FOLLY
2015

a project in partnership with
The Architectural League
of New York
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Socrates Sculpture Park
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Socrates Publishing 2015
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The Architectural League of New York and Socrates Sculpture Park present Folly 2015, a juried design/build competition that invites architects and designers to propose contemporary interpretations of an architectural folly. Traditionally a fanciful, small-scale building or pavilion sited in a garden or landscape, follies were primarily non-utilitarian and intended to frame a view or serve as a conversation piece.

This concept inspired Folly — an annual program established in 2011 by Socrates and the League to explore the intersections between architecture and sculpture, as well as the increasing overlaps in references, materials, and building techniques between the two disciplines.

Through an annual open call, Folly has become a highly anticipated competition attracting proposals from across the globe. For Folly 2015, 126 submissions were reviewed by an esteemed jury of architects and artists.

Cambridge and Philadelphia-based firm IK Studio won the 2015 competition with their
proposal, *Torqueing Spheres*, a series of eight plywood domes, ranging from adult to child-size, that follow an undulating, diminishing line along the East River. Each plywood form is shaped by an innovative cold-bending technique and without the use of steam or kerfing. Each dome rigidly resists exterior and interior force while allowing the installation to respond to changing weather conditions.

As Folly 2015 winners, IK Studio received a financial grant and two-month residency in Socrates Sculpture Park’s outdoor studio, in addition to the opportunity to build their project to scale for exhibition in the park from May 17 through August 30, 2015.
TORQUEING SPHERES

Written by Emily Schmidt
Senior Editor,
The Architectural League

FOLLY 2015
"Torqueing Spheres" is the sculpturally compelling winning proposal of the 2015 Folly competition, installed for the summer at Socrates Sculpture Park. Designed by Mariana Ibañez and Simon Kim of IK Studio, the installation extends the idea of “folly” to its material exploration by forcing planar pieces of plywood into curved, self-reinforcing domes.

"Torqueing Spheres" is a series of intertwining, sculpted forms that ribbon across the landscape. The eight distinct shells, or domes, are each fabricated from cold-bent 5-ply birch plywood. Advanced computation, digital software, and proto-typing were used to determine the curvature of each leaf of plywood, while center apertures, fold lines, and bolt holes controlled the final shape and transformed flat surface to volume. Eight leaves of varying sizes, each machine-cut, form each dome; the material edges are bent, overlapped, and fixed in place by simple bolts so that each dome is self-supporting. The pieces alternate between natural birch color and painted white. The eight volumes shift in scale — first growing, with the largest more than six feet tall, and then
diminishing again — as a visitor follows the form toward the East River.

IK Studio’s folly is an exploration of formal geometries and material performance, seeking to discover what happens “when stable forms are given unusual rules.” The design draws, in the designers’ words, from the “traditional architectural inventions of vaults, arches, and domes in the production of voluminous surfaces,” employing new material techniques to promote the “experience of sculpted space for the collective and the individual.” Of particular interest is the pendentive, “the strange non-shape that is neither square nor circular but allows a sphere to rest over a rectangle.”

By placing each piece laterally, the folly inverts the typical experience of a dome by inviting visitors to investigate the spherical recesses: “the once-elevated dome is now a space of exploration.” Despite creating a wall or barrier, the form is a porous one: the other side remains visible in glimpses through the aperture in each individual leaf as well as the oculus of each dome.
MARIANA IBAÑEZ & SIMON KIM

In conversation with Elissa Goldstone
Folly 2015 winners Mariana Ibañez and Simon Kim of IK Studio discuss *Torqueing Spheres*, their definition of a folly, their “creativity-with-rigor” approach to projects, and what’s next for IK Studio. Ibañez and Kim conducted an e-mail interview with Elissa Goldstone, Director of Exhibitions at Socrates Sculpture Park. The conversation has been edited for length and clarity.

**Elissa Goldstone:** Before we talk about *Torqueing Spheres*, let’s chat about the Folly program more generally. How does IK Studio define a folly? And has that definition changed or expanded within the context of the League and Socrates’ Folly program?

**IK Studio:** Follies, as we studied them, were part of an English landowner’s estate in the 18th century, much like ha-has and grottoes. Follies are buildings made for scenography, to be looked upon as part of a larger tableau. Tied to the aesthetics of the picturesque and the beautiful, they are often associated with period styles and even mannered — to look ruined, for example.
For us, follies are better associated not with private estates and wealthy landowners, but as open public things for the pleasure of the citizens in a city. The appeal of making *Torqueing Spheres* on the grounds of a public park like Socrates was to extend a social element to an accessible material like wood. We have witnessed the formal play between the installation and the young families, teens on bikes, and many dogs over the summer. We also like the views the park affords across the East River to Manhattan.

