Community Ecology

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How do we integrate environmental, economic and social planning? There are three essential design elements: 1) flexible, adaptive systems, 2) diverse, programmable spaces, and 3) unique, creative sense of place. This approach creates a healthy and vibrant "community ecology".

Flexible, Adaptive Systems

The shift from a mechanical to a systems world view is both imperative and inevitable. The complexity of contemporary urbanization requires a model that focuses on relationships rather than independent elements. This systems paradigm can be seen through various planning programs and processes. The following examples illustrate this paradigm shift.

From Zones to Communities

Initially, zoning was a tool to segregate incompatible land uses, stabilize land values, and plan for efficient development. This land use regulatory model was two-dimensional and easily represented by a map with standardized classifications (color conventions) with few periodic updates. In its most simplistic form, Euclidean zoning code identifies and segregates property into major land use categories: residential, industrial, commercial and agricultural. Zoning also codifies a variety of development standards resulting in homogenous landscapes that help eliminate adjacency conflicts, standardize land values and allow infrastructure master planning.

A century after its inception, zoning is becoming not merely obsolete, but obstructive to quality of life. The segregation of land uses has resulted in high levels of mobility required to connect places for living, working, learning and playing. Vertical mixed-use development illustrates another deficiency in two-dimensional zoning. From multi-level buildings with commercial, office and residential floors to condominium ownership and "air rights", traditional zoning is not an adequate tool. Creative planning and engineering can mitigate virtually all impacts to adjacent land uses. Facilities that were once seen as needing high levels of isolation, such as prisons and transfer stations, are now integrated into the urban fabric. In addition, the fine grain of land uses has increased geometrically since the turn of the 19th century. Many municipalities have responded to these issues with combinations of specific zones, annotations and overlays. These efforts continually address the *relationships* as opposed to the *independent functions* of land uses; a systems view replacing a mechanical model. An entertaining analogy that illustrates both views can be found in the Periodic Table of City Planning Elements [Figure 1]. Individually all elements have specific and well-defined characteristics. In conjunction with other elements, they form an infinite number of complex molecules. The significance of this analogy is the emphasis on *combining and integrating* elements; *not segregating and isolating* them. The whole is not only greater than the sum of its parts, it transcends them. "Urban ingredients treated in isolation [have] no meaning." [Kunstler]

Figure 1. Periodic Table of City Planning Elements, Stephens 2010

The introduction of planned unit development, specific plans, performance development and even form-based code are efforts to adopt features of a systems view.

Land use regulation must also become more conscious of the fourth dimension and incorporate flexibility and adaptability. This responsiveness to changing socio-economics, environmental conditions and other factors may also be referred to as "nimbleness" and "resiliency". The 21st century will witness significant changes affecting the traditional view of zoning. As examples, when gasoline prices and/or coastal waters reach certain levels, fundamental shifts in land use will question the values in place with static Euclidean zoning.

From Charismatic Mega-Fauna to Biocentrism
The mechanical model of the environment envisioned in the mid-20th century was similar to that of a watch. If each part of the watch were compared to an individual species, it can be imagined that removal of mechanical parts (extinction of some species) would still allow the watch to function until something critical was removed at which point the entire watch (environment) stops functioning. With this mechanical model, the Endangered Species Act (ESA) of 1973 was created to protect individual species that were threatened with extinction. To a large degree, the intent was to preserve species viewed as anthropomorphic, the charismatic mega-fauna. The language however, does not distinguish between species, and encompasses the spectrum of endangered life. It was recognized early on, that attempting to save individual species, or ambulance chasing, is impractical from numerous points of view. The focus on individual species shifted to eco-systems approaches such as multi-species habitat conservation

programs. Although the mechanical model of the ESA is still in effect, the implementation action has taken the form of a systems model.

