Editors' Introduction

MULTIFUNCTIONAL LANDSCAPES: CALL FOR PAPERS FOR A FALL 2013 SPECIAL ISSUE

Anticipating a Fall 2013 issue (32:2) on multifunctional landscapes, we have previously issued calls for submission of manuscripts relating to this topic. To produce a Fall 2013 publication, we will have to receive manuscript drafts from prospective authors by mid-July of 2012.

Multifunctional landscapes are multi-dimensional. The concept of multifunctional landscapes implies the implementation of more functions in a determined place over a determined period of time (Priemus 2001). Efficient use of land is engendered by sustainable spatial, ecological, and cultural patterns; and for some theorists, greater overall resiliency (O'Farrell and Anderson 2010). Planners strive to meet various rubrics of performance that have emanated from principles articulated in broad policy declarations such as the Brundtland Commission (1987) mandate of meeting present societal needs without impairing ability of future generations to meet their own needs, and wrestle with the cyclical nature of many biophysical and socio-cultural processes. Designers increasingly see performance standards such as those in SITES™ or similar systems in local communities/some locales and across Europe as a regular part of practice.

In a multifunctional urbanized context, intensive and diverse land uses occupy land in functionally integrated, connective patterns. In such new places designers and planners often adapt, remediate, and repurpose existing sites with new programs and spaces. Such projects consider the sectional integration of systems (in other words, above, below, and at grade) and temporal patterns of land use (Lagendijk and Wisserhof 1999; Rodenburg and Nijkamp 2004). Park projects, for example, on industrial brownfield sites, such as Westergasfabriek (Gustafson Porter) in Amsterdam (US Environmental Protection Agency 2011) and Landschaftspark Duisburg Nord (Latz + Partner) in the Emscher Valley of Germany, demonstrate innovative design processes as they afford multiple human experiences and deliver mitigative and adaptive approaches to the provision of cultural, ecological, and hydrological services. All of this occurs in new and traditional aesthetic forms and programs. Such combined regional and site-specific approaches can also be seen in the East London GreenGrid (Design for London, UK), Sustainable Living, Tring (m3project, UK), and other projects of various types and scales in several parts of Europe. In 2010, the Swiss National Science Foundation awarded Verzone Woods Associates' Food Urbanism Initiative a three-year research grant under the National Research Program "New Urban Quality." In the United States, the Landscape Architecture Foundation *Performance Series* has begun to collect case study examples of site-scaled projects, such as the Menomonee Valley Redevelopment Plan and Community Park (Wenk Associates, Milwaukee, WI), Kroon Hall Quad, Yale University (OLIN, New Haven, CT), and Taylor 28 (Mithun, Seattle, WA) (Landscape Architecture Foundation 2011). The designs of new communities and subdivisions in North America from Prairie Crossing (Applied Ecological Services, Grayslake, IL) to Southlands, an agricultural urbanism project (HB Lanarc, British Columbia, Canada), and Sonoma Mountain Village (BioRegional, Rohnert Park, CA) have forefronted suburban and urban solutions. Similarly multifunctional projects of several types and scales in other parts of the world are in various stages of development.

The rural conceptualization of multifunctional landscapes evolved in Europe around the recognition that agriculture produces commodity outputs (for example, food, fiber, and fuel) as well as various non-commodity outputs (habitat, scenic values, recreational opportunity, jobs, and regional identity). Both sets of outputs provide positive values for society. Multifunctional rural landscapes contain environmental structures and functions that provide multiple material and immaterial "goods" and "services" capable of satisfying multiple societal needs (McCarthy 2005; Wiggering et al. 2006) or what have been termed "ecosystem services" (Millennium Ecosystem Assessment 2005). We can define such landscapes as "providing multiple

environmental, social, and economic functions in a given area of land, taking into account the interests of landowners and users" (Lovell and Johnston 2009, 214). The design of multifunctional landscapes involves an explicit coupling of human and natural systems in the creation of self-organizing and non-equilibrium structures that evolve over time in non-linear, undetermined trajectories in response to the decisions and actions of society in a biophysical and socio-cultural context (Naveh 2001). Multifunctional landscapes must perform, even regenerate themselves on multiple trajectories. At its biophysical core, the expected multifunctional landscape is a new resilient armature of life; it is the natural and infrastructural systemically integrated landscape.

Multifunctional landscape design and planning imply definitions of multiple targeted and composite (footprint) performance standards. Some of these standards are related to delivery of supporting ecosystem and other biophysical services (protecting and enhancing biodiversity as well as water quantity and quality), provisioning services (production of energy and other utilitarian resources), and regulating services (waste reduction and reuse). Others are related to cultural and social services (visual quality, beauty, human health, and recreational opportunity) (Lovell and Johnston 2009). The existence of standards demands metrics that can measure the performance of alternative scenarios of landscape pattern and process in delivering a specified set of services (McCarthy 2005). The Landscape Architecture Foundation's *Landscape Performance Series* Benefits Toolkit (2011) provides important guidance on the use of metrics to assess landscape performance relative to defined performance standards. SITES™ and various local systems such as 21st Century Parks for New York (City of New York Parks and Recreation 2011) have offered metrics frameworks that are primarily based on performance categories. SITES™ focuses on producing biodiversity, water quality and quantity, and human health services. 21st Century Parks similarly focuses on construction and maintenance best management practices and performance standards. Other metrics also exist to evaluate performance at the landscape and regional scale (Lovell and Johnston 2009).