We love the idea of a folly as an architectural tradition and its broader meaning as something that defies accepted logic. It speaks of frivolity, some mania, and also an opportunity to experiment or try something unusual.

Much of architectural production does not allow for risk or chance — I don’t know of many paying clients who would be happy with error. And academic research does not often leave the lab or the school environment. Follies, unlike pavilions, are perfect venues for private obsessions played out in the public realm.
Goldstone: I’m always curious how a final design scheme comes together. What led to your *Torqueing Spheres* proposal for Folly, and then how was the design realized?

**IK Studio:** We were intrigued by the overlap between design and art in the competition’s partnership between The Architectural League and Socrates Sculpture Park. The possibilities of what the folly could produce fit well with the conceptual project of our office. We defined parameters — both formal and social — and made catalogs of types. From these, we became interested in domes that are turned sideways and connected in a bent line. They are still structural, but counter to their local lines of force (from oculus to shell to vault), they are self-supporting as an aggregation of connected domes. We made several full-scale prototypes to study aesthetics and structural performance.

With structural analysis, these become part of a larger live load study of the impact of lateral winds and human interaction. Our consultants at Buro Happold were great at dialing in offsets, material thicknesses, and maximum spans. One
necessary concession is the steel posts to keep it in place — the folly would stand on its own as a monocoque system, but would be blown about by the wind.

Goldstone: It seems like your primary focus with Torqueing Spheres is a material investigation that (in its most reduced definition) manipulates planar sheets into curved forms. What’s your interest in this formal manipulation?

IK Studio: We discovered that cold-bending plywood produces several physical and mechanical results. The first is that the resultant geometry is not conic, as produced in isotropic materials like film or plastic sheets, and is therefore not easily digitally simulated because bent plywood has double curvature due to the cross-grain in the ply. Secondly, cold-bent plywood is exceptionally strong due to its stressed and rigid surface when locked in place. Finally, because of the way in which it is produced (veneers are cut parallel to the pith of the log), plywood that is cold-bent will continue to bend in the same direction when
exposed to water vapor. This is a very interesting phenomenon called a compliant mechanism, which causes the domes to contract over the hours of a humid day.

More importantly, wood is supple and soft and a material that people react to warmly. In this formation, of a dome with an oculus, the wood frames views and bounces sound. At the opening we saw adults and children peering through (and sometimes climbing over) *Torqueing Spheres* as well as testing the echoes. The spheres are very deep and the space within each shell is volumetric, although we removed our initial idea to have benches inside. In the overall configuration, the spaces follow an inside–outside line that looks outward to the river and inward to the park and the other artworks.

**Goldstone:** Tell me about IK Studio. What defines your practice? I’m especially interested in the timeline and history of your studio. You are husband and wife, academics, and architects — which “practice” came first?

**IK Studio:** Great question. We draw careful
distinctions in our respective domains that we periodically check for accuracy and direction. IK Studio officially started in 2012, the year we received our Green Cards. Before that we were full-time faculty and researchers, Mariana at Harvard University and Simon at the University of Pennsylvania. We worked in different countries for several years, for both others and for ourselves, before coming to the United States.

What we do in our practice and academia is a parallel arrangement of research at the highest
institutional levels. These findings and initiatives are then substantiated as architecture and made public by our design practice. Then projects in the office are continually reflected back to the lab and academies, which has proven to be an effective engagement.

Goldstone: You referenced research as the bridge between your teaching and practice. What is the subject or emphasis of your research?

IK Studio: The Immersive is what we are calling
our research agenda and conceptual project. We promote an activated urbanism and architecture that can no longer be critically distinguished as subject and object: we are immersed and engaged in environments where other, nonhuman agencies have equal authorship. We continue the provocative work of New York’s E.A.T., the Architecture Machine Group (before it became M.I.T’s current Media Lab), and others like Cedric Price and Hans Hollein. The work they were producing was so future-forward that it still resonates today. But what has changed is that all the electromechanical componentry that was largely unavailable then is freely accessible now.