From Black Box to Collaborative Design

The realm of city planning in the United States was traditionally populated by architects, landscape architects and engineers. The relatively young profession of urban and regional planners also focused on physical design and economic development. From these disciplines, city planning was conducted as a technocratic endeavor based on providing for public health, safety and welfare. The city planners were the mechanics for the mechanical model, and the public viewed the process as something similar to a "black box" which generated plans with little or no public involvement. As the role of public participation expands, so does systems thinking. Today, in addition to traditional design professionals, communities are engaging with scientists, academics, students, artists and the general public to gain a more comprehensive perspective on community development. The increasing number of workshops, charrettes and numerous public events illustrate the trend in public involvement and collaborative design [Figure 2].
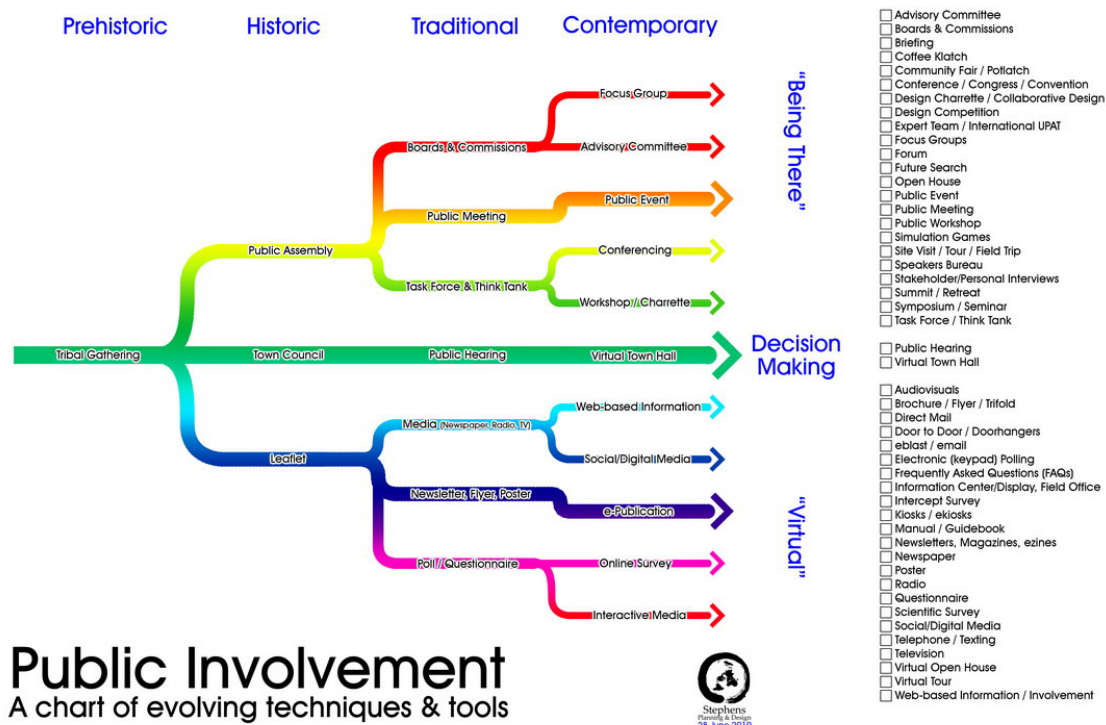

Figure 2. Public Involvement: a Chart of Evolving Techniques & Tools, Stephens 2010

Diverse, Programmable Spaces

Reductionist land use planning establishes specific functions to each classification. This is often stated in a list of permitted or conditionally permitted uses associated with each zone. To accommodate an ever-changing spectrum of uses, development codes continually expand to

allow more exceptions and special circumstances. In brief, the large classification "boxes" (residential, commercial, industrial, agriculture) must be continually redefined into smaller and smaller boxes to accommodate evolving uses: an infinite matryoshka doll (Russian nesting doll). The new paradigm requires a different approach that supports and encourages a wider array of diverse uses. This can be accomplished by viewing space as programmable. The following examples illustrate this approach.

From Auto-Dominant to Shared Space

In any given U.S. urban community 25-30% of the land is paved surfaces dedicated to circulation and parking. This is an extremely large commitment to resources with the overwhelming use being a single transportation mode: automobiles. Viewing these spaces as part of an integrated system has created a new emphasis on multi-modal transportation integrating auto, pedestrian, bicycle, and transit use. The Dutch *woonerf* introduced the concept of integrating streetscapes into residential neighborhoods. This is now evolving into the concept of "shared space" where vehicles are no longer the only or dominant factor in roadways. This is an example of spatial programming that supports a systems view. The systems view has also led to the development of "green streets" that integrate rainwater management, landscaping and other design factors with transportation engineering. A further expansion of integrated design will be to create streetscapes that support a wider spectrum of land use. For example, a Main Street could be designed to serve as a public space for a weekly marketplace or special events such as Mardi Gras.

