

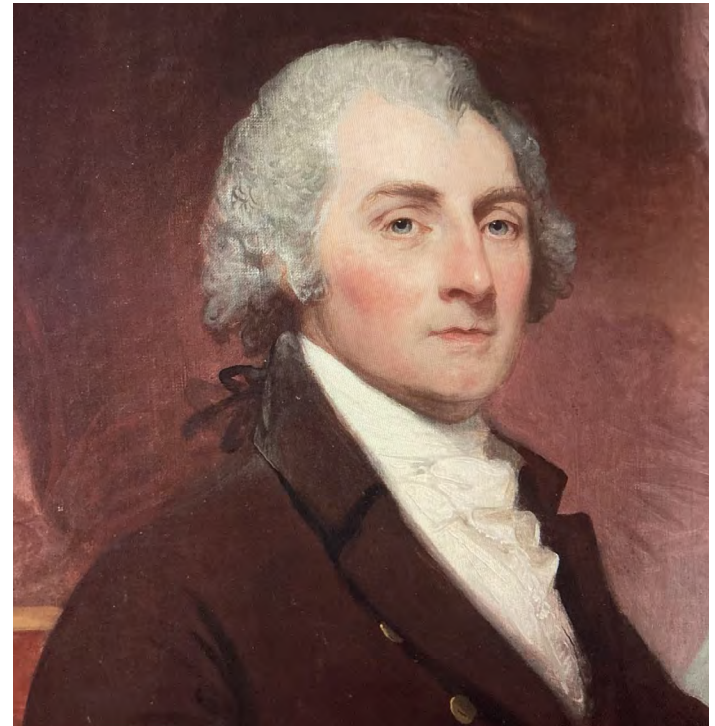
What Led American Architects of the 19th and Early 20th Centuries to Study in Paris?

A talk for the Chit Chat Club of San Francisco, April 11, 2023

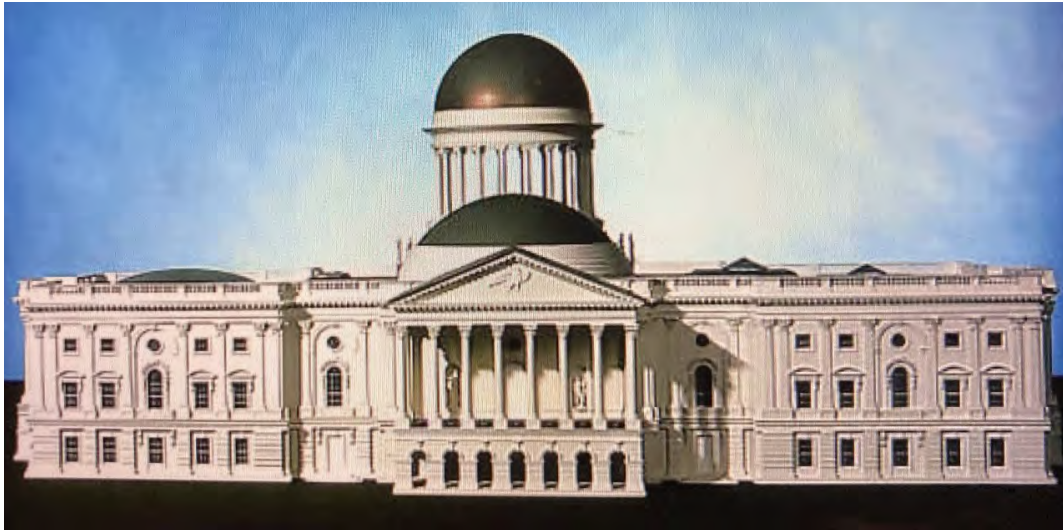
JAY TURNBULL

What causes anyone to become an architect, a role that bridges art and business? The question has fascinated me, particularly when I think of buildings raised in the period between the end of the Civil War and the early 20th century. Before that time, in the early days of the Republic and pre-revolution, designers of buildings might be scientists or persons of taste; they might find inspiration in pattern books or treatises; or they might be talented apprentices, builders or craftsmen who 'graduated' to doing larger work. But in the America of that time, there were few who could take on drawing plans and administering construction.

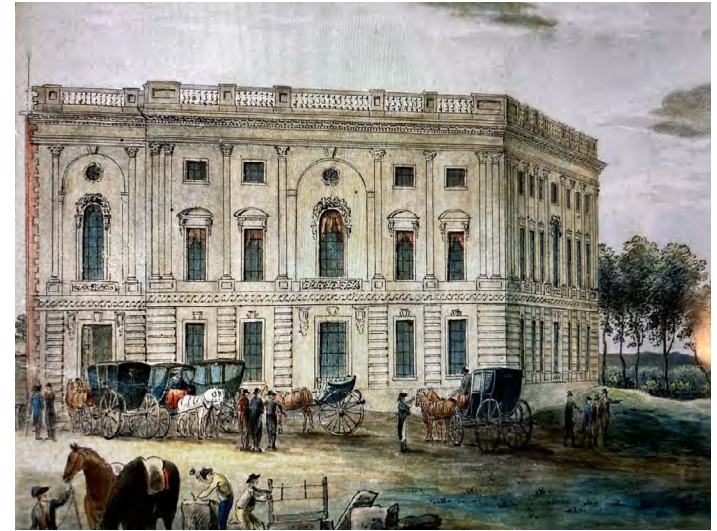
William Thornton [1759-1828], a scientist and polymath but also the first architect of the U. S. Capitol in Washington, was born in the British Virgin Islands. The heir of a wealthy Quaker family, he was sent to England at age 5 to be educated in science and medicine. He received a medical degree in 1784 at the University of Aberdeen in Scotland, but he never lost his interest in drawing and painting. He emigrated to the United States in 1786 and became an American citizen shortly afterward. He entered the competition for the design of the U. S. Capitol late, but won the commission, which was approved by President Washington in 1793. The central portion of today's Capitol is pretty much what Thornton designed, though the building was burned by the British in 1814; rebuilt with a shallow dome under **Charles Bulfinch [1763-1844]** in 1817-1829; and was enlarged with extended wings and a larger, 'fireproof' cast-iron dome built between 1850 and 1868. Of course, the Capitol has been periodically enlarged and extended ever since.



William Thornton by Gilbert Stuart. Source: www.aoc.gov.



The U.S. Capitol showing Thornton's design. Source: Ibid.



The North wing of the U.S. Capitol in 1800. Source: Ibid.