*Torqueing Spheres* is an important milestone for us. It is also our first foray into large-scale compliant mechanisms that are bio-actuated — the wood bends without electrical current and in response to meteorological conditions, like temperature and humidity. We’ve worked with shape-memory alloy and polymers, as well as soft robotics, but this folly is the largest and most robust.
Goldstone: I’ve heard you mention that this process of bending planar material is only possible through an analog investigation and that there are (currently) no methods to digitally simulate this process. How does this impact the working process?

IK Studio: This is the big divide of analog from digital. It is not possible for material properties to be computer simulated in high fidelity. The qualities of any matter — its grain, internal stresses, atomic structure — change from piece to piece. Annealed glass is different from float and tempered steel from case-hardened. An organic material like wood is no different. Each tree grows differently and won’t be the same as another, even if of the same species. But enough similarity is there to allow for some predictive modeling; otherwise we would all need to be highly trained crafts people working intimately and at small-scale. There is no “bent plywood module” in software like CATIA, however, so we worked digitally in ideal geometries and then tested in full-size mock-ups.
Goldstone: Which architects or artists informed your thinking for *Torqueing Spheres*? Buckminster Fuller’s geodesic domes come to mind, and I’ve heard you mention Frank Gehry. Any others? And if so, how do they shape your processes and investigations?

**IK Studio:** For modern domes, we looked at Buckminster Fuller and saw that he had patented a self-strutted “plydome.” The panels are largely rectangular but follow icosahedron logic, getting joined where they overlap. That didn’t really appeal for what we wanted to achieve. For us, immediate influences are the people with whom we’ve worked: Zaha Hadid, Frank Gehry, and Cecil Balmond. Their creativity-with-rigor is something we apply to our practice.

Goldstone: “Creativity-with-rigor.” I like that. So lastly, what’s next for IK Studio? What projects or experimentations are you looking forward to?

**IK Studio:** We are getting busier! We’re engaged in some National Science Foundation-funded
research work and at the building scale we have several projects underway — a church, a day care, and a tree house.

In June we completed an installation at Boston’s BSA Space where we made a room within a wall as part of a larger exhibition called *Bigger than a Breadbox, Smaller than a Building*. We are also pleased to tell you that a public art organizer saw *Torqueing Spheres* and invited us to be part of The Lawn on D summer programming in Boston. There’s also a larger group of pop-up objects and spaces we are developing for the Beakerhead Festival in Calgary.

*Goldstone: That all sounds exciting and seems to operate within the investigatory realm that Folly encourages — between sculpture, architecture, and public art. Thank you for your contribution to the program.*
DYNAMIC MEDIUMS:
THE DESIGN AND FABRICATION OF TORQUEING SPHERES

In conversation with Anne Rieselbach and Varick Shute of The Architectural League
Torqueing Spheres by IK Studio explores the structural integrity and material performance of cold-bent plywood and the process of off-site fabrication.

The following photo essay and discussion between The Architectural League’s Anne Rieselbach and Varick Shute and IK Studio’s Mariana Ibañez and Simon Kim details the material and tectonic qualities of their Folly.
Mariana Ibañez: Viewed from a distance, *Torqueing Spheres* is a winding form that shifts in and out of place — a sequence of domes, or monocoques, split in half. There’s a moment as you approach when it looks like a straight wall; as you get closer you realize it turns. The piece can be seen from both sides. Our idea was that one side creates an interior space, or something that could be perceived as an interior, while the other is more of a wall.

Early sketches on material curvature
Simon Kim: We were inspired by domes and, in particular, their strange corollary geometry called pendentives. They are the areas where a circular dome meets vaults. Our core question was how to torque a sinusoidal line, or sine wave, through two straight lines.

Mariana Ibañez: The parameters we were looking at are form, material performance, and structural performance. In general, we are interested in dynamic mediums or mediums that somehow are active.

Developing the curvature through an early prototype using craft veneer
We created a gradient, or an ascending sequence, in the size of the domes. We were trying to figure out how the geometry is resolved through the same pieces as they grow taller, from child-sized to adult. Each piece needed to transform to match to the piece next to it, so the inner, painted layer repeats and remains constant, while the outer, natural birch wood layer always changes in reaction to moisture content and temperature.

One of many computer models illustrates the geometry of the ascending sequence of domes.
MATERIALITY

Simon Kim: *Torqueing Spheres* is part of a longer material study that we’ve been doing on a method called cold-bending. This is the third time that we’ve bent with some success: we previously used the process for pieces in Toronto and Calgary.

