ROUNDTABLE REPORT:

Technology and the Landscape

BY GAIL GREET HANNAH

We tend to put technology on a pedestal. Culturally, we haven't integrated it. In architecture and landscape architecture, you want people to be present in the moment in the spaces that have been designed for them. What we can do and should be doing is asking technology to make us present.

Richard Roark, OLIN

iPhones®, iPads®, iPods®…internet, Wi-Fi, cloud computing… Auto CAD, parametric design, 3D printers…On June 21, 2012 Landscape Forms brought together fourteen leading landscape architects to explore the impact of technology on the design of the landscape, the experience of landscape, and the way professionals conduct their practices. The meeting at the Rittenhouse Hotel in Philadelphia was co-sponsored by the Landscape Architecture Foundation (LAF) and moderated by landscape architect Rodrigo Abela of Gustafson Guthrie Nichol.

LAF Director, Barbara Deutsch, prefaced the roundtable with a presentation of LAF's web-based Landscape Performance tools designed to help landscape architects document projects, analyze outcomes, and derive metrics for landscape performance on key measures including zero carbon, zero waste, net zero water, biodiversity, and public health. The importance of metrics was to re-emerge in the dialog that followed.

Rodrigo Abela kicked off the discussion by observing that "The people in this room are probably the last generation who will remember the world before we were connected." And, he added, although time zones and geography no longer dictate the moment and place of communication, digital technology may, in fact, be helping make us less connected. While roundtable participants reported using digital technology to greater and lesser degrees theirs is a wholly different experience from that of the generation that encountered personal technology before they learned to talk and for which it is central to the way they carry on their everyday lives. Thomas Flynn of Penn State University reported that for college-

bounds students the availability on campus of broad Wi-Fi spread, 24 hours a day, is a major factor in school choice and this round the clock access has redefined the library, offices, studios and classrooms. But students are also making college choices based on the quality of the campus landscape. As Laura Solano of Michael Van Valkenburgh Associates pointed out, investment in both landscape and technology is on the rise and landscape architecture is at the nexus.

How can you get a pure uninterrupted experience when everybody has the ability to plug in?

Terri-Lee Burger, Abel Bainnson Butz

All present agreed you don't – and it is the task of landscape architects to find ways to integrate technology and the experience of landscape. Signe Nielsen of Matthews Nielsen was pessimistic. She said more technology means less use and appreciation of the outdoors, with serious negative impacts on public health. Rodrigo Abela countered, "Sometimes you compete, but you also embrace. I'm seeing in our clients the desire to bring digital technology into the public world." Donna Walcavage of AECOM observed that technology can be used as a draw to bring people into outdoor spaces and

that movable outdoor furniture and Wi-Fi make this easy to do. James Gilday's firm, Moss Gilday Group, has designed several projects that include pods that serve as power centers for laptops and iPhones®. "As design professionals we need to give them what they need, but also give them something else to look at so they realize they are in the landscape," he explained. "If design does that we can say we are starting to be successful integrating the two." Richard Roark, of Olin, looked to history. "Two hundred years ago the landscape was the source of productivity in human settlement. It would be amazing if technology could make us more productive in the landscape again. Landscapes are good for you. The more we can encourage work activity out there, the better."

Why are we designing spaces with benches like a 19th century London Pleasure Park?

Ignacio Bunster-Ossa, WRT

Bunster-Ossa proposed recreating the Starbucks model outdoors. He described his firm's design of an expanded sidewalk area with a sofa-like bench, a side table, a vandal-proof side lamp, and a "carpet" of recycled glass to make it feel like a living room -- and expressed regrets that they did not include outdoor plugs. "This could change the

way that streets, sidewalks and plazas look," he predicted. Donna Walcavage said her firm has debated whether or not to provide plug-in access in public spaces and has experimented with suitcase-size portable Wi-Fi systems to provide about two hours of power for outdoor workshops and other time-limited activities. She asked, "After decades of putting dividers in benches to discourage the homeless, do we really want to encourage a generation of the office-less moving in?"