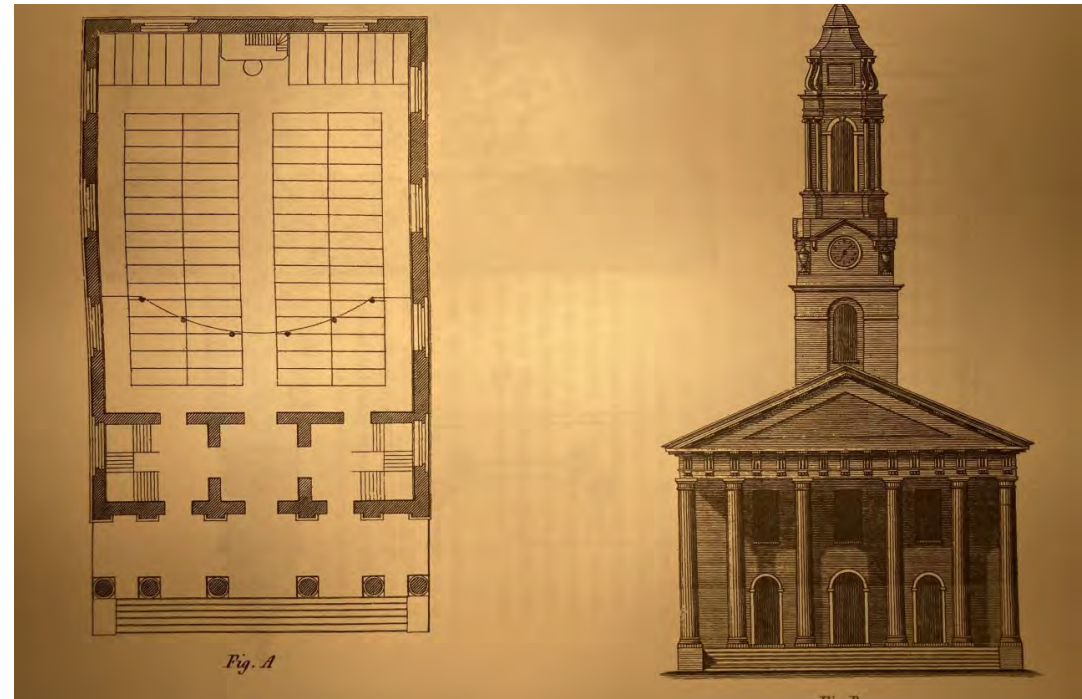


The Captol as rebuilt under Charles Bulfinch. Source: Ibid.

Another way to give oneself the title ‘architect’ was to write or follow the forms laid down in pattern books or journals. **Asher Benjamin [1773-1845]** was such a designer. He practiced mainly in Massachusetts and early in his career called himself a ‘housewright.’ His contribution to the look of the northeastern U.S., and what we now call the Federal period, lay in his production of seven handbooks aimed at actual builders and makers of buildings beginning with *The Country Builder’s Assistant* [1797] and culminating with *The Elements of Architecture* [1843]. If you wonder what gives villages in New England their cozy uniformity and familiarity, the work of Asher Benjamin is one strong reason.

There were no schools of architecture in the United States until the first program was started at M.I.T. in 1865. Harvard’s program began in 1878, Columbia’s in 1881. The pattern usually was that a course in architectural design would first be appended to a department of engineering or of mining -- before schools of architecture could appear, the growing nation needed support for transportation and commerce. For would-be architects, there were choices abroad, if you had the time and the money!

Supporting the idea of traveling to Europe was the new speed of travel. Robert Fulton put a steam engine into a boat as early as 1807; this prompted the U.S. government to build twenty or thirty armed naval steamers (including *Fultons One, Two and Three!*)



Plan and Elevation of Proposed Church by Asher Benjamin. Source: Benjamin, The American Builder’s Companion, 6th edition.

in the first half of the 19th century. In addition, private investors saw the promise of carrying mail and passengers. By 1852, ‘mail steamers’ of the American Collins and British Cunard Lines, and others, were carrying some 7,300 travelers between New York and Liverpool during that year. Time to cross the Atlantic for these ships had shrunk to fifteen days or less.

Once in Europe one could study in England or Scotland or could continue to France and the rest of the continent. The attraction of France was *l'Ecole des Beaux-Arts* in Paris. Founded in 1648 as the *Academie de peinture et sculpture* by Charles le Brun with the support of Cardinal Mazarin, the original school was combined with the *Academie d'architecture* in 1671 and the two institutions became known as a national school of fine arts. There was a period of disruption during the French revolution beginning in 1793, but the power of *l'Ecole* was reasserted under the Bourbon restoration by 1817. After student riots in the 1860s, Napoleon III issued an Act of Reorganization in 1863. The argument within the school was over Gothic vs. Classical forms; Eugene-Emmanuel Viollet-le-Duc was at the center of it.

The first American to complete studies at the *Ecole* was **Richard Morris Hunt (1827-1895)**, who began by joining the *atelier* of Hector Lefuel in Paris in 1846 while preparing for the difficult entry examinations required in architecture. The *atelier* system was a significant feature of studying at the school. Hunt remained with Lefuel during his entire time at the *Ecole*, between 1847 and 1853. Professors of architecture in the *Ecole* all operated *ateliers*, or studios, populated by students who were attempting to progress from lower level problems to upper level and final projects. The students, when not occupied helping Prof. Lefuel, learned by doing. The *atelier* provided an automatic drafting staff and constant supply of graduates, the best of whom might stay on and participate in completing building projects – as Hunt did in 1854 when he assisted Lefuel in completing a major project at the Louvre.



The U.S. Mail Steamer Arctic, 1852. Source: Stuart's Naval & Mail Steamers of the U.S.

Richard Morris Hunt, after he returned to the United States in 1856, had a significant career in designing houses for the rich, buildings for universities, mansions for the Vanderbilts [including the Biltmore estate in North Carolina], and master plans.

Let's turn now to the careers of three American architects, all graduates of the Ecole, whose work spans the years between 1870 to 1950, the years when the United States consolidated its prominent role among the nations.



Biltmore. Source: Unsplash.com, Stephanie Klepacki

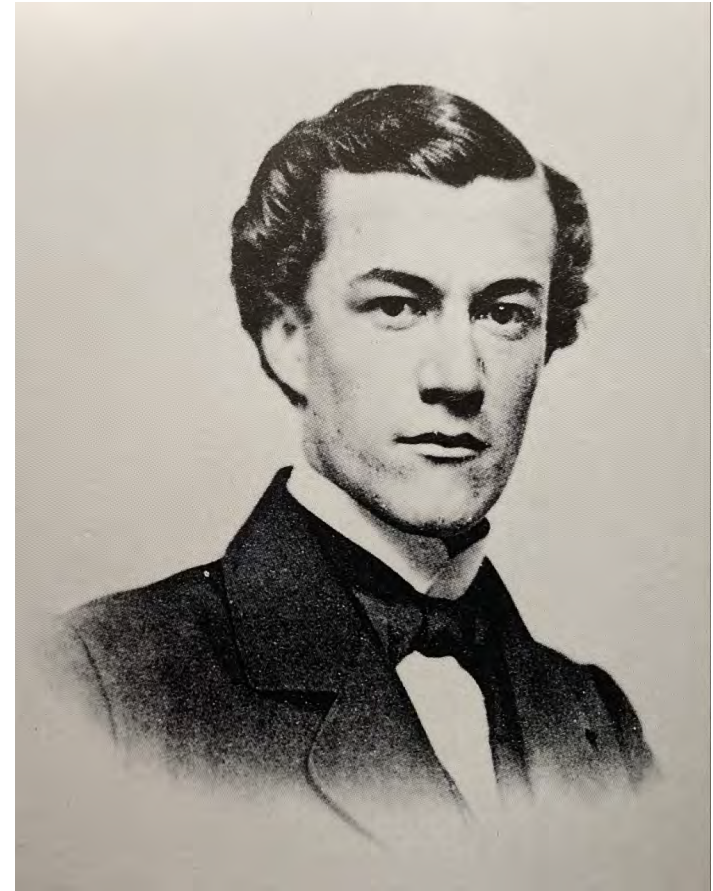


Richard Morris Hunt. Source: biltmore.com.

