

The Pritzker Architecture Prize

Renzo Piano 1998 Laureate Biography

Renzo Piano is a man whose work is reinventing architecture in projects scattered around the world—from a Mixed Use Tower in Sydney, Australia to the mile-long Kansai Air Terminal on a man-made island in Osaka Bay, Japan to the master plan for the reconstruction of Potsdamer Platz in Berlin or the Beyeler Foundation Museum in Basel, Switzerland. Even this skip around the globe does not indicate the full range or enormous output of this prodigious architect. Renzo Piano's projects include not only buildings that range from homes to apartments, offices to shopping centers, museums, factories, workshops and studios, airline and railway terminals, expositions, theatres and churches; but also bridges, ships, boats, and cars, as well as city planning projects, major renovations and reconstructions, and even television star of a program on architecture.

He was born into a family of builders in Genoa, Italy in 1937. His grandfather, his father, four uncles and a brother were all contractors, and he admits, he should have been one too, but instead chose architecture. Piano declares his architecture has an important legacy—a passion for construction, or more pointedly, a culture of doing, resulting from growing up in a family of builders.

He was seventeen when he approached his father with the idea of going to architecture school. “Why do you want to be just an architect? You can be a builder,” was his father’s response that has never been forgotten. Perhaps that is the reason for the name Renzo Piano Building Workshop, rather than Piano Architects & Associates. Explains Piano, “We not only design things there, but we also make things, and test them. Keeping some of the action together with the conception makes me feel a little less like a traitor to my family. The name is also a deliberate expression of the sense of collaboration and teamwork that permeates our work.” It was in 1980 that the Building Workshop was formed, and now has offices in Paris, Genoa and Berlin employing approximately a hundred people in the three locations.

Following his graduation from Milan Polytechnic Architecture School in 1964, he worked in his father’s construction company, designing under the guidance of Franco Albini. In addition to his 15th century idol, Brunelleschi, Piano pays homage to Jean Prouvé, of France with whom he formed a friendship during the time (1965-70) that he worked in the offices of Louis Kahn in Philadelphia and Z. S. Makowsky in London. Two other important influences he acknowledges were Buckminster Fuller and Pier Luigi Nervi, albeit from afar.

While still studying in Milan, he married a girl he had known from school days in Genoa, Magda Arduino. Their first child, Carlo, was born in 1965. He is now a journalist. Another son followed three years later, Matteo, who is an independent industrial designer; and a third child, daughter Lia, now 25, is pursuing a career in architecture.

His first important commission was in 1969 to design the Italian Industry Pavilion at Expo '70 in Osaka. His late brother, Ermanno, built and installed the pavilion and a number of other projects before his premature death in 1993.

The Expo project attracted much favorable attention, including that of another young architect named Richard Rogers, who although born in Florence was English. The two architects found that they had a great deal in common and when an engineering firm suggested that they work together and enter the international competition for the Georges Pompidou Center (also known as Beaubourg) in Paris; they did and won.

The result was a hundred thousand square meters (over a million square feet) in the heart of Paris, devoted to the figurative arts, music, industrial design, and literature. In the two decades since it opened, over a 150,000,000 people have visited it, averaging more than 25,000 people per day—an overwhelming success—both with the people of Paris and the international media. Both Rogers and Piano became recognizable names throughout the world.

Described often as “high tech,” Piano prefers other modifiers. In his own words, “Baubourg was intended to be a joyful urban machine, a creature that might have come from a Jules Verne book, or an unlikely

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looking ship in dry dock. Beaubourg is a provocation, an apt description of my feelings, but has no negative connotations as far as the quality of the design and the reasons behind it are concerned. Beaubourg is a double provocation: a challenge to academicism, but also a parody of the technological imagery of our time. To see it as high-tech is a misunderstanding."

