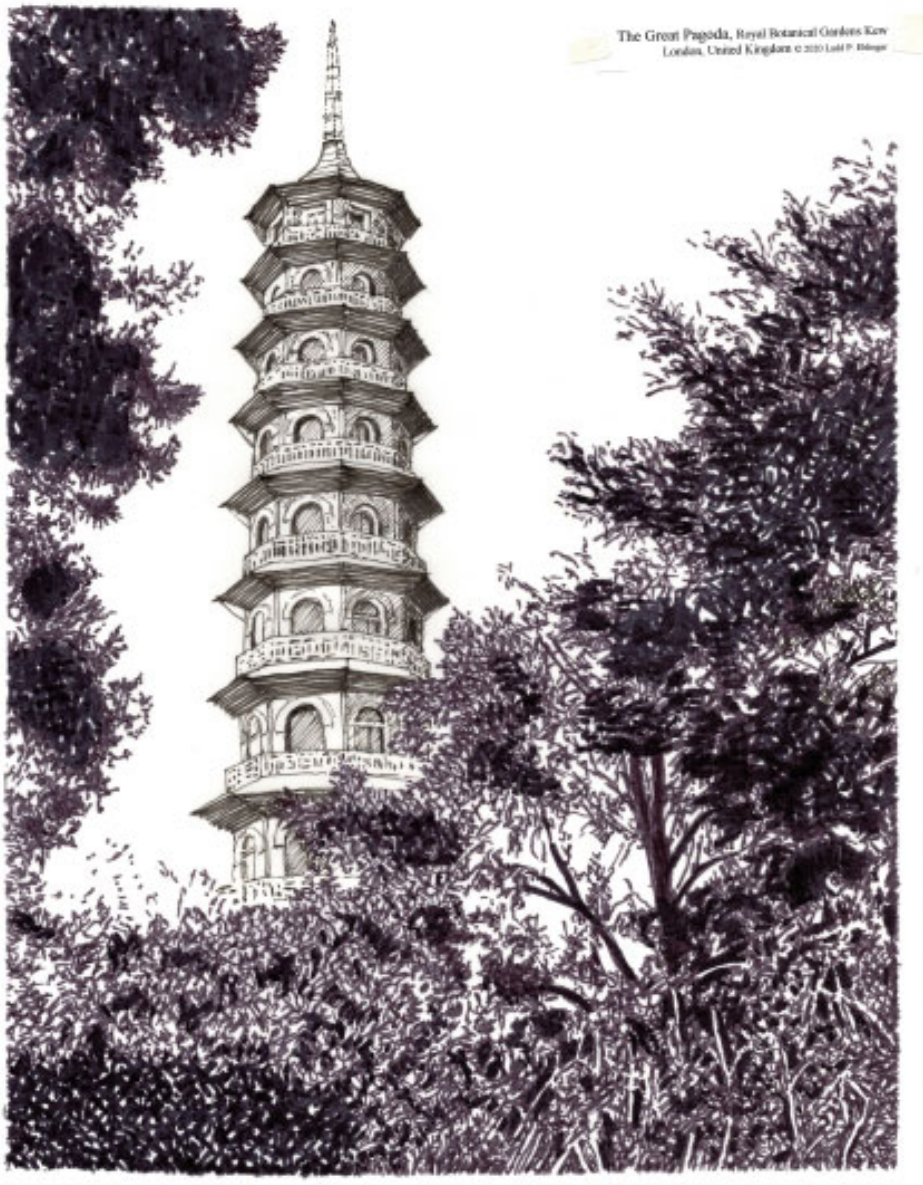
ARCHITECTURE

EHLINGER & ASSOCIATES FIRST QUARTER 2020



The Great Pagoda

The Great Pagoda at Kew Royal Botanical Gardens in London is the subject of this issue's limited edited print of a sketch by Ladd P. Ehlinger, AIA. Pagoda is a Chinese term for a Hindu or Buddhist temple or sacred building that is a multitiered tower. Pagodas are used as a depository for sacred relics and a place for contemplation. It was designed by the English architect Sir William Chambers for Princess Augusta of the royal family, founder of the botanical gardens. It was completed in 1762 - 14 years before the American Revolution! Chambers had visited China twice, and was very inspired by the Porcelain Pagoda in Nanjing, and used it as the paradigm for the Great Pagoda.