Henry Hobson Richardson [1838-1886], was born on a plantation near New Orleans and spent his childhood in that city. Not much is known of his early years, but in 1854 at the age of fifteen he applied to West Point and from his application and letters of recommendation we know something of his high school education, which included mathematics, Latin and Greek. He was not admitted to West Point and attended the University of Louisiana briefly. He left to attend Harvard College and did not return to the South.

Richardson sat for entrance examinations at Harvard in the fall of 1855, having crammed at a preparatory school beforehand. He passed, but never became a dedicated scholar. Harvard in those years offered a fixed course of study, many rules and daily church services. In response Richardson cut chapel whenever he could and concentrated on social life with his peers. He had money from his stepfather John Bein (his father having died) and was eminently 'clubbable'. Social clubs he joined included Hasty Pudding and Porcellian, and the campus musical club, the Pierian, where he played the flute.

Toward the end of Richardson's time at Harvard he began to think about a career, and settled on architecture, though he had never studied drawing or design. And by the end of his senior year in 1859, he became engaged to Julia Hayden, though his marriage to her did not occur until 1867.



H.H. Richardson upon Graduation from Harvard. Source: O'Gorman, Living Architecture.

The growing divisions between Southern and Northern states as the Civil War approached did not prevent Southerners from applying to Harvard, where Southern students numbered about ten percent of the student body of six hundred. As his graduation approached in 1859, Richardson felt torn between remaining in the north and returning south, but a letter from John Bein offered another possibility – that of studying architecture in Europe. Bein would stake Henry to enough money and time in Europe to learn about buildings and design.

Richardson arrived in Paris in September of 1859 and found lodging on the Left Bank. His next task lay in finding an *atelier*. He might have chosen that of Hector Lefuel, as Hunt did, but he decided to work with the younger Louis-Jules Andre. He then applied for admission to the *Ecole* but failed the extensive entrance examination – not an uncommon fate. As an applicant, or aspirant, to the school he could begin to assist in his *atelier*, study drawing, attend lectures, and plan to sit for the entrance examination the following year.



Richardson House, Staten Island, New York, 1869. Source: O’Gorman, op. cit.; Grace Church, Medford, Massachusetts, 1869. Source: Ibid.

Richardson did pass, and entered the Ecole in late 1860. Since he had no prior training, it took him two years before he passed a design problem. Complicating matters, the U.S. Civil War began in April 1861. He left for Boston that September, intending to make his way south and possibly enroll in Confederate forces. He never got to the south and returned to France in April 1862. At this point he had no money; his stepfather's agent in Liverpool had no communication with John Bein.

Between 1862 and 1864, Richardson attempted 58 problems at the Beaux-Arts school, and passed nine of them. Meanwhile, he worked in French offices to obtain money. He spent most of 1865 earning his passage to the U.S. and returned to Boston in the fall.

Richardson and the patient Julia Hayden married in 1867 and settled in Staten Island. At first in rented quarters, he and Julia persuaded her father to finance design of a private house, which took shape in 1868-69. There they lived, while Richardson took on several partnerships and searched for work. The commissions he did obtain were usually from New England and upstate New York, often from his Harvard friends. Grace Church in Medford, Massachusetts, is Henry's earliest surviving building, aside from his house, and is as English as his own house is French in character.

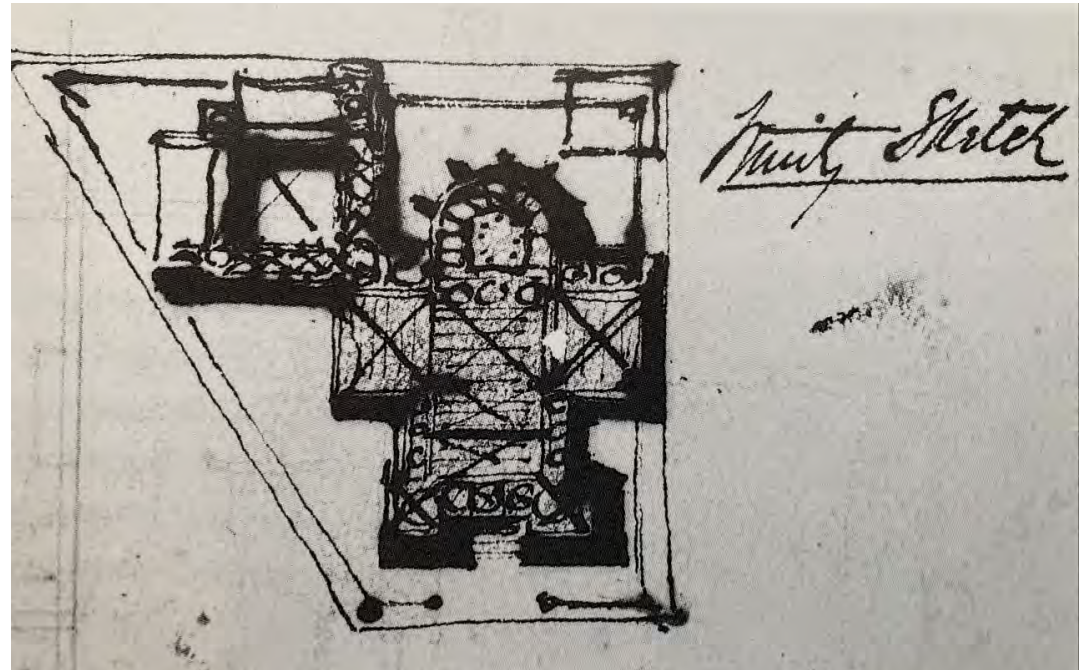


Brattle Square Church, Boston, 1875. Source: O'Gorman, op. cit.

In 1869 Richardson was asked to design the Brattle Square Church in Boston. It is the first of his designs where his own attitude about a round-arched Romanesque style is paired with more derivative French or English Gothic forms. He would shortly have a chance to create a more original expression in a religious building when he won an invited competition for Trinity Church, Boston.

The building committee of Trinity Church asked six firms, two from New York (including Richardson) and four from Boston, to compete for the design of Trinity – to be placed on a prominent lot at the east end of what would become Copley Square in newly fashionable Back Bay. The proposed building was to be the seat of a famous preacher, Phillips Brooks, who had been called from Philadelphia to Holy Trinity Church in Boston and was already known for his sermons. Program for the new church made it clear that it was to become the ideal setting for preaching the Word. It would hold 1350 worshippers. No columns were to interrupt interior space; it was to be more auditorium than traditional church in form.

