Ralph Johnson: New Topographies

It’s been fascinating for me seeing how your work has changed over the years. It strikes me that these three projects [shown on the following pages] are much more landscape-driven than your earlier work. What is the evolution in thinking that has led you in this direction?

Ralph Johnson, FAIA: When I remember back to my work in the ’80s, I think of Midwestern-oriented work. And since then Perkins+Will has grown tremendously. We have 25 offices now, and I’m working around the world and in different contexts. All of these buildings are contextual somehow, but it’s an evolving view and I’m open to other interpretations of context than simply the literal ones. With the Coast Guard project [page 98], it was about making the building and the land into one—melting the structure into the hillside like a hill town. In the case of the Shanghai Natural History Museum [page 88], it was about scaling a very large, almost half-million-square-foot building to an existing sculpture park. And at Case Western [page 80], the building stretches out horizontally to grab three axes connecting back to different areas of campus. It was the opposite of the Shanghai project—more about increasing the scale and impact of the building.

I have always thought that a characteristic of great architects is to not only have clear ideas but to be able to follow them through. In the Shanghai project, your idea starts with a nautilus. It’s fascinating, but I can see how it could get watered down in the design process. Hopefully the idea gets better, too. But I think holding onto it is the key. You have a lot of people involved in the process when you’re doing big or public buildings. But in Shanghai, the idea of the nautilus was reinforced as we developed the circulation patterns inside the building. It became an organizing device, similar to the Guggenheim, where you go to the top and then spiral down. It continued into the evolution of the interior.

Has the composition of your teams or your process changed while doing buildings like this?

In Shanghai and at the Coast Guard, especially, we were working with really excellent landscape architects, so it was very much an integrated process—not just an appliqué at the end. And we’re developing a really good landscape practice at Perkins-Will. Working in an interdisciplinary way allows the form-making to evolve out of the landscape or sustainable ideas.

This integration of landscape and built forms goes back to early Modernism. There’s a passage in one of Le Corbusier’s early books where he fantasizes about flying over the modern city and not seeing the built structures—that it would just be green. In a way, you realize that in these works. How are your current projects continuing these ideas?

We’re doing a master plan for 4,000 units of housing around River City in Chicago, and we worked with Hoerr Schaudt Landscape Architects on integrating public open space along the river. It’s like Corb says—there is a garden level connected with bridges so that you can have a connective park in the sky. And it’s not just a private gated community; it’s trying to create connections. I’m interested in that, and in looking for other opportunities to continue exploring that idea.
Tinkham Veale University Center, Case Western Reserve University, Cleveland
Linking three districts of the Case Western Reserve University campus, this low-slung student center captures the energy of its community with long arms that reach out to passersby and green roofs that visually merge it with the landscape. The building’s angular plan responds to, and wends between, two outdoor spaces: a soccer field covering below-grade parking that could not bear added weight, and an existing sculpture garden containing several pieces by Cleveland-born architect Philip Johnson.

The building follows the flow of pedestrian circulation: A grass ramp stretches toward the nearby art museum and culminates in an outdoor amphitheater, and two-story triangular wings extend toward the engineering and science buildings and toward the liberal arts and professional schools, respectively. A second-story terrace and outdoor stair overlook the quieter sculpture garden.

Ample daylight fills the building’s glass-walled interiors. Wood-clad terraced seating overlooks the double-height lobby, connecting it to second-floor offices and meeting rooms, while another two-story space faces the amphitheater and a third wraps around a media wall.

The building is also energy efficient: a west-facing, ventilated, double-glazed wall allows views while lowering heat gain, and the green roofs insulate and reduce heat-island effects. This student center is not just on the campus, it is of the campus—it is impossible to tell where the building ends and the campus begins.
1. Lobby/Commons
2. Café
3. Multipurpose room
4. Administration
5. Lounge
6. Event space
7. Inamori Center for Ethics
8. Mather Women’s Center
Lobby with café seating
1. Green roof assembly
2. Exhaust plenum with axial fans
3. Monolithic low-iron glass
4. Steel barstock framing
5. Mechanically ventilated cavity
6. Stainless steel tensile bracing
7. Insulated low-iron glass
8. Intake plenum
Ventilated double-glazed wall
Shanghai Natural History Museum
Shanghai
Located in the heart of Shanghai, this building asks us to contemplate our relationship to nature—as a natural history museum should. Its nautilus-shaped core, representing one of the most efficient forms in nature, enables people to spiral up from the surrounding park onto the building’s extensive green roof, into the museum under its corner entry canopy, and down into a courtyard and light well, whose meandering stairs and irregular pools recall Chinese water gardens. The courtyard’s curving glass wall follows the spiral up, down, and around, shaded by a screen whose fractured pattern echoes the cracked-ice pattern of traditional latticework as well as biological cells.