From Utility to Art

For the last 100 years, the U.S. urban environment has been shaped by engineering standards focusing on safety and efficiency. Although this helps establish safer more economic development, it does not necessarily promote healthier, more vibrant communities. The systems approach to spatial programming includes factors such as public art, music, event planning and countless other cultural expressions. To make the inclusion of art more meaningful, it is essential that cultural considerations be considering in the planning stage. Otherwise public art and events are an afterthought resulting in "plunk art" and "jerry-rigged" construction. Public and shared spaces must be designed to nurture cultural aspects that enrich social interaction and personal experience. "We can challenge [the] banality [of placelessness] by transforming the concrete walls of freeway abutments with the imagery of Native American patterns, by turning water-treatment systems into pathways etched with lessons in conservation, by enlivening a transit ride with poetic references to an adjacent neighborhood, and even by softening the edges of a bollard with a lovable object." [Fleming]

From Development Standards to Experiential Design

The two-dimensional, orthographic plans comprise the vast majority of community development tools. Although essential for spatial planning, these maps do not convey the experiential qualities of place. Few people interpret their environment from an orthographic point of view. More importantly, experience is much more faceted than the visual relationships shown by plans. Sense of place is the collective experience of sight, sound, touch, taste and smell. The

emerging systems paradigm incorporates experiential design considerations for all senses. In addition to the physical senses, there are four modes of experience: esthetics, entertainment, education and escapism. When these are combined in a balanced, well-conceived structure, the experience can be transforming.

The creation of *transforming places* will be one of the most exciting and challenging goals for systems planning.

Unique, Creative Sense of Place

The combined forces of homogenous development standards and globalization have created countless places without any identity or character. As quoted many times, "There's no *there*, there." [Stein] As cities become more aware of the sense of place imperative, there will be a systems shift to integrate place-making with other community development tools. The following examples illustrate a community ecology approach to sense of place.

From Domestic to Tourism Planning

Modern mobility allows people much higher levels of discretionary travel. If communities define tourism in the broadest sense of "discretionary travel," there is an awareness of the value and need to consider a community ecology approach that recognizes the competitive nature of cities. Not only must communities have strong imagery, they must nurture and promote this imagery through branding. Tourism provides the platform for a systems view to planning and design enabling greater competitiveness through enhanced imagery and coordinated branding. This approach attempts to answer two primary questions:

- Why would a person visit this place?
- Why would they leave or stay?

As simple as these questions are, they speak to the core of economic vitality and social capital.

Although tourism is one of the largest "industries" in the world, its product is deceptively simple: a satisfying experience. As described previously, experiential planning is a key component to a community ecology. With this perspective, *clear and vibrant* city imagery (districts, paths, nodes, landmarks, edges) is vital. [Lynch] This perspective also requires integration of land use, transportation and economic planning with an awareness of new goals and objectives. For example, trails must not only provide recreation, but enable safe routes to schools and work, educational and research venues, environmental and cultural preservation, and tourism attractions. Community ecology and tourism are intertwined. [Metro]

From Placeless Urbanization to Story-telling

If a person lost consciousness and awoke in a new environment, how long would it take for him or her to recognize where he or she was? For much of the developed world, the indistinguishable blend of chain stores/restaurants and standardized streetscapes might make this a difficult fete. There is an antidote to "generica", and it can be found in the analogy of story-telling. All great places have a powerful "story" or idea/concept. This story is easily understood and shared. It may be summarized in a motto such as "The Big Apple" or symbolized by an icon

such as the Eiffel Tower. However, the story is much deeper and richer than a catchphrase or architectural statement. Great places have stories that are evocative, meaningful and memorable. These stories have themes which are expressed by well-defined settings, and they are told with descriptive details. For communities this translates as concept, theme and design elements. A community ecology integrates all planning into this hierarchy to create a compelling "story". Each neighborhood, each district has a story that helps tell the collective story of the city.

Stories defined by physical or cultural boundaries may be defined as "clusters". "The *Clustering of America* provides a vivid portrait of the nation's 40 neighborhood types—their values, lifestyles and eccentricities—from Urban Gold Coast to Hard Scrabble. Like the people and communities it describes, the cluster system is dynamic, always changing as cities expand and contract, planned communities sprout and lifestyles shift." [Weiss]

A small sample of some prevalent [U.S. Pacific Northwest] stories is shown by the *Community Concepts, Themes and Design* Figure 3. This figure is not intended to be a design classification system, but an illustration of various "stories" as perceived by the community. The degree to which these describe a lifestyle or represent authentic design varies dramatically from place to place.

Community ecology is a systems approach to guiding great places with great stories.

Figure 3. Community Concepts, Themes and Design, Stephens 2010

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