No drawings by Richardson have survived from the Ecole, and in practice he never made elaborate presentation drawings, such as the Beaux-Arts school was famous for. His own sketches were direct, strong, and showed the basic idea that his draftsmen and associates would turn into measured and finished work. This sketch of Trinity has been shown again and again. It contains the germ of the entire scheme. There were six weeks only to complete the competition design. Henry's assistant Charles McKim, later a founder of McKim, Mead and White, is credited with the presentation drawings, and the young Stanford White, also on H. H.'s staff, took over the project when McKim departed.

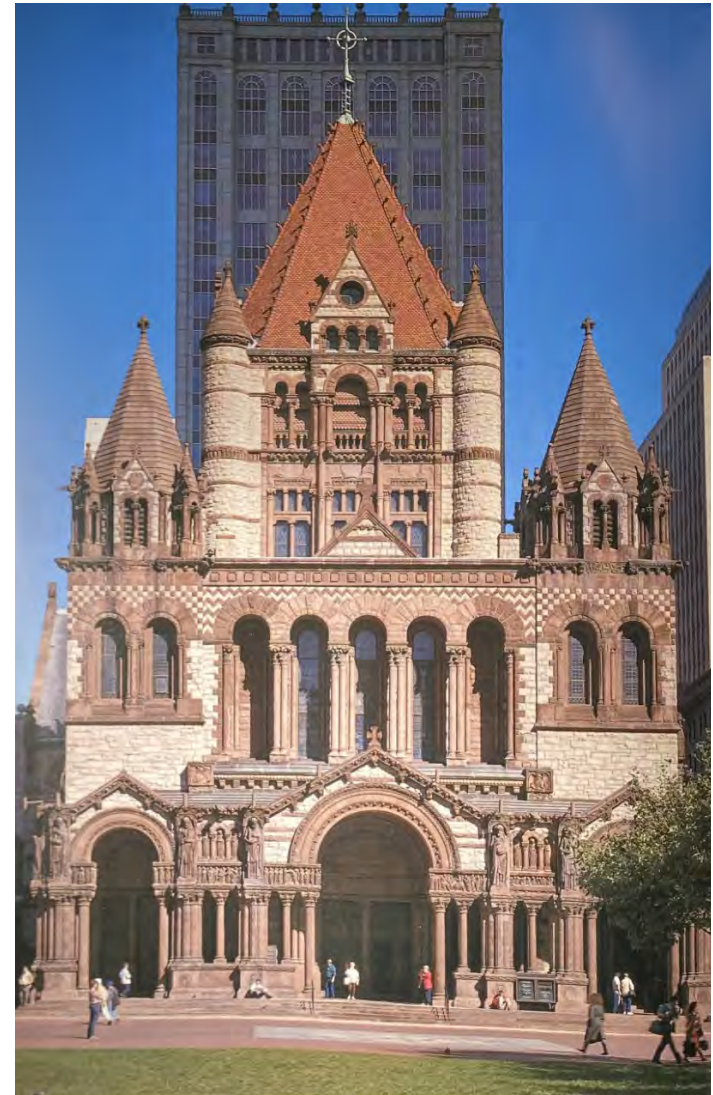


Sketch, Scheme for Trinity Church, 1872-1879. Source: O'Gorman, op. cit.

Other artists or experts who participated in the Trinity project included John LaFarge, artist, muralist and stained glass designer; Augustus St. Gaudens, sculptor; and O.W. Norcross, builder. A host of others helped. To worship there, to hear music, to consider preaching, to simply contemplate: all the details convince the visitor that here is a masterpiece.



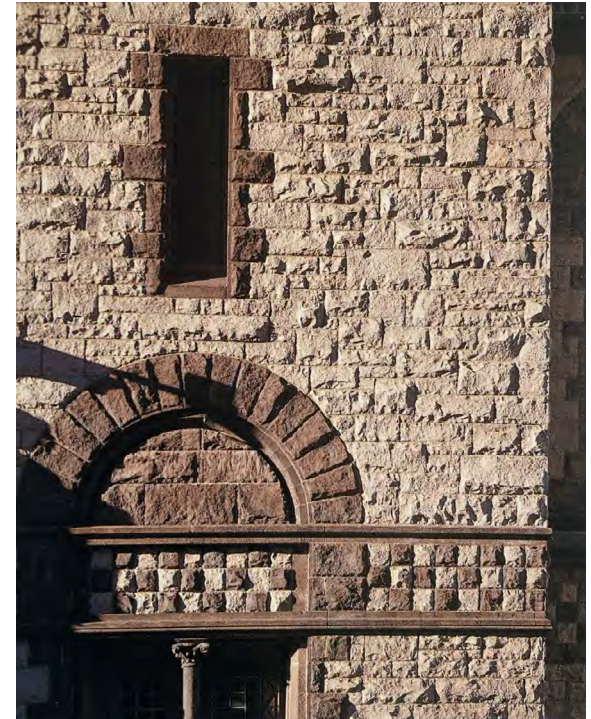
Trinity Church, Interior. Source: Ibid.



Trinity Church, West Façade. Source: O'Gorman, op. cit.



Trinity Church, Longitudinal Section, cut to show entrance, crossing, and chancel. Source: O'Gorman, ed., Selected Drawings



Trinity Church, detail of stonework. Source: O'Gorman, op. cit.

Richardson moved to Brookline in 1874 and rented a house from his Harvard classmate Edward Hooper. He lived there until his death in 1886. The house was to be his studio, his office, and home for Julia and his six children. Trinity Church made him one of the most prominent architects in the country, and his civic buildings, residences, university halls, and even the New York Capitol in Albany all attest to his genius.

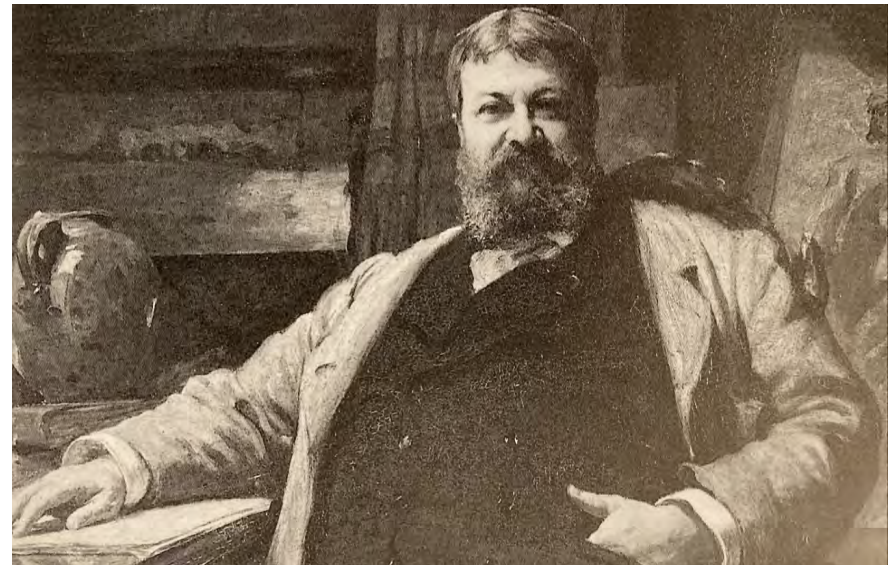
Bernard Ralph Maybeck ['Ben'] (1862-1956)

Maybeck, another graduate of l'Ecole des Beaux-Arts, said in 1927:

'Richardson heavy Romanesque' has died out. But Trinity Church in Boston is a monument to an ideal. An ideal that the Romanesque was an unfinished art and that its promise should be fulfilled in the development of the architecture of the United States.

