Art: Cheops' Architect

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(See Cover) The world has forgotten the name of Cheops' architect, but his pyramid still stands. Few outside his own profession have everheard of Wallace K. Harrison, one of the pyramid builders of today.

But in the past 30 years, Architect Harrison has directed theconstruction of $700 million worth of modern wonders. Last week WallaceHarrison was putting the finishing touches to his latest group oflandmarks: the new U.N. buildings, on which, as boss architect.Harrison has spent five years and $67.5 million.

In place of the Eastside tenements and slaughterhouses stands theshimmering glass and marble slab of the Secretariat, towering 39stories above the East River.

Along its base crouches a long (400 ft.), flat (five stories) ConferenceBuilding for the U.N.'s numberless councils and committees. Besides the thousands of offices, Harrison's designers and engineers have provided restaurants, meeting rooms, lounges and un derground parking space for 1,500 cars.

Architecturally, all that remains to be done is to complete the interior of the General Assembly Building, keystone of the entire group.

Like the Conference Building, it is long and low. But where the Conference Building is rectangular, the Assem bly is sweepingly curved and capped with a wide dome. One end is clear plate glass, the other a cliff of marble and translucent glass strips. A long ramp leads up to the 2,170 seat Assembly hall. Along the walls are banks of transla tors' booths set in strips of gilded South American mahogany. Two vivid, swirling murals by France's Fernand Leger flank the hall, and over the podium will shine rows of plaques bearing the seals of the 60 United Nations.

A Sandwich on End? The U.N. buildings have roused the liveliest architectural debate in years. Some architectural critics have called the Secretariat everything from a "magnified radio console" to "a sandwich on end." Old Revolutionary Frank Lloyd Wright snorted that the design is mere "skyscraperism—a sinister emblem for world power." Said Critic Lewis (The Culture of Cities) Mumford: "A Christmas package wrapped in cellophane ... manticism." a triumph of irrelevant ro Architect Harrison is used to having these stones shied at his glass houses. And he is a pragmatist. "If in five years," says he, "somebody finds a way to build that is so much more wonderful that he wants to tear the U.N. down and rebuild it, why, let him." Five years is a long time in the frenetic world of New York real estate, but Harri son's offer is not likely to be taken up, at any rate within that time limit, for two good reasons: 1) U.N. cost too much to tear down, and 2) even the skeptics are getting used to its sharp, clean slab along the edge of the Manhattan skyline.

Harrison's basic idea for the U.N. was a simple one. "When we started U.N.," he says, "we were not trying to make a monu ment. We were building a workshop — a workshop for world peace. And we tried to make it the best damn we could.

In the eyes of Trygve Lie, U.N. Secretary General, Harrison had special qualifications for top U.N. architect: he had helped build Rocke feller Center. Moreover, Har rison had been a member of the committee to bring the U.N. to Manhattan, and had assisted Rockefeller in his purchase and gift of the building site. Lie's first step was to name Harrison director of planning; then a consulting board of design was brought together from member nations. France sent brilliant, temperamental Le Corbusier (real name: Charles Edouard Jeanneret), famous for developing the city-in-a-park idea in the '20s. The others: Australia's G. A. Soilleux, Belgium's Gaston Brunfaut, Brazil's Oscar Niemeyer, Britain's Howard Robertson, Canada's Ernest Cormier, China's Ssu-ch'eng Liang, Russia's N. D. Bassov, Swe den's Sven Markelius and Uruguay's Julio Vilamajo.

Given the restrictions of the relatively small Manhattan site, there was never any real debate about whether to build a skyscraper or not. The only question was what kind of skyscraper. Few of the non-U.S. architects had had much chance to work on buildings of really soaring height. They welcomed U.S. engineering experience on such problems as wind bracing, elevators, plumbing and fire prevention. Ideas and sketches (all unsigned, since it was to be a group project) piled in and got knocked down right & left. Harrison wanted a bow front for the Assembly; Corbusier saw the Secretariat set on delicate stilts. Both ideas were discarded. Someone wanted all the elevators put at one end of the building instead of in the center. Russia's Bassov stayed up late one night figuring how many extra steps that would mean for the U.N.'s 3,200 office workers, and the elevators stayed in the center. In four months Harrison had a basic design to show the U.N. "In Europe," said Belgium's Brunfaut, "we could not imagine such rapidity."