The Great pagoda is 163' tall with a climb of 253 steps. It is so tall the public at the time considered it to be unstable and likely to not be standing for very long - despite the fact that the views of London from the top story are spectacular. It is an octagon in plan, 10 stories tall. Each story is approximately one foot less in diameter than the story below it. Traditional pagodas in China were supposed to be an odd number of stories, usually 7, as in seven steps to Heaven. The Great Pagoda was originally more colorful than it is today, and had 80 iridescent painted wooden dragon sculptures at the junctures of each guardrail on each octagon level. These quickly rotted and were removed in a 1784 remediation. A current remediation conservation project underway on the Great Pagoda is replacing the dragons, and is supposed to be finished in June 2020.

The Porcelain Pagoda in Nanjing was actually taller than the Great Pagoda. It was 260 feet tall, a base octagon of about 97 feet, and had nine stories with 184 steps (which had to be rather tall risers). It was called the Porcelain Pagoda because it was constructed of multi colored glazed bricks, which made beautiful patterns on the walls, both interior and exterior. It was designed and built c. 1402-1424 as a part of the great Bao'en Temple.. It was destroyed in the Taiping civil war in 1854.

Rising Damp

E&A is currently conducting an experiment in an historic building that contrasts and compares two different methods of controlling Rising Damp in historic masonry structures. Rising damp is when ground water rises by virtue of capillary action within the masonry, usually brick, and initially dissolves the salts native to the clays and mortars comprising the masonry, and then effloresces (blooms) these salts when the water evaporates from the masonry at a higher level. This leaves a salt deposit on the surface and immediately under the surface of the masonry that can actually spall the face off the masonry. One method of control is to insert overlapping metal flashings completely through the wall by periodic saw cuts and tuck pointing, and the other method is to drill holes and inject chemicals which when cured, fill the masonry pores solid.

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Louis Sullivan's Guaranty Building

On my recent trip to Buffalo, New York, I had the pleasure of visiting the Guaranty / Prudential Building, one of Louis Sullivan's signature skyscrapers.

Completed in 1896, it was to originally be called the Taylor Building, after Hascal H. Taylor, an oil magnate, who commissioned the project. Unfortunately, Taylor passed before construction could begin, but Guaranty Construction, already contracted to build it, decided to continue it on their own. They bought the plans, and secured financing through Prudential Insurance.

As an early steel frame high rise building, the Guaranty Building is distinguished by the unique style of Louis Sullivan, the most striking being the ornamentation. Intricate floral and nature patterns were cast into terracotta, and used as cladding around the steel frame.

Architecturally, Sullivan was the first to accentuate the height of these new steel structures, using his design elements to emphasize the verticality of the building. This was a departure from the predominant Beaux Arts tradition of breaking up a building into horizontal elements. This new approach earned Sullivan the title of 'Father of the Skyscraper.'

The famous architectural quote, "Form follows Function", was coined by Louis Sullivan to describe how he encased and highlighted the steel framing of the building with his ornamentation, to accent the soaring nature of these new tall structures.

While most famous for his first building to utilize these methods, the Wainwright Building in St. Louis, the Guaranty Building is an evolution and refinement of his architectural ideals that remains to this day a masterpiece of architecture, built at the height of his career.

The most famous American Architect, Frank Lloyd Wright, was a draftsman for Louis Sullivan, and highly influenced by his work; he referred to Sullivan as "Lieber Meister". While Wright generally limited his ornamentation in comparison to Sullivan, one can easily see the influence with the decorations Wright used on housing interiors, and later with the cast concrete patterned tiles he used during his 'Mayan Phase'.

Unfortunately, Sullivan's career began to decline after the turn of the century, and he fell into alcoholism and died penniless and alone in 1924, his funeral paid for by his protegé, Wright.

The Guaranty Building, too, fell into difficult times, culminating in a fire in 1974, after which it was threatened with demolition to clear the land for new development. Thankfully, it was placed on the register of national historic places and funding was secured for renovation and restoration during the 80's. It has since been purchased by law firm Hodgson Ross, to become their headquarters, and undergone another series of renovations in the 2000's, so that it can survive at least another century.

- R. Perrin Ehlinger, AIA