Ben Maybeck devoted his life to just such development. He studied at the Ecole in the 1880s, nearly a generation after Richardson.

Ben came from an immigrant family headed by his father Bernhardt Maybeck, who was born in Oelde, Germany (near Hamburg) and emigrated to the U.S. in 1848 because of revolutionary unrest. Bernhardt apprenticed to a cabinetmaker on Staten Island and later worked for Pottier and Stymus, a large firm producing custom cabinet designs. He met another German immigrant, Elisa Kern, who had arrived in the U.S. with her family in 1851 and settled in Yorktown, part of upper Manhattan. Bernhardt and Elisa married in 1860 and Ben was born in 1862.



Richardson in later life. Portrait by Sir Hubert von Herkomer, 1886. Source: O'Gorman, ed., op. cit.



The architect's office in 1886. Source: Ibid.

Ben was schooled in New York's public schools, the German-American club, and the College of the City of New York. He studied language, arts and science, but his lack of interest and poor performance in science led him to follow his father and apprentice at Pottier and Stymus. Starting first in New York, he left in 1881 for Paris, where Pottier had a studio near l'Ecole des Beaux-Arts. Ben watched the students of the Ecole pushing carts filled with their drawings to the school and was taken with the elegant dress of the architects – kid gloves, silk top hats, etc. Supposedly, on the strength of that impression Ben decided to become an architect and asked his father for permission to join an atelier and enter the school of architecture.

Ben passed the entry examination to the Ecole on the first try in 1884, having joined the atelier of Louis-Jules Andre, and being fluent in French and German. This was a signal accomplishment. He completed his studies by 1886 and returned to the U.S., going to work immediately in New York for Carrere & Hastings, both Beaux-Arts graduates. The office he joined was at work on two hotels in St. Augustine, Florida, the Ponce de Leon and the Alcatraz. He supervised construction at the Ponce de Leon and the two projects gave him useful experience in large scale work. On Ben's return to New York he assessed his future and decided that he was not likely to advance to partnership with his friends, and determined to move to Kansas City, one of the economic centers of the Midwest.

Ben arrived in Kansas City during a nationwide depression, and never did join an office or do much design except for a competition for the St. Louis City Hall. His design, in partnership with Fassett and Russell, received a “special honorable mention.”



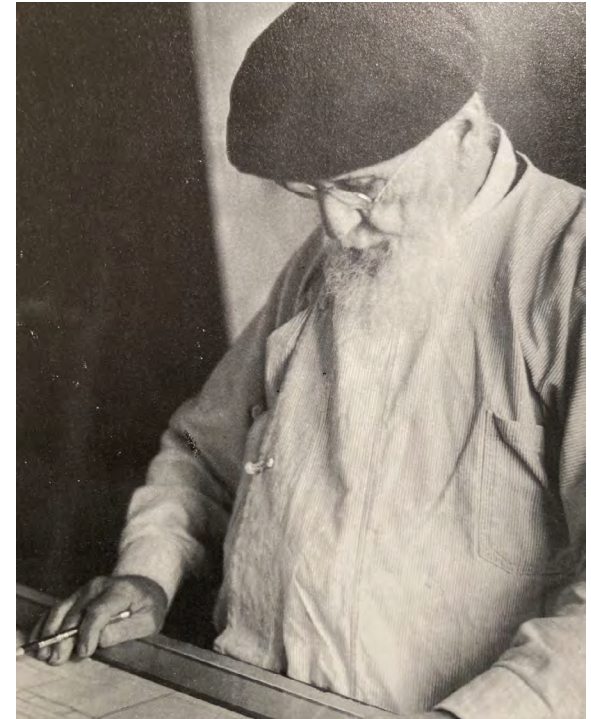
*Bernard Maybeck, instructor in descriptive geometry.
Source: Cardwell, Artisan, Architect, Artist.*

But young Maybeck met two important families in Kansas City: the Polks, whose son Willis had been to San Francisco and was ebullient over the city's promise, and the Whites, whose daughter Annie would shortly become his wife. On the strength of Willis Polk's enthusiasm, Ben traveled to San Francisco, found a job with the firm Wright & Sanders, and while supervising a W&S project in Salt Lake City, patented a design for a lady's fan. Upon return to Kansas City he assigned half the patent rights to the fan (as an engagement gift!) to Annie White, who married him in October 1890 and moved with him to San Francisco. Theirs was a 65 year marriage.

Ben and Annie bought a small house in Berkeley in 1892, when Ben finally managed to join the office of A. Page Brown, one of the most prominent in San Francisco. In the summer of 1894 he was offered a job as instructor in descriptive geometry at the University of California in the department of engineering. His life work, as a mentor and teacher of drawing, design and architecture had begun.

Never idle, Ben taught informal classes in architectural design at his house for those of his students who had a real interest in architecture. They included several who would become famous as well – John Bakewell, Arthur Brown, Jr., Lewis Hobart, Albert Landsburgh, Julia Morgan and others. Ben volunteered at the Mark Hopkins Institute of Art, forerunner of the San Francisco Art Institute, and found other instructors who would join him in the 'Architectural Section' of that school.

And he met Phoebe Apperson Hearst, widow of Senator George Hearst, whose mining fortune supplied funds for many philanthropies as well as the ambitions of their son William Randolph. One of Mrs. Hearst's houses was on the edge of the Berkeley campus; she first asked Ben Maybeck to design a reception hall where she could greet students from the University and could entertain. The result was Maybeck's first large design, the Hearst Reception Hall built next to Mrs. Hearst on Channing Way.



Bernard Maybeck in 1948 Source: Cardwell, op. cit.

Other architects in the Bay Area community weren't sure about the result, but Hearst was delighted. She now required sketches for a Mining Building that would be a memorial to her husband, Senator George Hearst. Maybeck was to choose a location on campus for this memorial. Ben demurred, suggesting that there was no current master plan for the campus, and that what was really necessary was an international competition to find the best architect in the world for the job. Mrs. Hearst, intrigued with this new idea, let the Board of Regents of the university know that she would underwrite all expenses for a competition to determine the designer of the master plan, provided Ben were excused from his course work for two years and placed in charge as professional adviser.

The competition began a period of travel for Ben and Annie, gathered a torrent of designs from architects across the world, and finally produced the Phoebe Apperson Hearst Plan for the University. Never mind that the winner of the competition, the Frenchman Emile Benard, made one visit to the Bay Area and refused to return to take up a position as member of the faculty and supervising architect of the campus. That position went to the fourth-place winner, John Galen Howard, whose firm was Howard and Cauldwell of Buffalo.