Windowless Walls. Though most of the kudos for the overall slab design must go to Corbusier, the panel credits Harrison with translating the basic ideas into blueprints. The final decisions were also his, as chief planner. Most of the time he would sit back, listen to the arguments, then advance his own practical solutions. When the group was satisfied that it had sketched out a workable U.N. workshop, it was time to think about "making a monument." Part of the solution was to sheath the two ends of the Secretariat in unbroken, windowless walls of marble. But even here, Harrison & Co. were thinking of the things that make a workshop workable. "The solid end walls," says Harrison, "also meant no struggles among U.N. staffers for corner offices."

With the basic designs agreed on, the designers went home. It then took Harrison and four of Manhattan's top construction outfits (Fuller, Turner, Walsh, Slattery) 4½ years to finish the job. At the peak, in 1949-50, an army of 2,500 workmen and experts swarmed over the U.N. Harrison's planning office alone kept more than 250 people busy day & night.

Foot by Foot. Big & little engineering decisions had to be made constantly. Since the buildings were to be air-conditioned throughout, a vast amount of water had to be piped in for the cooling equipment. Instead of using city water, Harrison's engineers cleaned out two huge sewers left over from slaughterhouse days, and installed pumps capable of sucking in 14,000 gallons of water a minute from the East River. Since everybody at the U.N. seemed to favor a different temperature, Harrison had to put in individual controls at every second window. Staffers are not entirely satisfied with the temperature ranges, even now.

Money was the most critical shortage. With zooming costs and an iron-clad budget, Harrison's designers had to redraw the plans for the Assembly Building nine times to make successive economies in size and building materials. The resulting design was too squat, Harrison thought.

He introduced a steel dome to give an impression of greater interior height. And there were other troubles—problems of riveters who were almost unable to hammer in the oversized rivets needed to brace the Secretariat against the wind, of a tiny decoration budget that had to be eked out with paint, plaster and imagination. Harrison was asked last week how he ever managed to get the U.N. built. "The same way you build a railroad," said Harrison. "Foot by foot."

Worcester & Beyond. Wallace Kirkman Harrison is strictly a working architect. He has written no books on what he has done or what architecture might or should do. When he is not tramping around an excavation or arguing with contractors, he can usually be found hard at work in his office—a big (6 ft. 2 in., 210 Ibs.), rumpled figure in shirtsleeves. He talks everyday American with a New England twang, and runs his firm like a football team. He quit school early and came up the hard way. He has very little time for play. In his hurry, singlemindedness and success, he is a character out of J. P. Marquand.

Moreover, if architects are a combination of Mary and Martha, Harrison is mostly Martha. He has no place among such frontiersmen of architecture as Frank Lloyd Wright, Louis Sullivan* and Walter Gropius. He is not even sure that he is a modern. A Harrison-styled building is applied modern—the kind that the purists boggle at but John Doe likes.

Wallace Harrison was born on Sept. 28, 1895 in a small frame house in the center of Worcester, Mass., where his father was superintendent of a local ironworks. Young Wally Harrison saw the automobiles fill up Main Street, saw the old Victorian houses taken over by morticians and auto showrooms.

When he was just 14, Harrison's mother died, and his father grieved himself to pieces. Harrison quit school and pestered a local contractor for a job. "Son," the contractor told him, "you're a damn fool to go into building. Go into farming, that's where the money is." Nevertheless, he took Harrison on as an office boy, and later even let him diagram some stone designs. Harrison soon noticed something about the contracting business: the contractor took his orders from the architect. That decided him: he would be an architect.