We used 5-ply Baltic birch plywood. In hot bending, you steam wood and then clamp it into a form, locking it into place. But with cold-bending, you bend the material as is and then mechanically fasten it so that the stress in the material creates structural integrity. The wood is in tension the entire time — it wants to fly apart, but it’s fixed and therefore rigid. It can support a massive amount of weight, far more than if it were just laying planar.

Through this process we learned that there are two variables in cold-bending: the thickness of the material and the size of the hole that you must void out of the center. When we scaled up to thicker material, that hole became more and more important — its size influences how
much the wood will bend, so moving between crescent-shaped holes and stretched-out ovoids determines what the radii of the bent piece will be.

**Mariana Ibañez:** So our panelization strategies related to the material properties and the assembly of ply. The third variable was the direction of the wood grain. We broke a lot of pieces just because the grain put up a lot of resistance. When we tried the first mock-ups, we discovered that for bigger pieces, at 1:1 scale, the
Simon and Mariana test the structural integrity of the cold-bent plywood
grain didn’t matter so much; it’s more relevant for smaller ones.

In the end, what determined the size of the biggest dome was the largest standard sheet of plywood that could make a panel for the dome, and the size of the mill bed. In this case, because of the size of the piece, we could not go thinner than 5-ply. But when you do models with cardboard or veneer, of which we made many, you can have a lot more holes and bend these things an incredible number of times.

Simon Kim: The craft veneer we used for the smaller prototypes only comes in 3-ply, which offers less resistance, whereas at 5-ply, there’s a kind of isotropism or evenness to the material. We looked into marine-grade plywood and something called Wacky Wood, where all the veneers run in the same direction, but they offered little to no resistance.

A key property of wood, as a compliant mechanism, is that it can open and close forever. Wood doesn’t experience fatigue like metal; it’s not going to open and close a few times and then
Above: Mariana works with another member of the design team on an iteration of the dome’s structure
Below: A chipboard prototype to test the curvature
break along the crease.

**Mariana Ibañez:** Some of our formal discoveries apply to other sheet materials as well. Our piece in Calgary, for example, was in aluminum. We sometimes worry we will be seen as “the plywood people.” What is of particular interest to us is how material adheres, or conforms, to a formal principle.

**Simon Kim:** Mariana is raising an important point: we are not in love with plywood per se.
Our core interest lies in how to formally create curvature out of planar material, which is not exclusive to plywood.

PROTOTYPING

Simon Kim: We made a lot of digital models in parallel with our material studies. Mariana can show you an office full of broken small plywood prototypes. Through trial and error we found the best strategy for creating that aperture.

Mariana Ibañez: These kinds of projects are a learning from Buckminster Fuller
great opportunity to test things. We tried pure circles of many different sizes, and then we tested less symmetrical cuts with the circles. Basically we would take a piece of any flat material, lay a grid on it, and measure. We could translate those measurements into the computer, but the bending is actually much more difficult so we don’t have an exact digital model of anything. We are trying to create an intelligence that we can use, to learn how we might simulate this next time. And most of that comes through physical modeling and prototyping. We made some double-curved panels, with two circles within the same panel — one moving in one direction, and one in the other. We didn’t end up using those here, but now it’s part of a kind of a catalog.

**Simon Kim:** Our desire was to systematize the fabrication of these domes and build a body of knowledge about cold-bending — not just cut things and hope they stayed upright. Ad hoc or empirical discoveries should become disciplinary articles of knowledge, to be scaled or repeated in series.
Above: Testing the compliant mechanisms in a prototype
Below: The rubber gaskets between the plywood layers help to transfer loads
STRUCTURE

Mariana Ibañez: The domes are structural; they are self-supportive monocoques. The way that the layering works, the rubber gaskets distribute some of the load between the domes, so the whole piece is not just elements hanging from columns, but a structure that transfers loads all throughout the surface.

Simon Kim: It becomes structural through cold-bending; it would stand up without those posts. The posts keep it from being picked up and moved. Having said that, in the past weeks the wind, rain, and visitors would have surely relocated *Torqueing Spheres* into the East River. Buro Happold NY was an important resource for right sizing the steel posts by determining the lateral loads and live loads of “vigorous” human play.

Mariana Ibañez: The technique that we used was an extension of our research. We started looking at Buckminster Fuller, who patented a particular method called self-strutted plydomes. There is an organization that underlies every
geodesic dome he did, a rigor that maintains an underlying principle whether it scales up or scales down. He also worked with plywood domes at about the same scale as *Torqueing Spheres*, although we aren’t trying to ape Fuller; his panels follow an icosahedron logic, which does not work along the curvature we wanted.

