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# Yuhu Elementary School and Community Center — Lijiang, China

Li Xiaodong

For centuries the ancient city of Lijiang in China's south-western Yunnan province has served as the cultural center for the Naxi minority group, and today it is a UNESCO World Heritage Site. Architect Li Xiaodong remembers when he first developed a fascination for the Naxi and their mountainous homeland. In 1988 a school classmate gave a slideshow on the Naxi and their distinct cultural blend of local, Chinese and Tibetan influences. However, it wasn't until 1997, as leader of a research trip from the National University of Singapore, that he was able to visit the area himself. What struck him then was how perfectly the area's fusion of local materials and technology, landscape patterns, and cultural values defined the idea of a vernacular tradition developed in harmony with place.

After that first visit, Li, a Beijing-born designer and educator, returned to his overseas teaching job in Singapore. As an advocate of the theories of critical regionalism promoted by Kenneth Frampton and Alexander Tzonis, however, he remained haunted by the idea of engaging Naxi building traditions through a project of his own. As this project took shape in his mind, he envisioned it both as research into local building practices and a means to help sustain such cultural inheritance in the face of China's rapid modernization.

Over the next several years Li promoted these ideas in correspondence with local officials, and eventually, he arranged a second trip to Lijiang in 2002. During this visit Li and a Ph.D. student conducted more focused research and began searching for a building site.

Ultimately, that search led to the village of Yuhu, 15 kilometers outside Lijiang itself. Here, Li was shown an elementary school in need of repair and expansion. His subsequent project for the school was completed in February 2004 at a cost of \$29,000 — an amount he personally raised from foundations in Singapore, friends, and local government agencies.

## Echoes of “Shangri-La”

At an elevation of some 2,760 meters, Yuhu sits at the foot of the dramatic Jade Dragon Snow Mountain. In the 1920s its cool, dry climate and dramatic scenery attracted the National Geographic writer/photographer Joseph Rock to build a house there. Rock was known as an expert on the cultures and geography of far-southwestern China, an area of towering mountains and deep river valleys that gave rise to the myth of Shangri-La.

Yuhu's great claim to outside fame was that Rock built a house there and lived in it off and on during the 1920s and 30s. Otherwise, Yuhu was, and still is, home to some 1,300 villagers, mostly farmers.

Li believes that in such places vernacular building practices often develop in a way that gives enduring form and texture to the world. Thus in Yuhu he found “an almost perfect balance between landscape and human settlement.” In fact, “one feels strongly that the culture is actually part of nature,” he explains. But Li is also well aware of just how fragile such a balance may be. And this is nowhere more evident than in other parts of rural China, where the country's opening to the outside has caused many similarly ancient dwelling patterns to be scrapped for the convenience and supposed prestige of more standardized, “modern” practices.

Clearly, the vernacular cannot solve all problems, and Li describes this problem in a statement about his Yuhu project: “Vernacular design basically repeats tradition; changes in lifestyle and production method are usually not [accounted for].” By contrast, he wanted his project to serve as a tool to “derive continuity, beyond mere repetition, by reinterpreting tradition for its sustainability within a modern context.”

For the layman, Li says, this means that as an outsider concerned with vernacular sustainability, “you have to bring something new. You have to preserve the best of the old while adding a beneficial increment of modern knowledge.”

## Three Areas of Innovation

The project itself consists of an 830-sq.m. village cultural center and school expansion — encompassing eight rooms in two buildings, a semi-enclosed exhibition space, and two courtyards. Li explains there were three areas in particular where he hoped to extend local practices in productive new directions.

The first was structural performance. Lijiang sits in a region of known earthquake hazard (the existing government-built school in Yuhu was damaged by quakes of magnitude 7.0 and 5.6 in 1996 and 1998). Village buildings have traditionally been constructed of local stone, timber and earth. But in his design for the school, Li attempted to marry local stone construction to a new method of internal steel reinforcement and a continuous concrete foundation. In addition, the stone walls in the Yuhu school are not load bearing; the roof and floors are supported on a heavy-timber frame, designed at each gable end to resemble local grain-drying racks.

A second area of innovation was spatial structure. Li

**Right:** View across existing basketball court to new school and community center. The former residence of the writer Joseph Rock is just out of sight to the right.

points out there was no local prototype for a building large enough to accommodate 160 students and village-size gatherings. The typical Naxi courtyard house was also too small and intimate to be expanded to suit this purpose. But by siting two buildings in a zigzag manner and using the rear wall of Rock's former residence as a third bounding element, Li was able to develop a new spatial vocabulary that fulfilled the need for "public" space. The design also provides all the classrooms with natural light from two sides.

Li's third area of innovation was aesthetics. Because of budget, the challenge here, he says, was "to use unprocessed local materials to produce a contemporary visual effect." In this case, local materials were limestone, cobblestone and wood.

As the project developed, supervised by two Ph.D. students from Singapore, Yeo Kang Shua and Chua Kenhua, facing stones were carefully selected and trimmed to produce straight, clearly defined edges. But a certain roughness was also encouraged, both to account for the varying

quality of local craftwork, and to create contrast with the clean, neat lines of the large new windows used for the classrooms. The overall effect was a fresh, dynamic treatment of traditional elements through exaggeration and simplification. However, within this design approach, even such dramatic elements as a self-supporting exterior stair were designed to emphasize their roots in local practices.