Maybeck went on to continue his teaching, to design the First Church of Christ Scientist, Berkeley in 1910, and to create the Palace of Fine Arts at the Panama Pacific International Exposition in 1914-1915. There is no question that these two relatively early works, like Trinity Church for Richardson, are masterpieces without peer. First Church stands as it was conceived, built of simple materials used creatively. The Palace of Fine Arts, though built of materials intended to be taken down once the surrounding exposition closed, survived because of its symbolic beauty, and was completely rebuilt in the 1960s, an extraordinary saga.



Hearst Reception Hall, Berkeley, California. Exterior showing porte-cochere and entrance



Interior, 1899. Source: Cauldwell, op. cit.

During his entire career, Ben produced a series of private houses that helped to define what became known as the First Bay Area Tradition and which alone would have guaranteed his place in the pantheon of American architects.



Palace of Fine Arts, Panama Pacific International Exposition, San Francisco, 1915. Two details of original construction. Source: Cardwell, op. cit.

At the end of his long and very productive life, Maybeck designed with Julia Morgan and others the campus of Principia College, Elmhurst, Illinois. This project, beginning in St. Louis and ending on bluffs overlooking the Mississippi at Elmhurst, Illinois, took up much of his energy in his last years. The recipient of honorary degrees from Mills

College in 1926 and the University of California in 1950, he was awarded the Gold Medal of the American Institute of Architects, its highest honor, in 1951. He died in 1957.



First Church of Christ Scientist, Berkeley, Entrance, 1910-1912



Palace of Fine Arts, San Francisco, present condition. Source: Turnbull



Principia College, Elsau, Illinois. Men's dormitories. Source: Hosmer, Principia College, the Historic District.

Julia Morgan [1872-1957]

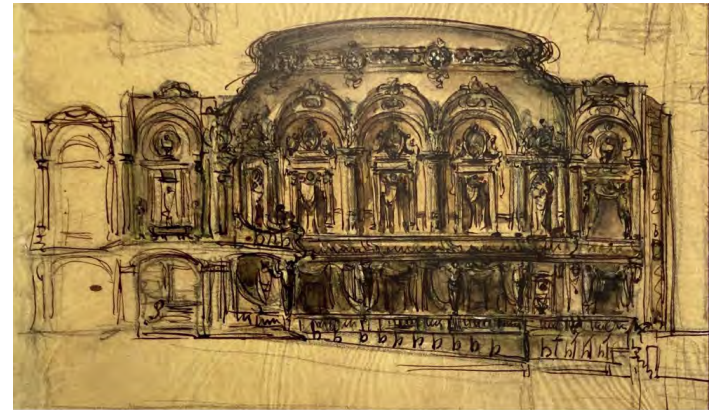
Julia Morgan, a friend and student of Ben Maybeck in his informal classes on architecture, the first female student and graduate of l'Ecole des Beaux-Arts, the first woman licensed to practice architecture in California, and the first woman recipient of the Gold Medal of the American Institute of Architects (though posthumously awarded in 2014) – is a fitting example to sum up this discussion of the influence of a French school upon American architects. She designed at least 700 buildings. She also found herself a famous example of independence and business success among women at a time when feminism was as important as it is today.

Julia was born to Charles Bill Morgan and Eliza Woodland Parmelee in 1872 and spent a comfortable childhood in Oakland. The second of five children, she was educated in public schools and attended the University of California between 1890 and 1894, majoring in civil engineering though she had already chosen to become an architect. She attended Maybeck's classes in descriptive geometry and listened to his stories about the Beaux-Arts school in Paris. When Julia heard that Ben would be managing a worldwide competition to plan the Berkeley campus, and she received his forceful advice to apply for a place at the Ecole, she determined to act. She traveled with a female classmate to Paris in 1896. She was accepted into the atelier of Marcel de Monclos. At about this time she learned that the Beaux-Arts school would be opened to 'women in architecture' in the fall. She could attend as an aspirant, but surviving the entrance exams was another matter.



Julia Morgan in her Paris apartment. Source: Kastner, Julia Morgan

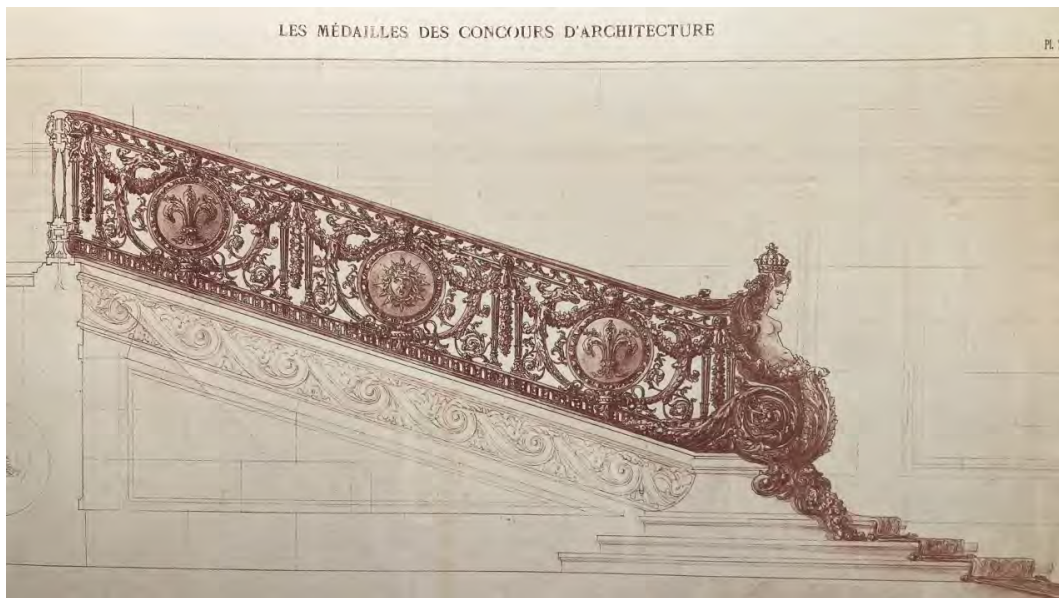
It took Julia three tries to pass entrance examinations for the *Ecole*. Not until late 1898, after her third try, was she notified that she had gained full admission. At 27, she now had less than three years to complete all the work for a *diplome*, which would only be granted to her if she completed second class and first class projects before age thirty. In those few years she accomplished much. She was admitted to a different and more sympathetic atelier (that of Francois-Benjamin Chaussemiche), was able to convince her brother Avery to join her in Paris, and found an apartment just below the Maybecks, who were in Paris to direct the competition for the University of California. She met Phoebe Hearst, who offered to underwrite the continuation of her education, which she refused. Needless to say, she managed to complete all her *Ecole* projects before her thirtieth birthday and received her *certificat*.



Shortly before her thirtieth birthday (the age at which students must leave the *Ecole*), Julia submitted this competition sketch (*esquisse*) for a theater in a palace.



Design for a theater. *Esquisse* (sketch) above; final rendered appearance below. Source: *Ibid*.



Rendered drawing of stair detail, second medal in a concours. Source: *Ibid*.