Laura Solano posited that perhaps the very definition of landscape is different now. "Landscape can be a tree and a bench. It doesn't have to be an elaborate park. People in cities are not necessarily looking for a full-blown experience of nature, but they are interested in being outside and bringing technology with them. If we embrace technology in a helpful way and make even the smallest space incredible that will help them notice nature in those moments when they look up from the screen." Bunster-Ossa described a computer game that offers possibilities for reimagining the landscape. It features cubes for constructing three-dimensional spaces in which landscapes and buildings are fluid. "That's more what the world should look like," he declared. "That's how we can penetrate deeply into where we live. We need to rethink the entire system."

Beyond designing opportunities for outdoor use of digital technology, roundtable participants are designing infrastruc-

ture technology into the landscape every day: motion sensors on lights, advanced LED lighting, sound systems, security systems, interactive walls, and tiles embedded with sensors that produce enough electricity by foot friction to power a laptop. The challenge for them is using these technologies in ways that enhance the experience of landscape.

My daughter and her cousins were afraid to go into an empty field at night. Unlike my generation, they had never chased fireflies. We coaxed them in with an iPad® astronomy app and then couldn't drag them back.

Laura Solano, Michael Van Valkenburgh Associates

Other guests told their own stories of technology successfully drawing people into real-life experiences of nature and landscape. James Gilday's firm designed a community garden at a school that was turned into an outdoor classroom by integrating technology in subtle ways. Kids study birds on a webcam – then go outside and observe activity at the birdhouse. He observed that when the interplay between plugging in and going out is established early, young children seem better able to balance the two than are an

older generation of students who are more closely tethered to their digital devices.

Interactive experiences using cell phones are now widely available in parks and museums. Stuart Appel noted that funding for some inner city parks is being provided by health-care institutions and foundations with a public health agenda that are tying grant awards to programs for healthy living. Many people in poor urban areas don't have computers, he explained. But they do have cell phones. And they are using them to learn about healthy practices, locate stores that sell healthy food and get directions to exercise trails. "Is there a partnership to be made?" Solano asked. "Who understands and loves the landscape better than landscape architects? We know that it benefits everyday life. Is there an opportunity on projects to help clients develop apps that encourage people to be drawn into, learn about and appreciate the natural world?"

Technology is a medium of our craft.

Elizabeth Asawa, Ken Smith Landscape Architects

As Matthew Wisniewski of MKW & Associates observed, technology was initially employed by landscape architects to simply document and communicate but has now become an integral part of the design process. Roundtable participants warmly debated the impacts of technology on the process

and quality of design. Thomas Flynn reported that students entering the landscape architecture program at Penn State are reluctant to use pencil and paper, something he said he still does to think through a design, and want to go immediately to the computer. This concerns Signe Nielsen. "We insist that anyone who works for us can draw. You have to know when it's important to be creative and when to be analytic. It's so easy to do renderings that look real. I don't know what I'm doing yet and clients want ground and grass texture." Donna Walcavage agreed that early renderings can give the misleading impression that a project is finished before it is barely started. But she questioned whether there was any objective evidence that the tactile experience of drawing helped one understand the work better. James Gilday said he thought repeated zooming in and out while using software led to loss of a sense of scale. Terri-Lee Burger disagreed. Scale, she said, has nothing to do with software per se. It's a matter of choosing the right software for the task.

Stuart Appel advocated drawing at the start of a project because, he said, designers working on paper are more comfortable throwing ideas away and trying another approach, while getting on the computer too early makes them reluctant to abandon a design direction. "The process is as important as the product. The question is at what point do you get off the paper and onto the computer? You can do 3-D modeling,

but not in advance of the design." Ignacio Bunster-Ossa observed that for students of landscape architecture who come from other disciplines and may not know how to draw, software tools are essential for enabling them to contribute and bring valuable experiences to a project. Chris Hanley, Partner and Director of Technology at OLIN, said in his experience working with computer modeling tools can help people think more deeply about connections as working with hand sketches. Both have tremendous value to explore and understand how things work as part of a system. "I don't see it as a question of one medium being better than the other. It's more about which medium allows you to move forward in your design process."