**DESIGN DEVELOPMENT**

**Simon Kim:** There were some pragmatic issues that made us decide to shift to a more open form; in our kick-off meeting we were advised not to have benches within the domes. But in terms of the formal language, it’s exactly the same plan. Originally, one part was plywood and one part was polypropylene, but the polypropylene was not as strong as we thought it would be and we did not want to sacrifice quality of construction and durability.

When it came to finalizing the design, there was a lot of this basketball-type paneling that happened simply because of the way we were 3D modeling at the time. We wanted to unify the strategy for bending and not make it just
pure figuration. We worked to make a systematic dome or shell, in which each piece is elegantly formed.

**Mariana Ibañez:** Changes often occur from competition to construction phase in development with clients. We were in constant contact with Socrates during the project and its evolution. Because we are the ones engaged in the process, we are so close to it that at some point we didn’t even feel that was such a huge

The original design for *Torqueing Spheres*, from the winning competition submission
change — the resolution of the panelization was the big impact. Once we had our scale model finished, we started understanding the strategy for the panels as repeating the same form but producing a very different effect.

One of the things that we liked a lot in the translation between the images that we presented for the competition and the actual piece was that in developing a strategy for mechanically bending the wood, holes and slots were introduced that created a collection of

The final scale model for *Torqueing Spheres*
windows not found in the original piece. The porosity allows you to see the trees and the river in the background, which serves to both connect and disconnect you from the surroundings.

One element from the competition scheme that I really wish we could have included is the second sphere on top. I think the jump in scale was pretty dramatic, and I wanted to experience that. We were imagining what the shadow would be like there. Technically we know how to produce the dome — in terms of its curvature,
the layering, and attachment from one dome to the other dome — but we felt it was a safety issue.

FABRICATION

Mariana Ibañez: This project falls more under the category of fabricate rather than cutting and building piecemeal on site; it was a lot of assembly of pieces. It was growing in different places before anything was visible on site; the construction process started long before we

A stack of the final plywood leaves, before being trucked to Socrates Sculpture Park
started installing on site.

**Simon Kim:** I would say 75% of this project consisted of design research and development that we did in Philadelphia and at Harvard. Once we could predictably guarantee that we were going to have the same results, we sent the cut files to a local fabricator, who then sent the cut materials to the site. Once at the site we just did what we already knew was going to work.

**Mariana Ibañez:** Architecture is always preoccupied with the question of how to build — how much work needs to happen on site, how much can be premade, and what technologies can aid that. Certainly we are part of a community that engages the design and fabrication interface.

**INSTALLATION**

**Simon Kim:** The Folly competition includes a residency at Socrates, so we embraced that and worked outdoors in the sun, with the elements, and all that entails. Things get dirty really fast, but we weren’t trying to keep it pristine.
The shed at Socrates Sculpture Park where the plywood leaves were bent and fastened into domes
There’s also some imprecision. If you are in a lab space like we have at school, you can have the inner layer and the outer layer perfectly match, because you assemble them in a clean room where you fold it as needed. When you are outdoors, you are really just trying your best to get things to line up and put the bolts through.

**Mariana Ibañez:** The piece is outside. I think as architects we tend to be very precious about these things — even the way we treat our models in the office, carefully sanding and dusting them. Well, the model might stay cleaner than the actual installation.

We wondered how the public would engage with this thing. We imagined some people would just look at it like a sculpture, and then you have the children, dogs, and curious people of the world. Today I saw a footprint on one of the domes. Maybe that’s what it is about — this whole thing will end up disappearing in the park with stains of all sorts.
**NEXT STEPS**

**Simon Kim:** The first goal is to write a research paper on cold-bending plywood for doubly curved shells, its structural performance, and how to digitally simulate that. Right now, there is no software tool to design and assess how wood bends and holds its shape and what kind of forces can be applied. And there is no physics engine in the computer that can do it.

**Mariana Ibañez:** In thinking about potential or future applications, there are many questions: could we get other materials to behave like this? How much can we push the issue of scale — can we build things that are really big? Can we build permanent structures with this strategy, or is it something that has to be temporary or reserved for interiors?

For this piece, all the plywood was the same thickness. Before building, we were wondering if the smaller domes could be thinner, because obviously the wood puts up a lot more resistance when bent into smaller pieces. So, we’d like to try going from the thinnest material to the
thickest material available. This would allow different curvatures: from super curvilinear, almost like a closed figure, to something that will have a minimal, shallow arch.

