Transdisciplinary Action Research in Landscape Architecture and Planning: Prospects and Challenges

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Foreword

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Prospects and Challenges

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A fundamental goal of scholarship in the field of landscape architecture is to enhance the practice of designing, planning, and managing the land (Neckar and Pitt 2010). Owing to the inherently multifunctional nature of landscapes (encompassing both natural or ecocentric, and cultural or anthropocentric dimensions), many scholars have stressed the importance of developing a strong cross-disciplinary approach to landscape research and practice—one that moves the field from *multidisciplinary* studies of the biological, physical, social, and cultural elements of landscape (which often proceed in parallel yet isolated fashion), toward *interdisciplinary* and *transdisciplinary* research programs that explicitly integrate the diverse perspectives of multiple fields and facilitate the translation of research findings into practical guidelines for effective landscape design and management (Fry 2001; Holling, Berkes, and Folke 1998; Levin 1999; Naveh 2001; Redman 1999; Tress et al. 2001).[1]

Despite earlier calls for establishing transdisciplinary approaches that integrate the social, behavioral, and natural sciences in landscape research and practice, considerable challenges still confront efforts to reconcile the academic and professional facets of the field and translate landscape scholarship into effective strategies for land planning and management (Gobster, Nassauer, and Nadenicek 2010; Neckar and Pitt 2010). For instance, some contend that by failing to cultivate a critical collective consciousness among scholars, students, and professionals in the field, landscape architecture and planning have remained essentially *apolitical*. The fields' apolitical nature ignores the emerging notion that the "practice of landscape architecture [is recognized] as a political act, imbued with external consequences and responsibilities and an explicit emphasis on the service ideal of the profession" (Brown and Jennings 2003, 110).

Hester's (2006) efforts to develop principles of plural design for achieving ecological democracy are responsive to the political and societal relevance concerns raised by Brown, Jennings, and other scholars.[2] Yet, the logistical challenges of navigating between and reconciling local plural design projects with the exigencies of the regional and global contexts in which they are embedded are often substantial (Deming and Palmer 2005; Thering and Chanse 2011). As the geographical and organizational scope of action-oriented research expands, the complexities of facilitating participation and coordinating efforts among multiple stakeholders representing different community and societal sectors increase; as does the potential for encountering divergent and conflicting perceptions about alternative land uses and values (Bowns 2011; Doble and King 2011; McNally 2011). Furthermore, the challenges of establishing and sustaining effective cross-disciplinary communication among scholars and practitioners trained in diverse fields, and working across different sectors and at different scales of the community, become more daunting as the focus of their work shifts from locally delimited *ecotopes* to regional landscapes and, even more broadly, the *total human ecosphere* (Naveh and Lieberman 1994)

For all of these reasons, endorsing cross-disciplinary collaboration as a laudable goal for landscape scholarship and ecosystem management proves to be much simpler and straightforward than actually achieving it (Fry 2001; Jakobsen, Hels, and McLaughlin 2004; Pickett, Burch, and Grove 1999).

The present issue of the *Journal* focusing on the scholarship of transdisciplinary action research (TDAR) in landscape architecture and planning is both timely and responsive to the programmatic challenges and concerns mentioned above. The case studies described in this issue exemplify efforts among landscape scholars and professionals to address three dimensions of a TDAR framework outlined by Stokols (2006) that include: (1) the analytic or cross-disciplinary breadth, (2) the geographic scale, and (3) the intra-organizational to multi-sectoral scale of action-research collaborations. These dimensions combine to determine the overall scope and complexity of a particular collaboration. By taking into account these continua of collaborative scope and by designing research programs that encompass multiple levels of each dimension, it

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becomes feasible to extend plural design practices from local to regional and global scales in ways that coordinate indigenous, local or site-scaled landscape interests with broader societal goals of promoting social and environmental justice, improving public health, and ensuring ecological sustainability (Doble and King 2011; McNally 2011; Thering and Doble 2000; Wells, Evans, and Yang 2010). Systematically coordinating and reconciling local environmental interests with broader societal concerns can make landscape scholarship more responsive to the "ecological and cultural urgencies" of our time (see Neckar and Pitt 2010).

Collectively, the studies presented in this issue contribute in important ways to the fields of landscape design and ecosystem management by advancing the scholarship of TDAR. As outlined by Stokols (2006) and Thering and Chanse (2011), the *science* or *scholarship of TDAR* entails studying the processes and outcomes of team research projects for the purpose of identifying circumstances that facilitate or constrain effective collaboration and those that can be leveraged to enhance the success of future partnerships. The scholarship of TDAR is part of a rapidly growing field, the *science of team science* (SciTS), which has been propelled over the past decade by burgeoning investments in and the increasing dominance of cross-disciplinary teams across several research domains and the corresponding need to evaluate scientific and societal returns on these investments in team-based research (Fuqua et al. 2009; Stokols et al. 2010; Stokols et al. 2008; Wuchty, Jones, and Uzzi 2007).

The typology of TDAR collaborations presented by Stokols is essentially a programmatic tool that can enable researchers and practitioners to anticipate and manage a variety of conceptual, interpersonal, institutional, and environmental circumstances that are likely to affect the scope, complexity, and ultimate success of their teamwork. The proposed framework, however, does not specify particular guidelines and practices that can be used by team members to enhance communication, reduce conflict, and hasten the accomplishment of their shared goals. These principles of effective transdisciplinary collaboration must be derived on a case-by-case basis through the collaborative field experiences of researchers and practitioners as they occur and are documented over extended periods (Fry 2001; Rios 2011).