Hospitals for Nothing. Harrison took a course in construction engineering at Worcester Tech. But there must be better places than Worcester, he decided, to find out about architecture. When he was 20, he went to New York and applied for a job with the most famous firm of architects in the U.S., McKim, Mead & White. They had put up half the nouveau riche palaces in Newport, R.I., and had just built the Morgan Library in Manhattan, while some Bellevue Hospital buildings, the Racquet and Tennis Club and several Columbia University buildings were among the projects on their drawing boards. Harrison wanted the job so much that he said he would work for nothing. He was taken at his word and set to drawing plans for a book on hospitals one of the partners was writing. But within a fortnight he was a junior draftsman at $20 a week.

In his spare time, Harrison tried to fill out his education. At the parish house of Calvary Episcopal Church, where he roomed for awhile, the curates kept a dictionary beside them at mealtime. Whenever a word was in question, they would look it up. "I got an education by absorption there," he says. On his days off, he walked around New York studying such wonders as Fifth Avenue, Wall Street and the Woolworth Building. While still working for McKim, Mead & White, he got himself enrolled in the atelier of a top architect, Harvey Wiley Corbett, where in the evenings he drew, drew and redrew, while Corbett passed from desk to desk, criticizing and encouraging.

In World War I, Harrison enlisted in the Navy, and wound up as an ensign, navigating a sub chaser in the Adriatic. He saw little action, but he did get to

Paris, and soon after his discharge he went back to see some more of it. By 1920 he was living in a Left Bank lodging house, eating bean soup in a restaurant "so cheap not even Frenchmen would go there," and hearing excited talk about Corbusier and the new German moderns.

The boy from Worcester still had to catch up on freehand drawing, math and physics—things his contemporaries had learned in college but that he had to learn in Paris cram schools. He stayed up nights arguing with young moderns. He did not take easily or kindly to modern notions in architecture. "I remember arguing my head off against those fellows. I said you couldn't possibly put a glass window at the bottom of a building. It just wouldn't look as if it were going to stand up."

Home again after a year of Paris, Harrison found the tides beginning to turn. The Renaissance revival was losing momentum; the skyscraper boom of the '205 was under way. Harrison left McKim, Mead & White and went to work for Bertram Goodhue, who had just woh a competition for the Nebraska state capitol. Harrison worked on some of the dome designs for the capitol, and became one of Goodhue's top designers.

Time for a Change. In 1926, Harrison was the picture of a struggling young architect. He had saved up enough money to support a wife, a tall, 22-year-old blonde named Ellen Hunt Milton, whose brother had married John D. Rockefeller Jr.'s daughter, Abby. They were living in a small, two-room apartment in Manhattan's East 70s when Harrison's old teacher, Harvey Corbett, offered him a partnership. Harrison jumped at the chance, and for "the next four years designed a series of auditoriums and office buildings with Corbett. Architecture was almost his entire life. There was always a drawing board in his room and a pad & pencil by his bed. In the morning, his wife usually found the floor littered with scrawls and sketches.

When John D. Rockefeller Jr. was ready to build Rockefeller Center, Harrison had definitely enlisted in the camp of modern architecture and was ready to fight for it. He was sure he was on the winning side. Gothic and neoclassic skyscrapers were dying out in Manhattan; Hood had just designed the starkly simple Daily News Building and the equally simple—if startlingly pea-green—McGraw-Hill Building. Harrison and his partner Corbett were among the architects chosen by the Rockefellers to work on the designs for the most ambitious project of the century.