The use of performance standards and metrics raises a host of issues related to socio-economic, cultural, geographic, and temporal scales. Specifying the optimal range of composite services to be delivered by a multifunctional landscape presumes knowledge of the provisioning, regulating, and cultural services that can be delivered in a defined landscape as well as those that are desired by end users of the landscape. Scale, culture, economies, and governance matter. In the western world, the use of metrics presumes, then, the capacity to attain collective agreement on the balance between various ecosystem and other services in a particular locale as well as its regional and global setting (Slee 2009). In practice, for example, landscape architects are commonly asked to make designs, plans, and management protocols that enable people and other beings to inhabit places across scales that both conserve species biodiversity and water but also afford contemporary activities of human recreation across cultural, temporal and age- and health-sensitive checklists and metrics.

Many forms of natural resource management now require flexibility allowing the adaptation of management policy to fluctuations in the delivery of desired ecosystem services as recorded by on-going ecosystem monitoring (Williams, Szaro, and Shapiro 2009). An adaptive design analogy would enable landscape designers and planners to adjust design thinking based on ecosystem modeling performance estimates using technologies similar to those advocated in the Landscape Architecture Foundation's *Landscape Performance Series* Benefits Toolkit (Landscape Architecture Foundation 2011), the Soil Water Assessment Tool (Neitsch et al. 2010), as well as performance modeling and landscape visualization software (for example, CommunityViz™ and Index Plan Builder™). Such an adaptive approach will enable multifunctional landscape designers to "try on" alternative scenarios (Jordan et al. 2011) moving interactively between the "proposing" and "disposing" of alternative scenarios (Lyle 1985) based on reliable and accurate estimates of landscape performance

integrated across desired levels of ecosystem services (Nassauer and Opdam 2008).

Over the past 10 years, as the citations above demonstrate, multifunctional landscapes have been the focus of special issues in allied journals, such as *Landscape and Urban Planning* (Tress et al. 2001), *Built Environment* (Priemus, Rodenburg, and Nijkamp 2004), *Journal of Environmental Management* (Lange 2008) and *Landscape Ecology* (Otte, Simmering, and Wolters 2007; and Musacchio 2009). Discussion of multifunctional landscape issues has appeared in the literature in allied disciplines such as geography (McCarthy 2005), rural sociology (Klein and Wolf 2007), and resource economics (Slee 2009). Why then would the *Landscape Journal* want to publish a special issue on multifunctional landscapes?

Professional Challenges Linked to Scholarship Challenges

Implementing an adaptive design strategy requires new adaptive frameworks on many fronts. New professional practices will require collaboration among the allied disciplines and professions. Often, realization of multifunctional objectives requires overcoming legal, economic, financial, and political barriers to the meshing of legacy and transformative infrastructures. In the western world, the necessity of engaging multiple publics in defining desired services and multiple disciplines in specifying and measuring performance requires a design and planning approach that is collaborative and transdisciplinary (Nevah 2001). Creating and sustaining necessary transdisciplinary perspectives among project and planning players will require corresponding transformations in institutional processes and structures.

The multifunctional landscape challenge to develop new knowledge frames scholarly questions that in turn, will also hypothesize the fundamental frameworks and processes of landscape architecture. A central question is, what is the landscape architectural "project," both literally and writ large? What are the implications for the practice of landscape architecture across its increasingly broad professional bandwith? What are the new spatio-temporal, cultural, scientific, engineering, political, economic pathways to realization of multifunctional landscapes? How will knowledge provide capacity to meet new, larger and more complex challenges and at what speed?

Among some of the more specific questions of our field that might spawn articles for the *Journal* are:

What has been the history of landscape architecture with regard to the creation of multifunctional landscape theory, and design and planning projects and processes?

What are the critical disciplinary and professional integrations needed to address emerging systems across performance rubrics that will have demonstrable effects? Do we have the right metrics, for example, in SITES™, and other footprint metrics? Moreover, are these set at appropriate levels to be practically effective in their intent when adjusted to specific regions, settings and sites?

How will Geographic Information Systems technology in its geodesign (spatio-temporal scenario modeling) incarnation become more interactive in support of design, planning, and management decisions rendered in diverse social, biophysical, spatial, and temporal contexts?

What must be done to re-design governance and policy structures to address complex, related problems as trajectories evolve toward integrative solutions in and of the landscape? What role will research in our field and related fields have in innovation, integration, and measurement of landscape performance? What role will monetary cost have in the accounting of the usefulness and risk factors of application of these ideas? What promises lie in integrative trajectories of design process and representation?