It is in this crucial sense of identifying situation-specific principles of effective TD collaboration among landscape scholars and professionals (many of whom represent different conceptual, organizational, and geographic vantage points) that the case studies included in this special issue are successful in advancing the scholarship of TDAR (Thering and Chanse 2011). By applying the methodologies of qualitative meta-analysis and meta-synthesis (cf., Bondas and Hall 2007; Noblit and Hare 1988; Paterson 2001; Walsh and Downe 2005; Yin 1994), it becomes possible to discern patterns of common experience encountered by participants in the various studies, and to identify high-leverage factors that substantially enhance collaborative capacity and success across multiple contexts. For instance, the case studies presented in this issue introduce innovative and generalizable methodologies for conducting effective TDAR across diverse collaborative situations (cf., Thering 2011). Moreover, they contribute new tools and strategies (for example, landscape visualization technologies; collaborative design charrettes and training workshops; community volunteer programs; recurrent interviews of team members and stakeholders; shared maps, models and sketches) for promoting successful collaborations among landscape scholars, professionals, and community members (Carlson, Koepke, and Hanson 2011; Chanse 2011; Schroth et al. 2011).

The studies described in this issue are also valuable in that they raise new questions and directions for the science of TDAR. First, these research programs suggest the importance of incorporating a fourth dimension of collaborative scope (in addition to those of conceptual, organizational, and geographic scale) in the TDAR framework proposed by Stokols (2006)—namely, the *temporal scope* of research-practitioner collaborations. The temporal facets of collaboration are discussed by several authors in this issue—for instance, Chanse's

(2011) analysis of developmental stages in watershed stewardship; McNally's (2011) 20-year span of plural design research in the Los Angeles region; Doble and King's (2011) eight-year plural planning project in New York; and Carlson, Koepke and Hanson's (2011) ten-year effort to help communities, mining engineers and natural resource agencies understand the of potential iron ore mining for constructing sustainable landscapes in northern Minnesota. Clearly, the longer partners from multiple community sectors work together, the more likely they are to achieve and sustain productive collaborative processes and outcomes (cf., Altman 1995). Future studies of TDAR should give greater attention to the influence of temporal factors on the overall trajectory and long-term outcomes of collaborative partnerships among landscape scholars, professionals, and community stakeholders.

Second, the diverse samples of researchers, practitioners, and community members represented by these case studies suggest the potential value of modifying the terminology of TDAR from *transdisciplinary* to *transepistemologic action research*. Specifically, the variety of landscape perspectives brought together in these studies extend far beyond the socially constructed boundaries of traditional academic disciplines and, instead, encompass a much wider array of epistemologies or *knowledge cultures* (Brown 2005) ranging from the *lived experiences* of local residents to the highly specialized knowledge of landscape scientists and the organizational knowledge of community decision-makers (cf., Lejano and Stokols 2010). The scholarship of landscape action research should give greater priority to the integration of these diverse sources of environmental knowledge in future studies.

Third, the research findings and methods presented in this issue of the *Journal* should be supplemented by additional evaluation studies of collaborative design and management projects. The cumulative findings from these studies undertaken at multiple geographic and organizational scales can provide the empirical foundation for developing a compendium of evidence-based best practices for implementing and supporting TDAR projects in the landscape field. Along these lines, Fry (2001) has called for the establishment of a "code of good practice" that offers specific criteria for facilitating cross-disciplinary collaboration in landscape studies and for gauging the quality and impacts of that research. Similarly, Schroth (2011) cites the need for additional studies that evaluate the long-term outcomes of landscape architecture and planning including their impacts on public policy.

Finally, an additional and important horizon for the scholarship of TDAR is the development of educational strategies for training the next generation of landscape researchers and professionals. Short-term, project-based training modules can be helpful for alerting team member to the challenges and tensions often associated with transdisciplinary collaborations and for raising team members' awareness of their respective, and often divergent, disciplinary and professional perspectives; and for alerting them to the challenges and tensions often associated with transdisciplinary collaborations (Bennett, Gadlin, and Levine-Finley 2010; Carlson, Koepke, and Hanson 2011). At the same time, an individual's readiness and capacity for transdisciplinary collaboration are shaped by longer-term educational experiences that occur over the course of his or her career (Nash 2008). Future TDAR initiatives should include concerted efforts to create new curricula and training resources that sensitize undergraduates, graduate students, and community professionals to the behavioral, social, and health outcomes of landscape management practices (Brown and Jennings 2003; Schor 1992), as well as instilling in them an appreciation for the value of undertaking TDAR projects aimed at reducing pervasive threats to societal and ecological sustainability.

NOTES

1. See Rosenfield's (1992) continuum of cross-disciplinary forms of collaboration, ranging from multidisciplinarity, the least integrative type of collaboration to transdisciplinarity, the most integrative form in which interdisciplinary partnerships ultimately lead to conceptual and methodological

innovations that transcend the boundaries of team members' respective fields.

2. See also Sanoff's (1999) research on methods for facilitating community participation in design and planning projects.

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