Past v. Present. The designs for Rockefeller Center were too modern for most people. The conservatives set up a howl.. "I don't know what people expected," says Harrison. "They must have thought it was going to be one great square, a sort of Spanish plaza or a Place de la Concorde." But John D. Rockefeller Jr. never said a word. "I never read the papers when they print disturbing things about me or my people," he told his architects. ,

The designs had taken 18 months to finish. Architect Ray Hood had wanted the R.C.A. Building to look like a slab, but with staggered setbacks; Harrison battled for a single, uninterrupted cliff of stone. Harrison found himself alone and had to give in. That was not the only fight. The managerial firm of Todd, Robertson & Todd that Rockefeller had put over the architects wanted the whole group of buildings wrapped in Byzantine or Romanesque trim. The argument got hot; so did Harrison. Finally, he exploded out of his chair and sent it spinning. "Damn it!" he shouted, "you people just can't do this!" It was worse than criminal, he cried, to spend $125 million tricking out something as clean and new as the U.S. skyscraper in any of the period styles of the past.

Rockefeller was convinced. When the Center went up, it was the simplest skyscraper group the world had ever seen. John Doe, peering up at it from the street, decided he liked it, thought maybe it was even handsome.

In the mid '30s, Harrison had his own office and two new partners: Andre Fouilhoux and Max Abramovitz. The firm helped add two more buildings to Rockefeller Center, put up the 12-story Rockefeller Apartments in Manhattan and the $1,200,000 Hotel Avila in Caracas, Venezuela's first luxury hotel and still its best. Harrison's firm was given the job of finding a suitably futuristic theme for New York's World's Fair. He and his designers spent months on the problem. On the 1,036th drawing, they got what they wanted—the Trylon & Perisphere. When the fair officials ran short of money and cut the Perisphere down by 20 feet, Harrison felt it was "a disaster."

In World War II Harrison went to Washington, where he served for four years as deputy to Nelson Rockefeller in the Office of the Coordinator of Inter-American Affairs. Harrison the Government official proved an able administrator with a knack for homely diplomacy. Then came the U.N. job.

New Directions. The U.N. buildings have consumed most of Harrison's time since the war, but he has also been branching out in other directions. In Dallas, he is putting up a 500-ft. Secretariat-like office for the Republic National Bank, the tallest skyscraper ever built in the Southwest.

He has finished plans for a $6,000.000 aquarium for Brooklyn's Coney Island, is working on a $1,000,000 auditorium for Ohio's Oberlin College, a $3.500,000 office for the Carnegie Endowment for International Peace in Manhattan, and a $22 million public housing project (1,800 apartments) in Brooklyn. Near Pittsburgh's "golden triangle" stand two brand-new Harrison skyscrapers. One is a 41-story, $23 million slab sheathed in limestone and glittering stainless steel for U.S. Steel and the Mellon National Bank; the other is a 30-story office building for the Aluminum Co. of America.

Except for the steel skeleton, almost the entire building is aluminum. Stamped aluminum panels cover the girders; there are aluminum partitions, woven-aluminum lighting fixtures, aluminum wires to carry the electricity, bright-colored aluminum strips for the roof terraces. ("Who knows?" muses Harrison. "Maybe someday we'll have cities colored like rainbows.") The huge, 300-ton aluminum and glass lobby is suspended like a giant weight by cantilever girders from the rest of the building. There is a radical new air-conditioning system that cools like a radiant-heating plant; cold water is pumped through small pipes, thus eliminating cumbersome air ducts. And the windows are a window washer's delight. Each one is surrounded by an air-filled rubber tire. When the air is let out, the window spins on its axis for easy cleaning. After washing, the tires are blown up again from a small compressed-air tank trundled around on a cart.

Harrison thinks aluminum may become one of the future's prime building materials. Metal is cheaper than stone, also lighter and dryer. Dampness is an old bugaboo of the builder: the use of stone means water for cement, and water is heavy, messy, freezes in winter. Rain soaks through even the best-built stone wall and causes a whole flock of new problems. "I have always tried to move forward to something better—even at the risk of being wrong," says Harrison. "That way, you are certainly ahead of the man who is right and doesn't do anything." Maybe Cheops' architect talked the same way.

*Whose steel-ribbed Wainwright Building in St. Louis was one of the earliest (1891) ancestors of the modern skyscraper.