

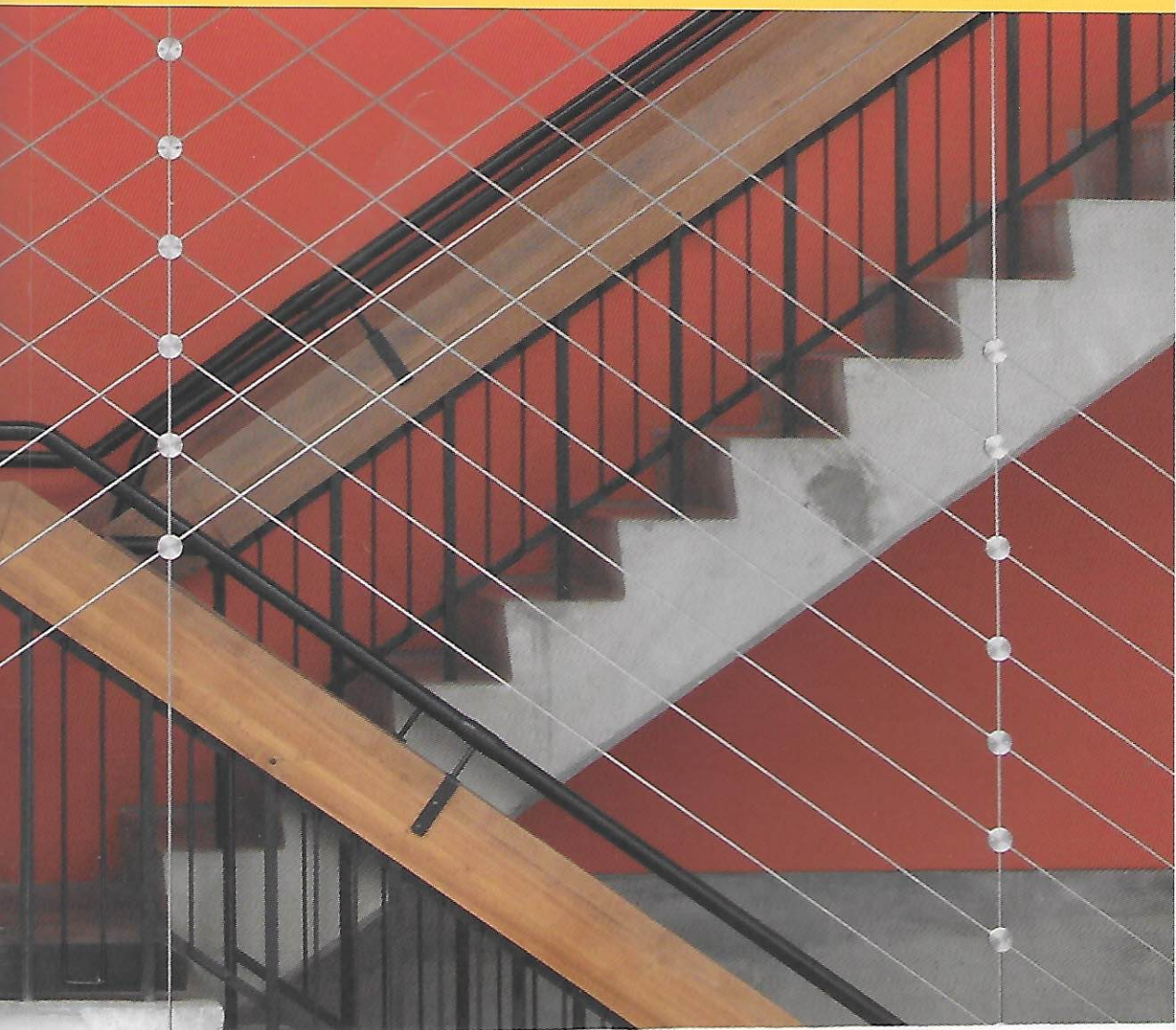
NOVEMBER/DECEMBER 2012

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VOLUME 18 NUMBER 6

DesignIntelligence®

AMERICA'S BEST ARCHITECTURE & DESIGN SCHOOLS 2013



DesignIntelligence

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The Need for a National Academy of Environmental Design

Architects, planners, constructors and others join together to tackle today's urgent environmental challenges.

