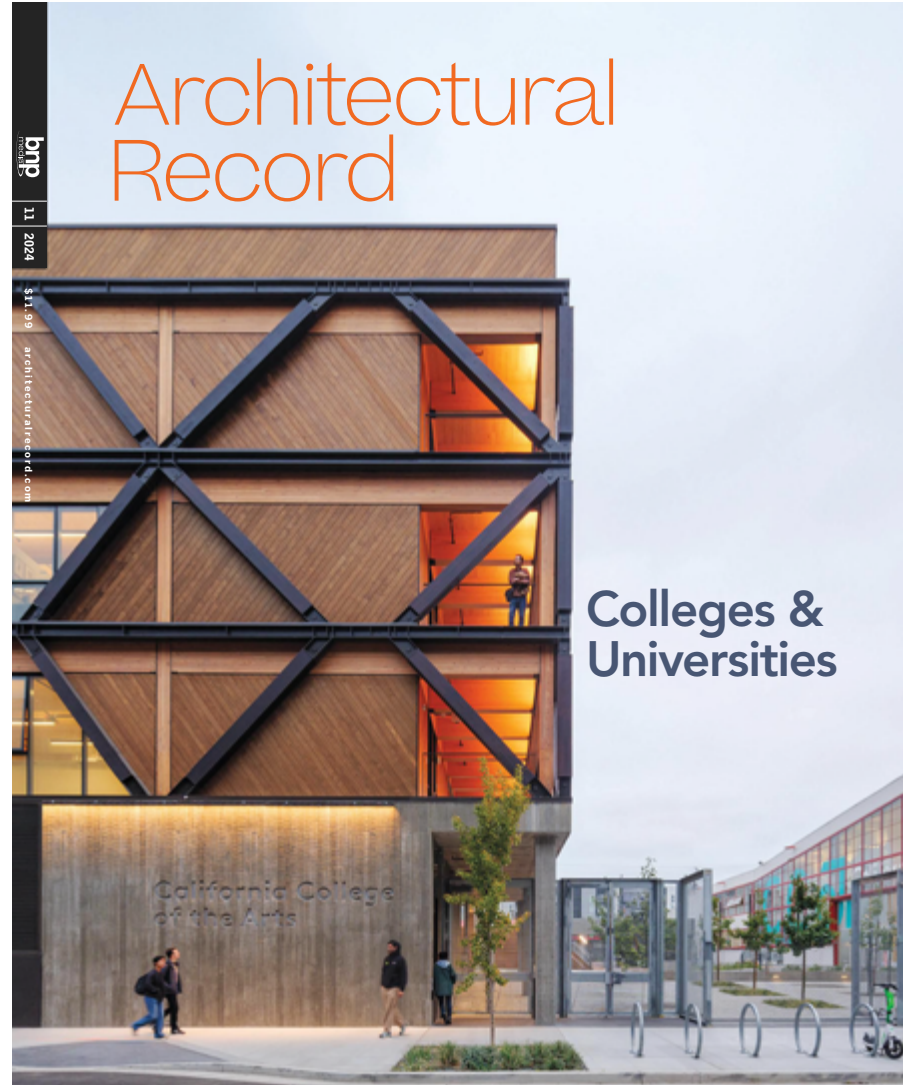






PRECISE geometry turns the building into an outdoor auditorium (this image), with gallery space for exhibitions and art worship (opposite).

SUN TOWER | YANTAI, CHINA | OPEN ARCHITECTURE

Star Power

Tracking the position of the sun, a waterfront "lighthouse" has become a local attraction.

BY DANIEL A. CIAMPAGLIA
PHOTOGRAPHY BY IMAN SAARI

DURING THE REIGN of Ming-dynasty emperor Hongwu, in 1398, a series of smoke-signal watchtowers were constructed on the hills of China's Shandong Peninsula to warn of pirates and raiders. The lookouts were called *yan tai*. More than 600 years later, in the northeastern city that takes its name from those long ago, however, a new structure has emerged—not as a deterrent but as an invitation: to nature, to education, to community.

Sun Tower, designed by Open Architecture, stands along Yantai's Bohai Bay esplanade like the weathered shell of a giant mollusk. One-hundred-sixty-four feet tall and equally wide at its base, its curved conical shape, created from poured-in-place white concrete—smooth framework outside, rougher board form

inside—seems to have had its front half sheared off. From the plaza, every layer of its cultural program is visible: a small amphitheater at the base, followed by gallery terraces, then a library, and finally, at its summit, what architects Li He and Huang Wenjing call a "phenomenon space" for meditation and reflection. The amphitheater sits inside the structure's inner shell; its outer husk is punched through with pill- and porthole-shaped openings and fixed windows. Filling the interior between them are structural switchback ramps that circulate visitors through physical and digital exhibitions, plus light tubes that capture sunlight and beam it into and out of the building. A third inverted shell, containing the library, sits atop the amphitheater shell.