In the introduction to the book, Renzo Piano, Buildings and Projects 1971-1989, Pulitzer Prize winning architecture critic Paul Goldberger wrote, "Like any artist who produces a celebrated work early in his career, Renzo Piano has in many ways been more confined than liberated by the Centre Beaubourg, known primarily as the architect who installed this high-tech spoof at monumental scale into the heart of Paris." And then referring to more recent projects such as the Menil Collection museum in Houston, Texas; the 60,000 seat football stadium in Bari, Italy; and the multi-functional complex of the giant Fiat factory at Lingotto near Turin, Italy, Goldberger continues: "(there is) the presence in all of these projects of a light, tensile quality and an obvious love of technology. But where the expression of technology at Beaubourg was broad and more than a little satirical, in the buildings since Beaubourg, it has been straighter, quieter, and vastly more inventive."

One of the casualties of the Beaubourg project, which required years of living in Paris, however, was Piano's marriage. His wife preferred to live in Genoa, and so they separated. In 1989, he met Emilia (Milly) Rossato when she came to work for his Renzo Piano Building Workshop. They were married in 1992 by Jacques Chirac, then the Mayor of Paris who supported the construction of Beaubourg through many crises. They live in Paris next door to their office there, just a few blocks from Pompidou in the Marais district. In actual fact, they divide their time between Paris and Genoa, with frequent trips to his many projects around the world.

In 1995, Piano was called upon to renovate the Centre Georges Pompidou. The popularity of the place has taken its toll. The library and exhibition spaces are being expanded, and the public spaces reorganized. Plans call for a reopening on the eve of the new millennium, December 31, 1999, as Grand Beaubourg.

Two other projects closely related to the Beaubourg are the IRCAM Extension and the Reconstruction of the Atelier Brancusi, both on the same Centre Pompidou square. The former's initials in French stand for Pierre Boulez's Institute of Musical Research which is actually attached to the Pompidou. The need for the greatest possible soundproofing originally led IRCAM to excavate a space underneath the square for its various sound labs and studios. The only visible evidence that it was there was a glass ceiling and a few elements of the ventilation system. The need for more space, a desire to emphasize the institute's role and image, prompted the extension which consists of a tower six stories above ground and three below. It fills an angle left between two existing buildings at the edge of the square.

When Constantin Brancusi died, his will left all his work - sculptures, drawing, paintings, photographs—to the French state on the condition that they remain in his studio. In the 1950's the area occupied by his studio was demolished to make way for other things. Piano was given the task of rebuilding Atelier Brancusi on the square of Centre Pompidou. "What we did," says Piano, "was reproduce the sensation of being surrounded by an explosion of art made up of many pieces in different stages of development."

It was in 1982, that the now late Dominique Schlumberger de Menil, widow of John, contacted Piano to design a museum in Houston to house the 10,000 works of primitive and modern art in the Menil Collection. Completed in 1986, it has achieved universal high praise, and is often cited as Piano's finest work. Embodying the idea of a "museum village," i.e. it is made up of several buildings, the construction is large, but not monumental, and rises no higher than its neighboring small houses. The walls are built of planks of wood attached to a metal framework.

Perhaps the most distinguishing aspect of the Menil Collection is the roof of the exhibition spaces, made up of repeating modular elements described as "leaves." Each leaf is a very thin section of reinforced concrete integrated with a steel lattice girder. They function as roof, ventilation and light

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control efficiently. In his book titled *Logbook*, Piano states, “Paradoxically, the Menil Collection with its great serenity, its calm, and its understatement, is far more ‘modern,’ scientifically speaking, than Beaubourg. The technological appearance of Beaubourg is parody. The technology used for the Menil Collection is even more advanced (in its structures, materials, systems of climate control), but it is not flaunted.”

Some five years later, Piano was called upon to make an addition to this museum village—a small (approximately 11,000 square feet) gallery to house a permanent exhibition of the pictures and sculptures of Cy Twombly. Built of modest materials, the Cy Twombly Gallery has an outer facing of ochre-toned concrete, the building is devoted entirely to exhibition space with floors of natural American oak. All the galleries in the building are illuminated by natural light (except the one in the center). The roof takes the form of a series of superimposed layers that filter the light. The top layer is a metal grating, then comes a layer of solar deflectors and a layer of fixed skylights. Immediately above the exhibition space is a fabric layer. All the systems for controlling the deflectors are electronic.