—BY KIM TANZER

Sustainability is today's sputnik." This frequently made assertion captures the importance and urgency of creating sustainable human environments. While today's challenges are global, not just national, the need to act quickly — with expert knowledge and alert to unexpected consequences — is as present today as it was half a century ago.

For this reason, environmental designers around the country — architects, landscape architects, interior designers, planners, constructors and others — have joined together to form the National Academy of Environmental Design.

Highlighting this sense of urgency, the academy's mission statement and purpose reads, in part: "Pressing and catastrophic challenges face the United States and the world, including precipitous climate change, species extinction, and a wide range of epidemics and toxins affecting human health. The factors that cause these problems are complex and often poorly understood even when recognized, but many such problems involve the communities, landscapes, buildings and products people occupy and use. The National Academy of Environmental Design has been created to address these problems through the diverse knowledge and practical expertise of the environmental design and related disciplines."

Today's environmental challenges are often described as "wicked problems" — problems caused by many factors acting simultaneously, requiring complex decision making in the face of sometimes unknowable outcomes. Traditional scientific thinking — often characterized by its reliance on linear deductive or inductive reasoning applied to questions neatly bounded to limit experimental variables and by the necessity of replicable results — cannot fully address today's "wicked problems." By contrast, design thinking — also known as abductive thinking, lateral thinking or creative thinking — focuses on finding patterns and similarities among complex sets of information.

A number of research methods developed by members of the environmental design disciplines are useful in understanding and acting on "wicked problems": So-called natural experiments seek answers in real-world situations rather than within laboratory settings. Place-based knowledge, often held by local populations, provides evidence of change over long periods of time, especially change affecting natural systems. Case studies look comprehensively at similar circumstances — such as building or landscape typologies — for lessons to be applied in similar situations. Scenario planning is a method for strategically considering an array of potential futures without ar-

tificially limiting important variables. Each of these methods, well known to environmental designers, provides a rigorous means to evaluate a complex environmental situation, with the goal of recommending action toward a preferred future.

Because environmental designers have tended to focus on the future, we have spent less time sharing our knowledge of past successes and failures among our own disciplines and with the larger world. The National Academy of Environmental Design was established to create a forum for expert collaborative exchange.

OTHER NATIONAL ACADEMIES

Over the past 150 years the National Academy of Sciences, National Academy of Engineering and the Institute of Medicine, along with their research partner the National Research Council, have been called upon by policy makers to provide expert, peer-reviewed recommendations on important societal challenges. Each was created during a time of crisis: The National Academy of Sciences was incorporated in Washington D.C. by President Abraham Lincoln during the Civil War in 1863; the National Research Council was convened in 1916 during World War I; the National Academy of Engineering began in 1964 against the backdrop of the Cold War and the space race; and the Institute of Medicine was established in 1970 at the start of what was called the “war on cancer.” Their collective mission, as outlined by President Lincoln in the original charter of

the National Academy of Sciences, is to serve “whenever called upon by any department or agency of the government, to investigate, examine, experiment and report upon any subject of science or art.” Members of study groups are appointed by their peers because of their knowledge in particular scholarly disciplines.

But, as described in the 2007 resolution to create the National Academy of Environmental Design, “the existing national academies do not provide the breadth of multidisciplinary expertise necessary to effectively respond to these multiple and linked environmental challenges.” By contrast, the resolution continues, “the environmental design disciplines — involved in the design, construction and maintenance of cities, landscapes, buildings, interiors and products — do have the expertise to assist the citizens of the United States in addressing and mitigating the impacts of these multiple environmental challenges.”