A lot of our work is about the relationship between analog phenomena and digital phenomena and the transfer from one to the other. Perhaps we can figure out ways to model these properly in our digital environment and at some point create our own tools to measure the behaviors that we were not able to with this. We had to build everything to understand how it worked.
A stack of finished plywood domes
Above: Mixing concrete for the support footings  
Below: Trimming the bolts
Above: Carting the largest dome down the path for installation
Below: Three of eight domes installed
THE JURY
The 2015 Folly winner, *Torqueing Spheres*, was selected from 126 submissions from around the world, reviewed by a jury of five esteemed architects, artists, and arts professionals:

David Benjamin, Architect  
The Living  
thelivingnewyork.com

Leslie Gill, Architect  
lesliegill.com

John Hatfield, Executive Director  
Socrates Sculpture Park  
socratessculpturepark.org

Sheila Kennedy, Architect  
Kennedy & Violich Architecture  
kvarch.net

Alyson Shotz, Artist  
alysonshotz.com
NOTABLE ENTRIES

Complied by Sophie Elias, Project Assistant
The Architectural League
Many of this year’s Folly entrants took the competition as an invitation to explore the relationship between the natural and the man-made, design for movement and social interaction, sensory perception of place, and kitsch nostalgia. Others explored formal concerns with passive technology, repurposed materials, and modular systems. Each of the following notable entries demonstrates an intriguing approach to one of these themes – or, in many cases, several overlapping themes – and offers a fresh interpretation of the idea of the folly.
Local Color, Thomas Heltzel and Margaret Zyro
SENSORY PERCEPTION OF PLACE

A number of entries sought to make us notice what we normally ignore – in juror Leslie Gill’s words, taking “invisible aspects of what a site or a park could be, and making them visible or audible in a way that we can register them as part of public space.” In *Local Color*, the proposal by Thomas Heltzel and Margaret Zyro of PRACTICE, visitors’ footsteps document patterns of movement through a maze-like wooden structure wrapped in walls of translucent mesh fabric. Brightly colored gravel is initially sorted by hue within the structure’s 3x3 grid, but mixes over time as it’s walked through: “Moving through the thresholds of each space, visitors disturb and transform the ground-covering gravel, leaving their mark of travel and recording a collective memory of inhabitance and use.” The designers view this “open framework capable of accepting, adapting, and transforming with a continually changing population” as “an idealized representation of the city.”
Benjamin Lucraft’s _Sound Houses_ incorporates an array of weatherproof speakers, each of which emits a single, consistent tone. Informed by his research into the emotional effects of different tonal intervals, Lucraft predicts that visitors’ reactions to each sound will determine their “routes and places of settlement” within the park. For instance, visitors might congregate at the point of overlap between notes D and B, which together produce “warmth and security,” but would most likely avoid the “‘uneasy’ emotion made up by the interval between D, B, and F.”

**PASSIVE TECHNOLOGY**

The domed _Watering Hole_ pavilion, by Harrison Atelier, employs evaporative cooling to keep its occupants comfortable on hot summer days. A system of narrow-milled capillaries allows captured rainwater to flow and seep between layers of clear PET plastic, forming a “distributed cistern.” The designers bring attention to the “visual and experiential value of collecting and distributing this resource drop by drop,” and draw a parallel to the watering hole.
Above: *Sound Houses*, Benjamin Lucraft
Below: *Watering Hole*, Harrison Atelier
in the wild as “a body of water that prompts its users (predator and prey) to gather in an uneasy truce around this shared resource.”

**Ryan Enschede**’s *Star Talker* uses a heliostat to direct sunlight toward an eight-inch disco ball, creating a light effect on a stretched fabric dome meant to be viewed from below. The heliostat’s mirror and set of reflectors sit above the tree line on a radio mast stabilized by guy-wires, while a computer adjusts the heliostat’s angle throughout the day to follow the sun’s path.
Julien Leyssene’s *Merry-Go-Round*, a deceptively simple arrangement of plants and furniture, uses hidden engineering to challenge the “perception of nature and landscape as being a static experience.” Trees, shrubs, and sod are planted on top of five merry-go-rounds set flush with the ground, which rotate when visitors push on certain landscape elements. The project serves two groups: “people who have come specifically to observe and experience the art, and local families who use the park as a park – to picnic, to play, and to allow children to run around.”

