The Value of Living Traditions Within the Context of Green Infrastructure

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Credit: K. Alexander

Live oaks in Biloxi, MS

If cities are to succeed going into the future, it is necessary to find meaningful points of convergence between new technological paradigms such as green infrastructure and the living traditions that inform community life and collective well-being. One lesson planners have learned over the decades is that place-based planning is not simply a matter of the right regulations or the proper amount of political will. It is necessary to have cultural buy-in and understand the social practices embedded within a region that give rise to sustainable communities. The best building practices are ones embedded within the very fabric of a culture and form a living tradition that can be passed from generation to generation. These building practices are not simply superficial notions pertaining to aesthetics, they represent lessons learned over time about how to best build within the constraints of a specific natural environment.

Living Traditions and the Natural Environment

A living tradition can be difficult to identify, as it varies greatly from region to region. In the context of urban design a living tradition is the inherited architecture of a city or region that serves as the basis for experimentation and embellishment within a region.[1] One architect described what living traditions mean in the context of urban design: "historic places possess

physical traces of human intentions, that if properly revealed and celebrated, can become important points of reference in a project.'"[2] These "physical traces of human intentions" are not simply confined to the built environment, they can be witnessed in the urban landscape, such as in city parks and the tree canopy. An object that has stood the test of time, whether it is a building or a tree, suggests a certain degree of permanence or worth that makes it worthy of preservation and emulation.

In green infrastructure, a similar concept can be seen at play. By installing a green infrastructure project, a city acknowledges its symbiotic relationship to environmental forces such as rain.[3] The recycling and retention of rainwater, once hidden by culverts and pipes, is now celebrated and made visible for all to see, which means local residents are more inclined to value and maintain stormwater infrastructure going forward. While green infrastructure has gained wider circulation since the early 2000s, when stormwater best management practices first gained traction, the practice still has an aura of novelty to it. If green infrastructure is to gain acceptance in a culture it must tap into and take advantage of the living traditions of the built environment.

One of the most important figures for applying living traditions to modern problems of sustainability is architect Steve Mouzon.[4] Employing the term "original green," Mr. Mouzon believes that communities should be sustainable without heavy reliance on machines and technology.[5] He describes a sustainable city as being four things: nourishing, accessible, serviceable, and secure. A nourishing city is one that can take care of its food needs; an accessible city develops many ways to get around; a serviceable city can provide for basic needs within walking distance; and a secure city is one that is adequately prepared for future uncertainty.[6] The most important concept, however, is that great places must be capable of being loved over time to endure.

Original Green Ideas in Practice

The U.S. Environmental Protection Agency identifies 11 basic green infrastructure techniques cities can use. Of these techniques, two of them have been used extensively in the historic architecture of the Gulf of Mexico: the urban tree canopy and rainwater harvesting.[7]

Many Gulf of Mexico communities are defined by beautiful tree canopies. Chief among the urban canopy trees is the live oak. Though live oaks are prized for their size and charm, the tree's beauty conceals a number of important ecosystem services. Live oaks are critical to the Gulf of Mexico region's ecology, and they are known to support many living things. Three common epiphytes – Spanish moss, ball moss, and resurrection ferns – rely on the shelter of the live oak for survival.[8] Also, live oaks are generally resistant to hurricane damage. Following Hurricane Andrew in Miami, a survey of Dade County homeowners revealed 78 percent of the live oaks documented in the study were still standing, which exceeded the standing rate of native trees at 66 percent.[9]

Street trees are also a critical component of a city's green infrastructure toolbox. For example, a tree with a 25-foot diameter canopy can manage 1 inch of rainfall from 2,400 sq. ft. of impervious surface.[10] Streets trees also promote infiltration to the groundwater table and can improve water quality by filtering pollutants. They reduce the amount of impervious surface within the urban streetscape. Street trees also have significant impacts on reducing urban air pollution and ameliorating the heat island effect.

Urban trees may also act as one of Mr. Mouzon's four foundational attributes, namely nourishing. A robust urban tree presence can serve as a sustainable food supply through the planting and preservation of fruit trees. In Boston, an organization known as the League of Urban Canners manages a number of historic fruit trees in the area.[11] Many of these fruit trees were leftovers from old orchards, which were integrated into city parks and streets as the region continued to urbanize. By obtaining permission from the owners of the trees, the organization has been able to harvest the fruit to make a wide variety of ciders, jams, and preserves that are easy to procure and locally sourced. Whether it is as food, a green infrastructure component, or simply as a city beautification measure, the city street tree is a critical component of original green planning.

A second green infrastructure technique employed in the Gulf of Mexico region is rainwater harvesting. Prior to city water systems, cisterns were ideally suited for providing potable water, as rainwater from the roof was diverted and stored into large, cypress cisterns. The high-water table in places like coastal Louisiana made well water less than ideal for drinking purposes, so many people opted to collect rainwater.[12] In New Orleans in 1909 there were 23 cistern builders listed in the city directory, and many of the large homes in and around the city were known to have two or three cisterns on site. A typical cypress cistern barrel was around 10 x 8 feet and its large size meant it often became a significant decorative element of many homes. A cistern business established in 2012 reintroduces the tradition.[13]

Many of the older cisterns also have a long shelf life and can be easily restored and brought back into use.

Building a Legacy for Environmental Resilience

While city governments are not the progenitors of generational norms and values, they can through regulations and policy acknowledge and give license to certain historic traditions that have value in modern day society. In Raleigh, North Carolina, one important aspect of the city's historic identity is its many oaks trees, which has resulted in the city being known as the City of Oaks. To preserve this historic legacy, local government officials have included significant funds for tree replacement in their capital budget.[14] This means that tree expenditures are given equal weight and consideration alongside road repairs and water line replacement and that trees are considered a critical part of the city's urban fabric.

Cities can also partner with state and national forest organizations to recognize champion trees. In the Gulf of Mexico region, there is a long tradition of tree recognition and conservation. In the early 20th century, Dr. Edwin Lewis Stephens of the Southwest Louisiana Institute became the founder of the Live Oak Society.[15] This organization is unique as all the group's members are trees, with the exception of the chair who serves as record keeper and promoter for the live oaks. Each oak is treated as a unique specimen with its own story. For example, six champion live oaks of Louisiana often have a historic and cultural value beyond their large size and beauty. These trees have names, and their old age means they can be traced to past historic figures and events of note.

A necessary prerequisite for fostering environmental traditions that endure are deep roots in a place. With this in mind, cities should reach out to neighborhoods and civic groups to find people who can promote the value of green infrastructure practices. For example, in Portland, Oregon, local leadership was instrumental in installing two stormwater curb extensions in 2003.[16] These curb extensions capture runoff from 9,300 sq. ft. of paved surface. One key component of the project's success was the lead project designer, Kevin Perry, who was a neighborhood resident as well. He understood the neighborhood's character and opted to install the project on a low-volume, leafy residential street. A suitable site, coupled with Mr. Perry's neighborhood connections and extensive green infrastructure knowledge meant that the project had a mentor and booster, someone who could guide and monitor the project.

Conclusion

Thus, establishing living traditions in community design becomes more important. Policies and regulations, if they are too abstracted from the currents of everyday life in a region, lose their meaning and purpose over time. Time gives people insight into the building principles that will best endure. As the principles of green infrastructure are fairly new and novel, they will gain wide acceptance if built upon time-tested techniques. By taking advantage of a region's living traditions, one sets the foundation not only for more sustainable design, but for the incorporation of new techniques into the cultural fabric.

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Endnotes

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