Sun Tower is situated to act as a giant





NATURE is at the core, from the open-air "phenomena" space (opposite) and the rippling library ceiling (left) to the theater amplifying ocean sounds (opposite, bottom).

sonal. Shadows cast by the building fall on its circles embedded in its glass, marking the hours from 10 a.m. to 3 p.m. during the spring and summer equinox. Indeed, the site is bound together by sun and time. "The outdoor theater is oriented exactly to the sunrise of the summer solstice," Li says. "There is also a tunnel that points toward the sunset of the winter solstice. For the spring and fall equinox, it casts a shadow exactly along one line on the plans." And, with Yantai located so far east, Sun Tower is a prime spot to see the daily sunrise, and commune with the region's history of sun worship.

Work on the project began in 2020, and, when Sun Tower opened to the public this October, it became an instant landmark and social-media sensation, a building that gave a burgeoning section of Yantai a monument and identity. This was by design. The local government approached Open about building on the site in 2019, after seeing the publication of its Chapel of Sound in Chengde (see page 20, December 2020). Open was given a wide remit for approaching the site, which is bracketed by the ocean on one side and a stand of trees buffering new urban development on the other. Li remembers the client's telling them, "Make something substantial."

"It's a new district with very few cultural buildings," Huang says. "Before Sun Tower, the only thing for people to see was a sculpture of a lonely whale struck in the sand. We proposed an interesting building that also provides needed facilities." The result is a structure that's visually striking and expands Open's practice of creating performance and visual arts spaces that mediate the creativity of man and nature, like Chapel of Sound and the UCCA Dune Art Museum in Qidong (see page 20, December 2020).

The building sits on a plot about 18 feet above the beach and 33 feet above sea level, offering protection from rising waters. But, beginning in the plaza, there are constant reminders of nature. Fountains on the outer edge are timed to tidal movements; the amphitheater's rear wall exposes and amplifies the sound of the ocean. The interior galleries, which include projectors and high-definition 4K monitors, are treated as a "big data museum," Li says, that's "more digital than physical," and thus more adaptable. Except for the café, which is open

year-round, and the library, everything is cooled through natural ventilation. Eschewing air conditioning, with the global climate crisis in mind, gave the client pause. But Open sold them on the idea using analysis from the Hong Kong office of its structural engineer, Arup, posing the concept. "People should feel the weather change, and the temperature difference between seasons," Li says. "But you will not feel miserable." Sun Tower's concrete acts as an additional climate control, absorbing heat from the sun and dispersing it throughout. This is especially beneficial on colder days, as are the radiant heaters installed in the floors, just in case.

On the level above the exhibition space, the library is stacked with large touch-screen displays and texts focused on ecology. Its rippled, buckled stainless-steel ceiling, which is visible from the plaza, abstractly reflects the ocean outside. Above the library is the so-called "phenomena space," a quiet spot with a central oculus open to the elements and a bronze bowl of water that serves as another timepiece, circulating water for nine minutes on the floor, from 5 a.m. to 9 p.m., every day.

There is no one aspect of Sun Tower that dominates another, each component reinforcing and supporting the other—structurally, programatically, experientially. It's an inviting space that locals have embraced, packing the plaza for performances, playing in the fountains, and making prodromic pilgrimages to watch the sunrise. And it delivers on its brief, providing this developing section of Yantai its beacon. ■

Credits

ARCHITECT: Open Architecture — Li Hua, Huang Wangping, principals in charge; Cao Mengyang, Liu Xinyang, Gejiro Nakayama, Lu Qi, Wei Peng, Wei Zhen, Zhang Ziyao, Lin Jingnan, Crystal Kwan, Bi Shanyue, Guowen Jiang, Aosheng Maosuo, Gejiro Nakayama, Wang Dongsheng, Liu Dandan, Tang Jianxin, project team

ARCHITECT OF RECORD: Shunshun Hejian Engineering Design

ENGINEER: Arup (architectural, structural)

CONSULTANTS: Ning Field Lighting Design (lighting); Institute of Building Equipment Systems (mechanical, electrical, plumbing, fire, security, and energy)

GENERAL CONTRACTOR: China Construction Eighth Engineering Division

CLIENT: YEDA City Development Group

SIZE: 53,400 square feet

COST: \$10 million

COMPLETION DATE: September 2024