*Merry-Go-Round*, Julien Leyssene
EXPERIMENTAL AND REPURPOSED MATERIALS

Juror David Benjamin of The Living drew attention to entries that could offer new construction techniques to the field of architecture. **Cristina Parreño** argues in her proposal for *Tectonics of Transparency: The Tower* that even as a socially functionless structure, a folly can nonetheless serve as an “architectural prototype.” Her 22-foot tower’s 800 bricks are made from stacked layers of float glass mortared with UV-curing glue. “Glass has an innate ability to withstand extraordinary compressive forces,” she writes. Structural glass therefore has the potential to create “completely new spatial experiences,” such as a view of the skyline through the tower’s walls, or a view straight down through the treads of its spiral staircase.

**Shuai Feng**’s *Gathering Sky* is made from fiber optic spray toys – brush-like bundles of translucent plastic – affixed to clear plastic panels. The toys provide an inexpensive prefabricated module whose texture catches
Above: *Tectonics of Transparency: The Tower*, Cristina Parreño
Next: *Gathering Sky*, Shuai Feng
sunlight and could be lit by LEDs at night. Feng calculates the tilt angle and placement of the structure in relation to the sun’s path such that sunlight brushes the fibers to create “a diffused lustre” every day of the year. Looking ahead to the folly’s deconstruction, Feng proposes a second life for the toys as Socrates souvenirs.

MODULAR SYSTEMS

In their proposal for Mochi, Nancy Hou and Josh de Sousa present a prototype unit made from plastic shopping bags. Using a household steam iron, they fuse stacks of bags into inflatable pockets. These units can then be fastened together with grommets to form a “thick membrane” and fitted to a scaffolding of PVC and plywood. Taking inspiration from Socrates Sculpture Park’s history as an “abandoned landfill and illegal dump-site,” the team designed Mochi to re-use 6,000 bags, or “the same amount NYC wastes every 15 seconds.”

The 360 plastic chairs that comprise Urchin, by CODA, offer both seating and shade. A first
row of chairs, staked to the ground, forms a ring around an open space. Stacks of interlocking chairs curling above the first row are lashed together with zip ties. “Urchin plays with the question of usefulness and uselessness by the manipulation of the simple chair – and consequently our perception of the chair’s functionality,” the proposal states. “Beyond this first ring, the chair becomes structural/material/formal...begging the question: is it still a chair?” CODA suggests that chairs be donated to homeless shelters around the city following the folly’s deconstruction.
NOSTALGIA AND KITSCH

In *Little Joy* and *The Enchanted Ruins*, pop aesthetics play on the nostalgia that has historically defined the architectural folly. **SPORTS Collaborative**’s idea of a folly hinges on the knickknack: “like the folly of the past, the knickknack is whimsical, delightful, and resembles something familiar and likeable but falsely and/or inaccurately portrayed.” Their proposal explores the “formal and aesthetic qualities of knickknackification” to isolate “artistic techniques of delight.” This process results in *Little Joy*, a set of teardrop-shaped plywood shelters. Each is painted in a bright, glossy color gradient on the outside and lined with reflective Mylar fringe on the interior.

**NEON**’s *Enchanted Ruins* proposal evokes a classic folly typology, “the romantic ruin,” but makes no attempt to appear authentic: “The design takes recognizable elements of the ruin and simplifies and abstracts them. The language of the Enchanted Ruin is one of erosion, structural openings and repeated elements.” Its brightly colored “stonework” shingles are
Above: *Little Joy*, SPORTS Collaborative
Below: *Enchanted Ruins*, NEON
made from flexible timber sheets, which hang on tensioned steel rope and are counterweighted so that they gently pivot when the wind blows. The result is “a magical, naturalistic movement.”

INTERACTION AND MOVEMENT

*TurnStile*, by *mcdowell espinosa*, “challenges the assumption that an architectural folly operates primarily as a visual mechanism. It is a folly you must touch, poke, pop and push.” Its rectangular volume is a “dense forest” of rotating bubble-wrapped turnstile arms; those who dare to enter “must continually swim through the pillow-scape” to make their way to the other side.

*DCPP Arquitectos* present *Openness*, which requires the visitor to travel “from a hermetic situation to an opened space.” Two of the folly’s surfaces reflect the sky: a mirrored ring around the outside of the open upper space and a pool of water in the center of the opening. The team hopes to establish the site as “a virtual link between New York City and Mexico” by hosting cross-cultural programming.
Above: *Turnstile*, mcdowellespinosa
Below: *Openness*, DCPP Arquitectos
Omphalos is a symmetrical, block-shaped folly in structural lumber designed by Bernardo Zavattini, who has a background in lighting design. Its ziggurat-style steps open up “interconnected viewports” and allow visitors to access a ladder that leads to an open upper amphitheater space.