From the park to the east, visitors see a vertical, planted wall with cutouts for windows and signage; the museum faces the street to the north with an undulating, geological masonry wall that recalls sedimentation and erosion. From the nearby residential towers, the rectilinear and curving form of the museum’s green roof repeats the patterns of the pathways in the neighboring Jing’an Sculpture Park.

Although much of the museum stands below grade, the spiraling light well illuminates an indoor atrium and the circulation that surrounds it. Skylights over the curving central spine through the building bring daylight deep inside, ensuring that the exhibits about nature never seem far from the natural world. And as in nature, this building handles functional complexity with simplicity and clarity, showing an evolved design mind at work.
View from north
Ralph Johnson: New Topographies

Courtyard Wall Axon and Section

1. Aluminum curtainwall
2. Aluminum-clad steel structure
3. Aluminum sunscreen
Project Credits
Project: Shanghai Natural History Museum, Shanghai
Client: Shanghai Nature Museum - Mr. Gu Jiansheng (deputy director)
Architect: Perkins+Will, Chicago - Ralph Johnson, FAIA (design principal); G. William Doerge (principal-in-charge); Grace Chen (project manager); Bryan Schabel, AIA (senior project designer); Marius Ronnett, AIA (senior project architect)
Interior Designer: Perkins+Will
United States Coast Guard Headquarters
Washington, D.C.
It takes real skill to add the 1.2-million-square-foot U.S. Coast Guard Headquarters to St. Elizabeths National Landmark campus in Washington, D.C., without detracting from that historic setting. The first phase of the Department of Homeland Security’s consolidation project, the Coast Guard’s new site slopes down 115 feet, the building stepping downhill toward the Potomac River. Green roofs make the structure disappear when seen from above.

The structure’s narrow wings and its perimeter brick walls echo the form and material of the nearby St. Elizabeths Hospital. But the cladding facing away from the campus toward the green roofs, courtyards, and views of the D.C. skyline has a much different character: glass curtainwalls, with irregular patterns of mullions and green spandrel panels that echo the foliage of the surrounding landscape.

Entered at the top of the hill—through a zinc- and stone-clad portal—the building has a bank of glass-walled elevators that connect all 10 floors. A circulation spine links this entrance to the furthest wings at the bottom of the slope, making it easy to navigate what otherwise looks like a complicated plan.

Because of the excavation required to work the massive square footage into the sloped site, the design team also had to think about water circulation to keep flooding at bay, devising a system that pumps groundwater from the foundation drains back to the aquifer. The base of the site is anchored by a pond, keeping the institution’s nautical sensibility at hand.
1. Lobby
2. Offices
3. Elevator core
4. Circulation spine
5. Terraces
Top: Main entrance at ground level, view from north

Above: Lobby interior

Opposite: View from northwest of terraces and glazed office blocks
View looking southwest over stepped volumes, terraces, and green roofs.
Project Credits
Project: United States Coast Guard Headquarters, Washington, D.C.
Client: U.S. General Services Administration

Design Architect: Perkins+Will, Chicago
  Ralph Johnson, FAIA (principal designer); Tom Mozina, AIA (senior designer); Bryan Schabel, AIA; Todd Snapp, AIA (design principals); Paul Clinch, AIA (project manager); Jane Cameron, FAIA (senior project architect); Aki Knezevic, AIA (CCC leader); Shane Mathewson (architecture team); Dennis Blual (specifications); Ian Bush, Eileen Pedersen, AIA, Michelle Malecha (exterior wall team); Michael Rafferty (central utility plant team); Cassandra Cullison, AIA (interior project manager); Lynn Goldfarb, AIA, Thomas Gregory, ASOC, AIA (interiors)

Interior Designer: HOK

Mechanical Engineer: Environmental Systems Design; Girard Engineering Systems Design; Girard Engineering; Dynalectric Co.

Structural Engineer: Thornton Tomasetti; Cagley & Associates

Electrical Engineer: Environmental Systems Design; Girard Engineering; Dynalectric Co.

Civil Engineer: William H. Gordon & Associates; Soltesz & Associates

Geotechnical Engineer: GeoConcepts Engineering; ECS

Construction Manager: AECOM

General Contractor: Clark Construction

Landscape Architect: Andropogon Associates; HOK

Lighting Designer: Horton Lees Brogden; MCLA


Vertical Transportation Consultant: John J. Urbikas & Associates

Historic Preservation Consultant: Wiss Janney Elstner Associates; Quinn Evans Architects

Child Care Consultant: Horizons Design; Michael Lindstrom Associates Architects

Fitness Consultant: WTS International

ADA Consultant: Willow Design


Acoustical/Audiovisual Consultant: Cerami & Associates; SzN Technologies

Blast Consultant: Hinman Consulting Engineers; Weidlinger Associates


Envelope Consultant: Simpson Gumpertz & Heger

Code Consultant: Arup

Elevator Consultant: Robert L. Seymour & Associates

Size: 1.2 million square feet

Cost: Withheld