of the problems has changed, and public attitudes have changed. As a result, our urge to compel must be largely replaced by a need to impel.

Impelling form should offer alternatives, be simple enough to comprehend, invite personal involvement, allow incremental incorporation of ecological science and call up our best visionary intentions, not our worst instincts. The following five principles are key to creating impelling form: choice impels, priority framework, piecemeal intricacy, continuous experiment and active responsibility.

Choice Impels: Choice has a special power to propel us forward, allowing us to respond to inner motives rather than acting against our wills. While government agencies might establish broad mandates, communities should be able to choose how to respond. Ultimately we must want to choose sustainability.

Priority Framework: Whereas choice impels, too many choices can debilitating. One great difficulty in achieving sustainable cities is that there are so many things to do and no clear sense of which are most important. Another difficulty is the crippling fear of solving a symptom and not a real problem or, worse, solving the wrong problems.

Even when we can determine the relative importance of various actions, it may be politically infeasible to attack the most important problems. Often, we legislate unimportant matters and fail to address difficult core problems. For example, air quality regulations in Los Angeles may force dozens of minor actions, such as paving unused roadways, because of the unwillingness to curb automobile use.

I suggest determining with the best knowledge at hand what few actions are most important and establishing a priority framework that effects only those few actions. These efforts should not be single purpose, but achieve multiple purposes around a few priority actions. In Carutha, Jaime Lerner’s relentless commitment to creating a world-class public bus system seems to have created a framework for many other sustainable actions, including land use policy and recycling.

In planning for the Pasadena civic center, each member of our design team — Donlyn Lyndon, Marvis Buchanan, Martha McNally, Allan Jacobs, Frances Halvander and I — placed the creation of housing among our highest priorities. Housing once intermixed with civic functions, but segregated office and institutional land uses had come to dominate. Without residential advocates, the civic center was increasingly neglected, poorly maintained, uncared for and unsustainable.

The main component of the citizen committee’s plan became the reintroduction of housing, the priority framework around which other complementary and supporting actions — enhancing parks, public places and pedestrian ways, creating a light rail stop, connections to Old Town and reducing the widths of undersized streets — were developed. The committee plan was adopted, and a range of housing, from market-rate to single-room-occupancy, is being created in the civic center.

Piecemeal Intricacy: The shortcoming of a priority framework is that, if not carefully and sensitively managed, it can produce large, institutional results. Any successful priority framework must encourage multiple piecemeal intricacies — small actions of individual owners and citizens that provide variety, local initiative, innovations in sustainability and multiple financial and emotional investments.

Piecemeal intricacy increases opportunities for participation in decision making and expands the ownership about those decisions. Ultimately, it cultivates a stronger level
of caring about place and community. In the Pasadena civic center, the parcels likely to be developed were all relatively small, guaranteeing the kind of intricacy and change that is of human scale and pace.

**Continuous Experiment:** Much of what is known today about urban sustainability was not known even a decade ago. (For example, the nature of and extent to which vegetation could mitigate the effects of urban heat islands was not known until recently.) And what is known is inadequate to direct urban form with certainty. Applying an inconclusive and emerging science through a public process is difficult, especially when most people lack a conceptual framework into which to place new facts and when most people have unfavorable attitudes towards life styles and city forms associated with sustainability.

Ongoing, local and participatory experiments in sustainability could overcome these obstacles. One model is the U.S. Agricultural Extension Service, through which extension agents work with farmers to apply scientific findings to crop production, erosion control, etc. A sustainability extension service would apply principles of resilience to urban ecosystem conservation, the rehabilitation and construction of neighborhoods and the expansion of urban agriculture, among other things.

Another model is the Conrad, Montana, Study Group, formed in 1945 to research local culture and history. The group has worked continuously since then to study community problems and devise local solutions. Relying on community volunteers, it has evaluated and developed solutions for agricultural, educational and service problems. Continuing evaluation would test the effectiveness of these actions.