Now as colleague of the patron of her atelier, M. Chaussemiche, Julia remained in Paris until 1902 when she returned to the Bay Area. She went to work for John Galen Howard, supervising architect of the University, and rose quickly. She opened her own office on Montgomery Street in San Francisco just before the earthquake of 1906.

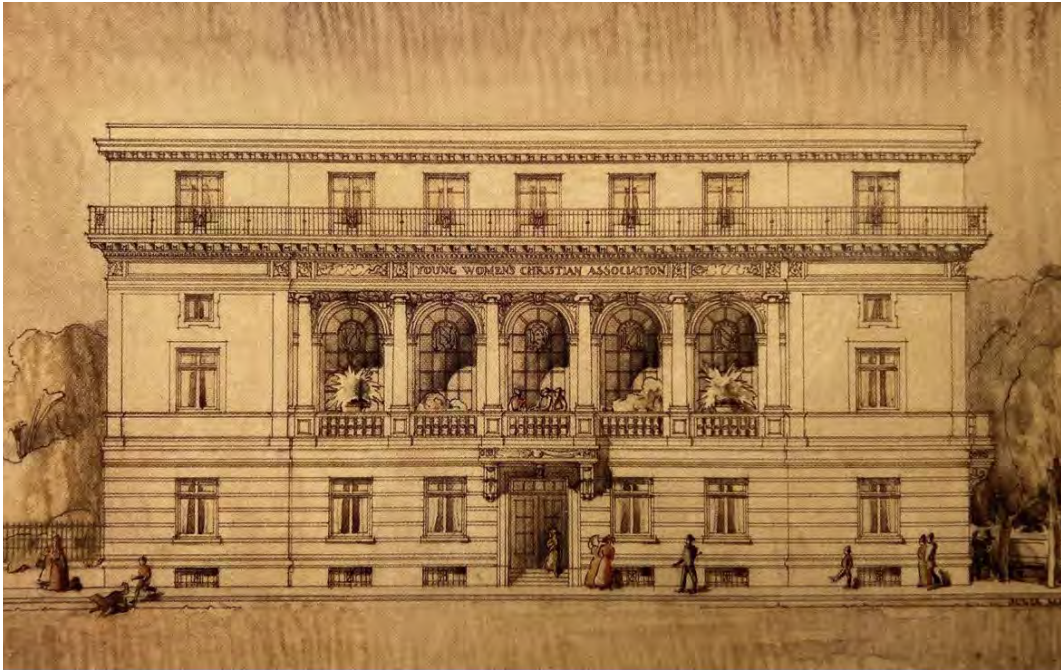
Her office was destroyed, but Julia was hired to restore the gutted interior of the Fairmont Hotel. The hotel reopened in 1907 on the one-year anniversary of the quake, on time and under budget.



The Fairmont Hotel with interior gutted. Source: Kastner, op. cit.



The Fairmont Lobby. Source: Gensler Associates.



YWCA Building, Oakland, completed 1915. Source: Kastner, op. cit.



The Office staff. Source: Ibid.



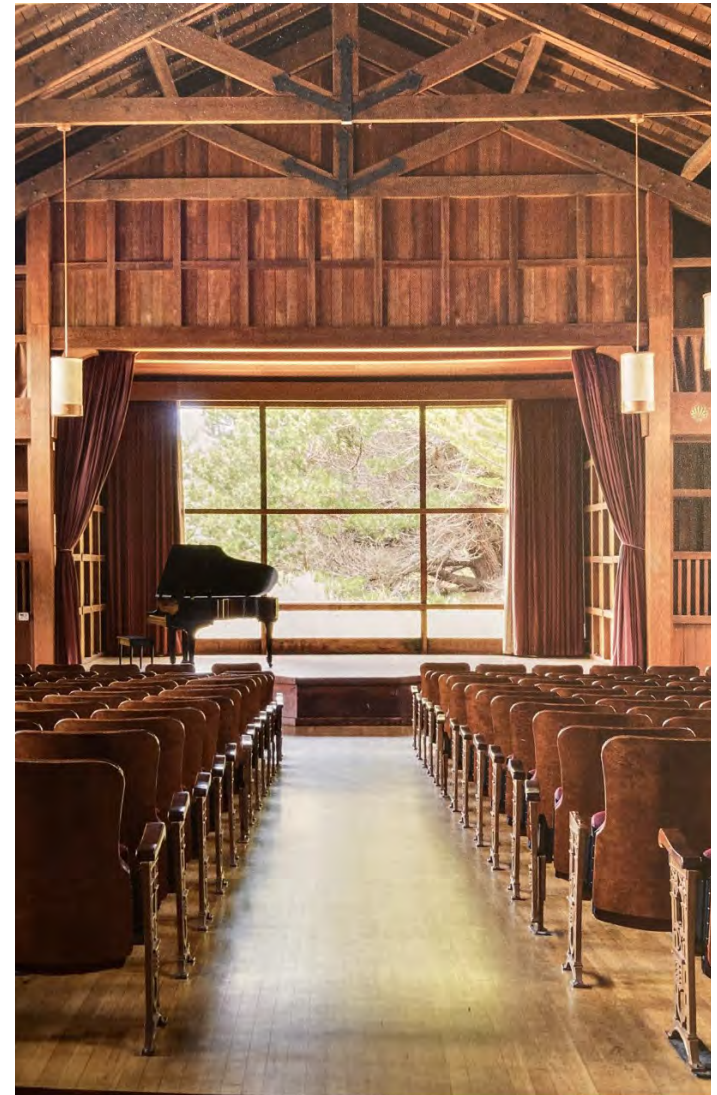
Phoebe Apperson Hearst. Source: Ibid.

In 1912 Julia attended the spring pageant at the University of California in which 400 girls danced in *Parthenia, A Masque of Maidenhood*. There she met Mrs. Hearst again and was hired to design a camp on the Hearst property in Pleasanton for the YWCA's annual convention. This began a decades long association with the Young Women's Christian Association that resulted in many distinguished buildings. The first of these, in Oakland, is shown above.

As the Oakland building was being completed, Morgan was announced as architect for a permanent YWCA encampment in Pacific Grove, so that later summer conventions would not have to be temporary. Mrs. Hearst convinced an association of realtors to donate 30 acres of beachfront property as the site for Asilomar, the new center, and stated she would personally donate the first building. With this backing, Julia became the de facto architect for all the YWCA's projects in the western United States.



Stuck Up (girls) dormitories. Source: Ibid.