How will massive and rapid change impel or inflect landscape solutions across the spectra of processes of cross/cultural and ecological adaptation and mitigation? Will, for example, the broad and local effects of climate change induce more integrative and faster responses to these problems?

Finally, and this charge must be central to whatever

we do, as no one else has this responsibility: what place can or must the beauty and sublimity of landscape—their composition/juxtaposition in the layering of systems that occur in design and its media—have in the considerations of resiliency, sustainability, and multifunctionality? And, what are the promises of compelling representation to make these cases to multiple constituencies?

EDITORIAL BOARD APPOINTMENT

We are delighted to announce the appointment of Eckart Lange to the Editorial Board of *Landscape Journal.* Dr. Lange's appointment will assist the *Journal* in connecting to European discourse relative to the design, planning, and management of land.

ABOUT THIS ISSUE

This issue contains eight articles that discuss design, planning, and management of the land from multiple perspectives. Topics include interpretations of a historic African American cemetery landscape, two contributions to design theory, three articles focusing on urban design from varying perspectives, and two discussions relating to sustainable design. The first entry by MaryCarol Hunter, Assistant Professor of Landscape Architecture at the University of Michigan, presents an adaptive planting design strategy to accommodate the challenges of urban greenspace under a changing climate. The strategy focuses on adding resilience to urban plantings as opposed to matching plant species to specific climate change predictions. This article constitutes the second entry in the *Journal*'s occasional series entitled *Emerging Landscapes* that highlights new ways of thinking about and executing the design, planning, and management the land.

Keeping with the subject of sustainable design for a changing world, Assistant Professor Sven Stremke and Professor Jusuck Koh, from the Landscape Architecture Chairgroup at Wageningen University in the Netherlands explore landscape design and planning solutions for overcoming inherent limitations in the adoption of renewable resources for the production of energy in the Dutch landscape. Drawing from their work in the southern part of the province of Limburg, they illustrate the application of several concepts for overcoming periodic supply fluctuations, low energy densities, and limited levels of consumer utilization that characterize use of various types of renewable energy resources.

In her further reflections on the poetics of melancholia in landscape, Associate Professor Jacky Bowring, Lincoln University, Christchurch, New Zealand, abstracts convolutes from the writings of Robert Smithson on Passaic, New Jersey, and the film, *London,* by Robert Keiller. Expeditions, photographs and films, monuments, ruins, and topophilia figure in this Walter Benjamin-inspired take on sources and spatio-temporal domains of decay, and the melancholia of modernity.

Diane Jones, Associate Professor of Landscape Architecture, Morgan State University, finds in Mount Auburn Cemetery in Baltimore an African-American cultural overlay. She analyzes the landscape of the cemetery in the cultural context of the impacts of slavery on African American values expressed in and on the land. Jones explicates this landscape as it has evolved from the post-Civil War period, when the cemetery was created, to the present time. She focuses on the values of rural nature and the casual appearances of lack of maintenance in the cemetery as both escape from and resistance to oppression.

Terry Clements, Professor of Landscape Architecture, Virginia Polytechnic Institute and State University, currently also president of CELA, with her former graduate student, Sarah J. Dorminey, posit an idea of design thinking to assess experiences of landscape space across a spectrum matrix of affect. They capture the synthesized work of Howard Gardner on multiple intelligences and Mihaly Csikszentmihalyi on the concept of flow of experience to explicate diverse aspects of landscape understanding and experience.

Mark Francis, Professor Emeritus of Landscape Architecture at the University of California, Davis, and Lucas Griffiths, a doctoral candidate in urban design at the

University of Stavanger, Norway, present an issue-based case study on the meaning and design of farmers' markets in public space. They discuss the promenade, the working market, the market landscape, and the market neighborhood as four physical realms of the market place to better understand the socio-spatial ecology of farmers' markets and as a means to assess the landscape features and spatial patterns of five selected farmers' markets in the United States.

Masayoshi Oka received his Doctor of Design from Harvard University in 2010. This article compiles a number of research-based insights as to how future urban design efforts to promote physical activity need to address physical, social, and policy dimensions of the urban environment. Dr Oka suggests that modification in physical design alone is insufficient to promote physical activity. They must be accompanied by efforts to strengthen social organization to increase the level of self-efficacy and collective efficacy and community-based strategies to inform urban policy in guiding sustainable long-term modification of both the physical and social environment as a means to increase the level of physical activity among urban residents.

Aaron W. Thompson and Kristin Floress are Assistant Professors of Natural Resource Planning at the University of Wisconsin–Stevens Point. Linda Prokopy is an Associate Professor in the Department of Forestry and Natural Resources at Purdue University and Denise Weinkauf currently works for Engineering Analytics, Inc. They explore the utility of kernel density estimation in ArcGIS™ software as a participatory geographic information systems approach to estimating the spatial distribution of community priorities in urban riparian corridor planning in the United States.

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