SUCCESSES TO DATE

Recognizing the need for an integrated, proactive, interdisciplinary approach to sustainable planning and design, in 2007 a national group of academic leaders in the environmental design disciplines formally resolved to create the National Academy of Environmental Design during a meeting in Minneapolis of the Association of Collegiate Schools of Architecture. In the summer of 2008 a meeting of supporters was held at the National Building Museum in Washington D.C., during which a mission state-

ment was drafted and a governance process was initiated. Following a thoughtful and frank dialogue about the relationships of the disciplines, which would be reflected in a governing structure, bylaws were passed in 2009 and the first slate of officers and the executive council were elected and appointed respectively. It was and remains important to balance responsibility for the organization's success equally among all the environmental design disciplines, as each plays an important role in creating a preferred, more sustainable future. During the organization's formative years, the ACSA played a critical role in staffing the otherwise all-volunteer organization. The fourth annual membership meeting was held in October 2012 in Washington D.C., following meetings hosted by the U.S. Green Building Council, the American Society of Landscape Architects and the American Planning Association, each of which hosted the annual meetings in 2009, 2010 and 2011, respectively.

As the National Academy of Environmental Design's governance process has been established, the important work of investigating and examining subjects of significance has developed in parallel. Our first national workshop, chaired by Dr. James Wescoat of MIT in 2010, was co-hosted by the Disaster Roundtable of the National Research Council. Titled "Disaster-Resilient Design," it focused on the important role environmental design plays in preventing disasters through smart planning and mitigating them through effective short- and long-term responses. Our second national workshop, held in 2011 and co-chaired by Dean Tom Fisher of the Uni-

versity of Minnesota, Dr. Matt Trowbridge of the University of Virginia and Dr. Nisha Botchway then of the University of Virginia and now of Georgia Tech, was titled "Green Health: Building Sustainable Schools for Healthy Kids." It was co-sponsored by the National Collaborative on Childhood Obesity Research in partnership with the U.S. Green Building Council Center for Green Schools. The third workshop, held in October 2012, co-hosted by the National Building Museum and chaired by Susan Piedmont-Palladino of Virginia Tech and the National Building Museum, was titled "Designing Intelligent Environments: Social and Ethical Implications."

It is important to balance responsibility for the organization's success equally among all the environmental design disciplines.

These three national workshops established a pattern of partnership with significant national organizations, each of which will lead to new means of disseminating best environmental design knowledge to broad, high-level audiences. These followed a series of more focused workshops hosted by universities during the National Academy of Environmental Design's first years. The University of Texas at Austin hosted a workshop on sustainable sites in 2008; the University of Minnesota hosted a 2009 workshop on sustainable materials; and the University of Florida hosted a 2009 workshop focused on water issues

in the Apalachicola, Chattahoochee and Flint rivers basin. In each of the examples described above, environmental design experts and others from across the country came together to discuss a complex problem with the goal of sharing best practices through case studies, natural experiments, examples of local, place-based knowledge and the use of thoughtful scenario forecasting.

These workshops highlight a key element of the National Academy of Environmental Design's approach to research. Complex problems must be addressed holistically by design experts across a range of professional disciplines. At the same time, expertise is necessary to provide recommendations based on experience and knowledge. The term "T-shaped thinking" refers to the horizontal, lateral, abductive thinking common to those of us trained in the design disciplines, which must be applied in combination with the vertical, deep research-informed knowledge of subject matter experts. A central premise of the National Academy of Environmental Design is the belief that design education provides the critical switching mechanism to allow these two elements to successfully combine.

THE FUTURE

The National Academy of Environmental Design is now poised to begin its next phase. With funding from Spotsylvania County, Virginia and the support and partnership of Luck Development Partners, the academy will

hire an executive director and open an office in Ni Village, Va., in the coming months. This will allow the academy to take its next step, to become a "think-and-do tank" with a regional, place based focus, as part of our larger national mission. Two further national workshops are in initial planning stages, one focused on urban water policies and practices and another on affordable, sustainable housing. As we continue to build the infrastructure necessary to join our disciplines in productive exchange, we will remain focused on advancing sustainable environmental design practices in public and governmental settings and on conducting and disseminating research in our fields. As our mission statement provides, we will "serve the public by promoting the flourishing of individuals, communities and the natural world through the sustainable design and stewardship of human and natural environments."

For more information see www.naedonline.org.



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