Hammockery was inspired by traditional hammocks, which the designers at DFArquitectos admire for their “incredible design, color and functionality” and as “an arts and crafts element that has remained in our everyday life.” Pipe scaffolding forms a grid of triangle and lozenge shapes which hold up the hammocks at four different heights.

Kyle May and Seth Salcedo propose Roadblock — a 160-foot-long, 24-foot-tall wood frame clad with white gypsum wallboard. It “temporarily obstructs the view Socrates Sculpture Park had of Manhattan, forcing us to go to the water’s edge to adore the skyline.” Visitors can also walk through a narrow corridor between the folly’s walls. Visible from Manhattan across the river as well as from the entrance of the park, Roadblock
Above: Omphalos, Bernardo Zavattini
Below: Hammockery, DFAArquitectos
serves as both “a backdrop for the daily activities of the park” and “a glowing billboard for Queens.”

*Balloon Swing*, by **Jesse Lockhart-Krause**, invites interaction from children by offering them “a unique & memorable ride within the protection of the surrounding trees.” A rope swing hangs from a hot-air balloon, borrowed from the local ballooning community, which is temporarily moored in a small clearing within the park.
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THE ARCHITECTURAL LEAGUE

The Architectural League of New York nurtures excellence in architecture, design, and urbanism, and stimulates thinking and debate about the critical design and building issues of our time.

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SOCRATES SCULPTURE PARK

For nearly 30 years, Socrates Sculpture Park has been a model of public art production, community activism, and socially inspired place-making. Known for fostering experimental and visionary artworks, the park has exhibited over 1,000 artists on its five waterfront acres, providing resources to create large-scale art works on-site.

Open 365 days a year, the park also offers art-making workshops for children, teens, and adults, event-based programming, and an outdoor international film series — all free and open to the public.

The park’s existence is based on the belief that reclamation, revitalization, and creative expression are vital to the survival, humanity, and improvement of our urban environment. socratessculpturepark.org
SUPPORT & THANKS
The Exhibition Program at Socrates is supported by Bloomberg Philanthropies, Charina Endowment Fund, Mark di Suvero, Sidney E. Frank Foundation, Maxine and Stuart Frankel Foundation, Agnes Gund, Lambent Foundation, Ivana Mestrovic, Plant Specialists, Shelley and Donald Rubin, Spacetime C.C., Thomas W. Smith Foundation, and Robert and Christine Stiller.

This program is also supported, in part, by public funds from the New York State Council on the Arts, with support of Governor Andrew Cuomo and the NYS Legislature, and the NYC Department of Cultural Affairs in partnership with the City Council.

The inaugural Folly program was made possible by a generous grant from the Graham Foundation for the Advanced Studies in the Fine Arts.
Special thanks to the City of New York, Mayor Bill de Blasio, Queens Borough President Melinda Katz, City Council Speaker Melissa Mark-Viverito, Assemblywoman Catherine Nolan, and Council Members Jimmy Van Bramer and Costa Constantinides.

Socrates Sculpture Park is a New York City public park and thanks the NYC Department of Parks and Recreation, Commissioner Mitchell Silver.

*Torqueing Spheres* was designed by IK Studio: principals Mariana Ibañez and Simon Kim with support from Chris Johnson, Iman Fayyad, and Charlotte Lipschitz. Structural consulting by Gustav Fagerström and Michael Steehler of BuroHappold. Fabrication by Tietz-Baccon. Recycled material from William Blaise Dufala and RAIR Philly. With support from PennDesign and Harvard GSD.
Folly is directed jointly by Elissa Goldstone, Director of Exhibitions, Socrates Sculpture Park, and Anne Rieselbach, Program Director, The Architectural League.

Photographs, renderings, and images courtesy of IK Studio, Kordae Jatafa Henry, Jessica Liss, Emily Schmidt, Varick Shute, Dan Scofield, Michael Shorris, and Socrates Sculpture Park.

*Torqueing Spheres* was on view at Socrates Sculpture Park in Long Island City from May 17, 2015 through August 30, 2015.

Folly Catalog prepared by Elissa Goldstone, Max Gottlieb, Anne Rieselbach, Emily Schmidt, and Varick Shute.
Socrates Sculpture Park is grateful for the support of its generous and dedicated Board of Directors and Staff:

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