### Joining Worlds

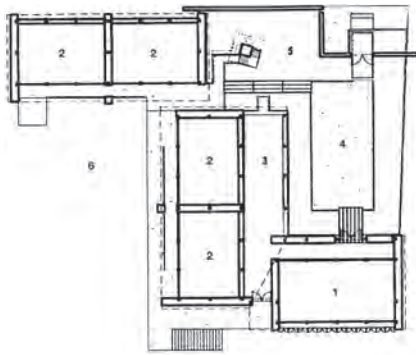
Li's goal of cultural sustainability also involved bringing students together with local villagers. He believed both groups could benefit from a project that rethought and revalued local building traditions: the villagers could benefit from the intelligence and idealism of the students, while the students could learn something of enduring design values from the villagers.

Students at the National University of Singapore were involved as researchers throughout. In addition, students in a third-year Masters workshop helped produce working drawings at the end of 2002. Many of these same students

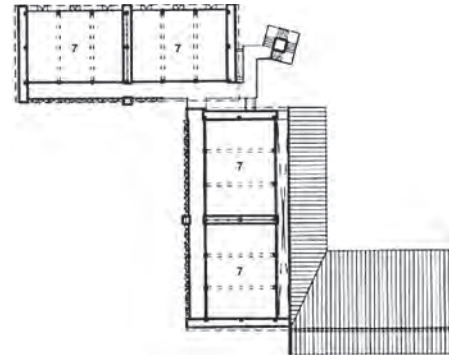








First Story Plan



Second Story Plan

were supposed to travel to the site in April and May of 2003 to help with construction, but were prevented from doing so by the Asian SARS outbreak.

Meanwhile, in the village, Li realized that his ideas would not have lasting impact unless the local population were able to reproduce them on their own. Thus, he insisted that the villagers be involved in all phases of the construction. Some ideas were more difficult than others to get across. For example, it was hard to convince villagers of the benefit of a largely invisible and expensive continuous concrete foundation. For years, shallow stone foundations had been the norm in the village, but these offer little protection against ground movement during an earthquake.

Likewise, while the entry courtyard with its reflecting pools and its semi-enclosed exhibition space may at first have seemed odd to the villagers, Li says most now feel “fresh and excited” about it. Li hopes to install daily-use objects from the village in the exhibition area. The use of water was meant both as a symbol of life and of the close relation between village culture and surrounding nature. Indeed, a complex locally developed system for channeling water to villages and fields is one of the marvels of the Lijiang region.

Reviewing the overall product, several jurors noted how Li’s building seemed at home in both the modern and traditional contexts, and embodied both great authenticity and innovation. They also observed how it would serve as a provocation to all who believe that China’s modernization must inevitably involve a cheapening of its vernacular heritage.

— *David Moffat*

**Left:** Construction of the school relied on villagers. A worker adjusts the rail on the entry courtyard’s freestanding stairway.

**Below:** View through the semi-enclosed exhibition space to the freestanding stairway in the entry court.

**Above:** The school and community center are organized in a zigzag manner around two courtyards. The entry courtyard (right) contains reflecting pools and exhibition space; the community courtyard (left) opens to the surrounding landscape. The basketball court is at the bottom. 1) Museum; 2) Classroom; 3) Exhibition Area; 4) Community courtyard; 5) Reflecting pool; 6) School courtyard; 7) Staff room.

#### JURY COMMENTS

**GASTIL** This is a sophisticated, contemporary architectural eye working very respectfully with traditional buildings systems.

**SMITH** When you go to China you see beautifully restored historic stuff and really bad contemporary architecture. You see very little of this kind of stuff.

**MISS** I think it’s great, the way it uses the traditional building methods and transforms them.

**TIMBERLAKE** I think the craft of it is extraordinary.

**SMITH** And the typology of the outdoor spaces, the way they continue to have the building defining the outdoors.

**MISS** But also it sets an important precedent that they can go ahead and build with these cheap traditional materials instead of crummy [modern] ones.

**NASAR** And to me it succeeds in [addressing] the question of design research and design outcomes.

**GRATZ** It shows how we can use local everything in an appropriate way, combine it with a modern sensibility.

**SMITH** And look at the fragility of that [staircase]. They didn’t cop out and do it in metal and weld it together. There is such an authenticity to that, but yet it’s not the totally traditional way.

**MISS** I think it is so important as a precedent to keep them from coming in and putting tin sheds up in places like this. They use materials they’ve been using for years. They’ve got them; they’re accessible. Do it, and do more of it, and do it like this.

**SMITH** And these world heritage sites, they’re really vulnerable.

**TIMBERLAKE** I was just in China eight weeks ago. I think this is an important statement coming at this point from the jury.

**GRATZ** It is a beautifully crafted design using totally local materials. It’s sustainability. It’s vernacular. It’s involving students in a time and place where just the opposite is happening. I don’t see a downside.

#### Project Credits

Architecture: Dr. Li Xiaodong (principal); Yeo Kang Shua, Chong Keng Hu, and Lee Tse Chen Stanley (designers). Team: Ong Chiew Wan (leader), Boh Tze Lan Charmaine, Chen Yunru Eunice, Chin Li Nah, Gwee Tong Mui, Lee Wan Ming, and Tay Yew.

Structural Design: D. Lim Guan Tiong (principal).

Team: Tan Jia Yee (leader), Goh Jih Huei, and Koh Xio Hui.

Landscape Design: Ng Ker Min (leader), Tan Hui Ching Janice, and Wee Hiang Yew Carl.

Quantity Survey and Cost Analysis: Yan Ruobi Esther (leader), Tang Wee Leng Adrian, and Woon Hui Ting.

Model making: Goh Yonghui and Tan Eng Khay.

Photographer: Tan Hua Jin Melvin.

Construction Team: Yeo Kang Shua (project manager), Li Mulei (site foreman), Li Xiaoyuan (head carpenter), Zhao Xuedian (head mason)