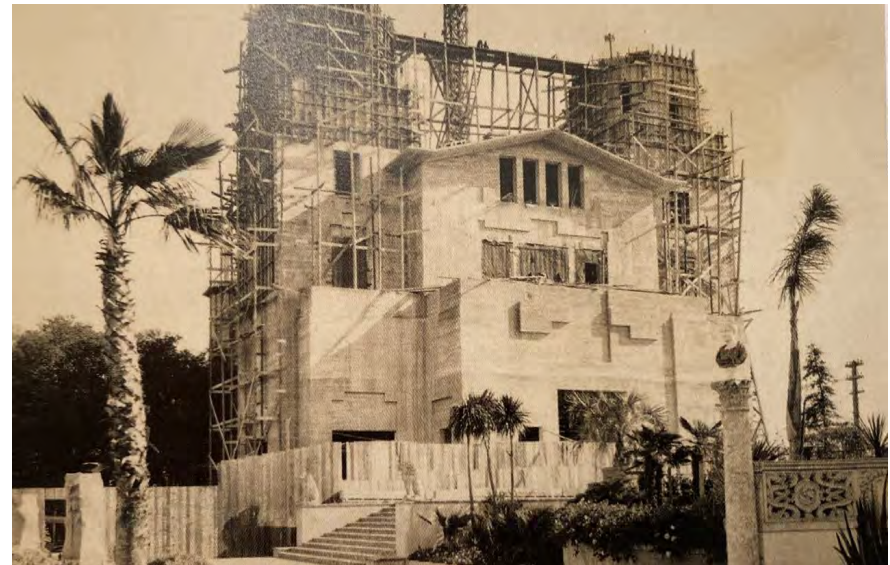


Asilomar, Grace Dodge Chapel, Pacific Grove. Source: Ibid.

The chief Hearst project that came to Morgan was San Simeon, on the Pacific coast near San Luis Obispo. Phoebe Hearst died in 1919, whereupon William Randolph Hearst inherited \$8.5 million including the San Simeon ranch of 250,000 acres. Hearst wanted to begin right away building a hacienda, “a sort of village on a mountain-top, miles from any railway....” And miles from roads, or trained construction personnel, or temporary lodging, or warehouses for the ceilings, paneling, carving, tapestries, sculpture or any other purchases W. R. made on trips abroad or acquired from dealers.

Julia worked on San Simeon until 1939, by which time she had recorded a total of \$4.72 million spent and some 20 years of effort. W. R. Hearst’s sons and the Hearst Corporation closed the San Simeon construction accounts in 1942.

There is no doubt that San Simeon is the joint masterpiece of Julia Morgan and W. R. Hearst. By the time the ‘books were closed’ La Cuesta Encantada, or Enchanted Hill, contained the hacienda at top of hill, an entire estate village housing employees and many works of art not yet installed, a zoo, athletic facilities including two pools, and roads.



The Big House under construction



W.R. Hearst and Julia Morgan at San Simeon



The Big House Completed



The Refectory. Sources: Kastner, op. cit. and Boutelle, Julia Morgan

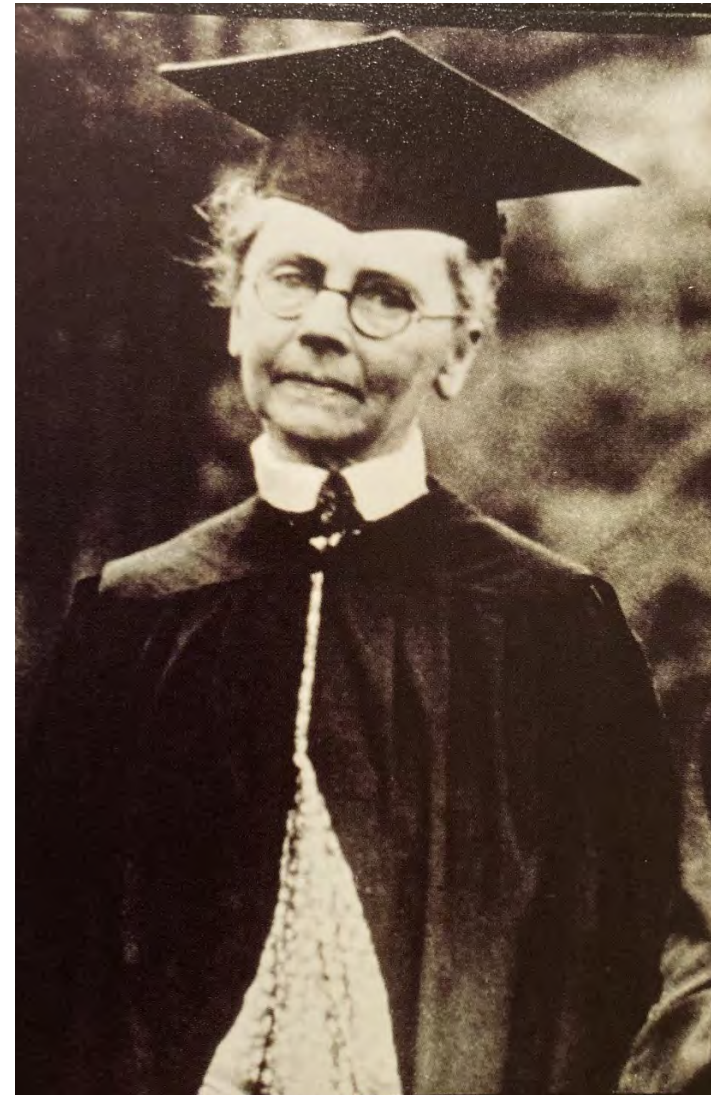


The Neptune Pool

And to close this talk, I refer to another masterpiece that was created jointly by a team of two, Bernard Maybeck and Julia Morgan. This is the college of Principia at Elsah, Illinois. The Chapel, designed by Maybeck assisted by Morgan, is in a colonial form – requested by the students – that even Asher Benjamin would recognize instantly.



Chapel, Principia College, Elsah, Illinois. Source: Hosmer, op. cit.



Julia Morgan in 1929 when she received an honorary doctorate of laws from the University of California. Source: Kastner, op. cit.

BIBLIOGRAPHY

Benjamin, Asher. *The American Builder's Companion, 6th Edition* [1827]. New York: Dover Publications, 1969.

Boutelle, Sara Holmes. *Julia Morgan, Architect*. Color photography by Richard Barnes. New York: Abbeville Press, 1988.

Cardwell, Kenneth H. *Bernard Maybeck, Artisan, Architect, Artist*. Santa Barbara: Peregrine Smith, 1977.

Floyd, Margaret Henderson. *Henry Hobson Richardson: A Genius for Architecture*. Photography by Paul Rocheleau. New York: The Monacelli Press, 1997.

Hosmer, Charles B., Jr. *Bernard Maybeck: Principia College, the Historic District*. Elsay, Ill.: Principia College, 1998.

Kostner, Victoria. *Julia Morgan, An Intimate Biography of the Trailblazing Architect*. Color photography by Alexander Vertikoff. San Francisco: Chronicle Books, 2021.

O'Gorman, James F. *Living Architecture: A Biography of H. H. Richardson*. Photographs by Cervin Robinson. New York: Simon & Schuster, 1997.

O'Gorman, James F., ed. *Selected Drawings, Henry Hobson Richardson and His Office*. Cambridge: President and Fellows of Harvard College, 1974.

Stuart, Charles B. *Naval & Mail Steamers of the United States*. New York: Charles B. Norton, Irving House, 1853.

Web searches: William Thornton, Charles Bulfinch, Asher Benjamin, Robert Fulton, Richard Morris Hunt, Henry Hobson Richardson, Phillips Brooks, Bernard Maybeck, Julia Morgan, Biltmore Estate, Schools of Architecture: Massachusetts Institute of Technology, Harvard College, Columbia University, Architect of the Capitol.