The upsides of technology for the design process, especially its ability to enable collaboration, are indisputable. But participants see downsides as well, including over-saturation by the sheer proliferation of apps and tools. "Is it just new and cool? Or is it new and cool and makes the process better?" Chris Hanley asked. "Software is cheap. The big investment is in training." Richard Roark is concerned that landscape architects spend time learning new iterations of software that would be better spent on design. The ready availability of digital material means designers can spend an inordinate amount of time sifting through vast amounts of undifferentiated data and Stuart Appel said separating data from information is an ongoing challenge. And Scott Rykiel, of Mahan Rykiel Associates

Technology, worried that, "technology has become so important, we're neglecting the science." He is concerned that young landscape architects are not being adequately educated in the earth sciences at a time when accurate scientific evidence is precisely what's required to support claims of remediation and sustainability of landscape. He suggested more disciplinary crossover between landscape architecture and environmental science studies.

The future direction is deciding what metrics we deem most valuable to inform our design decisions, not which tools we will use to explore them.

Chris Hanley, OLIN

Evolving hardware and software will continue to help landscape architects design, implement, manage and communicate complex, interdisciplinary projects. But technology embedded in the landscape will also be a major milestone for the profession. Lee Weintraub, principal of Lee Weintraub, LA, described an ambitious project that exemplifies the optimism and opportunities of this approach. For a new spiral-shaped housing scheme in the Bronx his firm has designed roof gardens, on which residents can grow vegetables, on seven accessible rooftops. As the buildings become occupied

Weintraub's hope is that the design and programming of outdoor spaces will help create a different kind of building culture. Monitors have already been installed on the buildings to measure energy usage. Weintraub envisions embedding monitors to generate metrics on how people move up and down between rooftops, if they become more productive farmers, and if they become healthier because they are walking rather than using elevators. "Metric technology will make us better informed about people and the environments we design for them," he explained. "It's inescapable."

As monitoring sensor technology becomes more advanced and inexpensive it will be possible to embed a wide variety of sensors in landscapes to provide reliable metrics for quantifying sustainability claims. OLIN has research teams looking at ways of using embedded technology for capturing metrics on physical activities such as storm water runoff to measure environmental impacts, and on behavioral factors such as proximity to measure the social success of outdoor spaces. This is an area of great promise for the landscape architecture profession, which will be challenged in the future to provide more granular documentation of the measurable benefits of landscape solutions.

The end goal is to craft an experience of the world.

Rodrigo Abela, Gustafson Guthrie Nichol

Is technology contributing to that goal? It's a work in progress. A brief sampling of responses:

We're learning to fly…

The challenge is using it in the right time, in the right way for the right purpose…

It's another tool in our toolbox…

I want to try mobile technology to do team designing on site. I have a perfect project to try it on….

"Combining the two worlds of landscape and technology is very creative, very liberating," Bill Main, CEO of Landscape Forms, concluded. "We're in a tremendously innovative period because this is happening."

Round Table Attendees

Ignacio Bunster-Ossa	WRT	Philadelphia, PA
Chris Hanley	OLIN	Philadelphia, PA
Richard Roark	OLIN	Phildealphia, PA
Stuart Appel	Wells Appel	Philadelphia, PA
James Gilday	Moss Gilday Group	Little Silver, NJ
Scott Rykiel	Mahan Rykiel Associates	Baltimore, MD
Donna Walcavage	AECOM	New York, NY
Lee Weintraub	Lee Weintraub, LA	Yonkers, NY
Laura Solano	Michael VanValkenburgh Assoc.	Cambridge, MA
Elizabeth Asawa	Ken Smith Landscape Architects	New York, NY
Thomas Flynn	Penn State University	University Park, PA
Terri-Lee Burger	Abel Bainnson Butz	New York, NY
Signe Nielsen	Matthews Nielsen	New York, NY
Matthew Wisniewski	MKW & Associates	Rutherford, NJ

Moderator

Rodrigo Abela
Gustafson Guthrie Nichol
Washington, D.C.

LAF

Barbara Deutsch
Landscape Architecture Foundation
Washington, D.C.

Media

Inga Saffron
Chief Architecture Critic,
Philadelphia Inquirer

Writer

Gail Greet Hannah
Cold Spring, NY

Landscape Forms

Richard Heriford
President

Bill Main
Executive Chairman

Kirt Martin
Vice President Design & Marketing

Cheri Reeves
Marketing Communications Specialist