Such efforts can add to scientific knowledge and the speed with which new findings are implemented. They can embolden people to try unknown futures about which they are skeptical and strengthens a community’s capacity to adjust urban form.

**Active Responsibility:** Achieving sustainable cities requires active citizen participation. But citizens are generally neither inclined nor prepared to create resilient communities; they often have “not-in-my-backyard” attitudes towards sustainable actions and are acculturated to success in disputing, postponing and litigating. In other contexts this behavior would be considered terrorism.

Unfortunately, these selfish actions are backed by environmental protection laws. For example, in urban infill cases that increase density, the environmental impact statement process is often used to require street widening mitigation instead of more sustainable transit use. To attain more resilient cities, such parochial, ecologically unsound citizen efforts must be reversed.

It is much easier to think globally than to act locally. In Berkeley, a two-decade effort to curb car use and protect neighborhoods through inconveniences like street diveters and speed bumps continues with a new round of actions. Fritz Jaeger, chair of the city’s transportation committee, notes that in spite of this effort Berkeley residents are driving more and using mass transit a lot less. Obviously, sustainability requires inspiring citizens to move from short-term, selfish interests toward a broader long-term public good: active responsibility. This may take many forms, from voluntary inconvenience and enlightened self-interest to embracing new resiliency-based lifestyles or acts of civic environmentalism.
Evolving Resilient Cities

I remember a community group in Los Angeles, Friends of Runyon Canyon, which had lobbied for years to get funds to develop a community park and were finally successful, only to learn that a critical open space in another section of the city, Fryman Canyon, was about to be lost. They volunteered the transfer of their long-sought funds to the city to ensure the acquisition of Fryman Canyon. We need more acts of such active citizen responsibility.

Therein lies the great hope of participatory processes. Because participatory design is, by nature, transactive, it affords a singular opportunity to teach about sustainable alternatives; to listen to legitimate citizen reservations, point out inconsistencies in values...
and actions, and find new directions, to formulate more holistic visions of habitation; and to implement experiments that enhance a sense of community and stewardship.

The search for sustainable city form has become — even if we don’t know it by that name — a central, vital but never ending aspect of our public and private lives. The shift from blind exploitation to symbiotic exploits within limits is both evolutionary and revolutionary, requiring nothing short of a reformulation of fundamental national intents and personal ideals of fulfillment.

Urgent as this is, the future cannot and need not be joyless. Enter life, liberty and the pursuit of sustainable happiness. In fact, the pursuit of sustainability may re-empower joys diminished by our modernism. Enabling forms, shaped by attitudes like caring and sacredness, can prepare us to embrace resilient forms. But only those places that touch our hearts — that are both happy and sustainable — will impel us.

Notes

1. Before the theory of limits was developed and accepted, the capacity of a city or nation to supply itself was thought to depend on ever-increasing resource exploitation, war and investment. Today we are aware that our habitation is part of an ecosystem with limits. We cannot deplete necessary and limited resources without replacing them. We must maintain energy and waste in balance; oxygen, food and shelter; to supply; toxicity in check. Our capacity to supply the city requires selective exploitation, conservation, restoration, adaptability and resourcefulness.

2. A city can be thought of as an ecosystem or a collection of organisms living interdependently in a given place and functioning as a discrete unit. Of course, these units are not entirely separate, but interconnected with other resources and actions around the earth.

3. The social aspect of caring may spur us emotionally to address injustices like exclusion, inaccessibility and unequal distribution of environmental resources. Caring, coupled with the mindfulness of our connections, ecological and economic, may trigger actions regarding environmental racism.


5. Unfortunately, other actions have diminished Astoria’s sustainability, particularly the inability to limit the extent of urban growth that has led to strip shopping centers that have drained economic activity from the downtown.


10. This analysis emerged in a workshop session with Larry Halprin.


12. This is the term used by Darwin John, director, Center for Competitive Sustainable Economics.