The year before he began work on the Houston de Menil Collection, he was hired to transform the Schlumberger industrial plant on the outskirts of Paris. The company made measurement systems for fluids, and including a device to detect the presence of oil underground. What were mechanical devices were being replaced by electronic ones. Piano’s plan called for the demolition of part of the old workshop, where a park was laid out over a parking facility with space for a thousand cars. Some of the original buildings were retained but restructured as offices and laboratories. Although the electronic plant in Paris and the Houston museum were totally unrelated, it is interesting to note that Mrs. Dominique de Menil was a member of the Schlumberger family of France before marrying and moving to Texas.

“While working on the Menil Collection in Texas,” Piano recalls, “we made a little machine—which we called a bit pompously, ‘the solar machine’—that would allow us in Genoa to find out the position of the sun in Houston. We also built one-to-ten scale models, which we put in the garden to study the diffusion of light. All the projects that come out of the Building Workshop have stories of similar experiments.”

Piano went on to relate that Brunelleschi, who is Piano’s favorite architect from history, studied the mechanism of the clock so that he could apply it to a system of great counterweights which in turn was used to raise the beams for the dome of the Florence Cathedral.

“Knowing how to do things not just with the head,” says Piano, “but with the hands as well: this might seem a programmatic and ideological goal. It is not. It is a way of safeguarding creative freedom. If you intend to use a material, a construction technique, or an architectural element in an unusual way, there is always a time when you hear yourself saying, ‘It can’t be done,’ simply because no one has ever tried before. But if you have actually tried, then you can keep going - and so you gain a degree of independence in design that you would not have otherwise.”

Reflecting on the building of the Centre Pompidou, Piano elaborated the point, “We had to make a structure out of pieces of cast metal. The entire French steel industry rose up in arms: it refused point-blank, saying that a structure like that wouldn’t stay up. But we were sure of our facts, and passed the order on to the German company Krupp. And so it was that the main structure of the Centre Pompidou was made in Germany, even if the girders had to be delivered at night, almost in secret. This was one case in which technique protected art. Our understanding of structures set free our capacity for expression.”

In 1979, *Habitat*, an educational television program was produced by RAI, the Italian government television network, starring Piano, who says, “We set out to explain to the non-specialist audience the principles of construction, a few simple experiments on structures and materials. I tried to get

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the message across not to be overawed by architecture, explaining that this century has produced impressive structures because it has developed fantastic machinery for building. But innovation in process does not necessarily entail high technology in construction. There is very little today that can bear comparison to the structural and formal research that went into a 15th century church."

IBM called upon Piano to provide them with a Traveling Pavilion to visit 20 European cities to convey the marvels of new technology. They wanted it to be self-contained with a pavilion of its own that could be set up in urban parks. The Piano solution was made up of 34 arches, each consisting of six pyramidal elements of polycarbonate. When assembled, it was 48 meters (154 feet) long and six meters (20 feet) high. It was a great success, seen by a million and a half people.

The Lingotto Factory Conversion, begun in 1988 was another major project for Piano. Built in the 1920's as a Fiat automobile manufacturing plant, it was Europe's first and largest factory for mass production. Five hundred meters (almost 1000 yards or ten football fields) long, five stories high, with an auto test track on its roof, the building was an enormous part of the city of Turin. In the early 1980's, the plant was retired. Of it, Piano says, "I believe that it is one of the great monuments of manufacturing, and is deserving of loving restoration, just as any great work of architecture." It was also the first project in which Piano undertook urban space planning.

The plan was to provide a multifaceted future as a center for technology and trade fairs, university, park, exhibition and meeting space and auditorium, in fact a concert hall for an audience of 2000. A surprising addition to the structure was a "bubble" on the roof, literally a spherical room for high level meetings, totally transparent with a commanding view.

To celebrate the 500th anniversary of the discovery of America, Genoa organized the Columbus International Exposition which Piano took on as a project to make lasting interventions of urban reclamation in the area of the old port. "This was a great opportunity," says Piano, "to rescue the historic city from decay. Works of permanent value could be carried out that would remain and be useful when the expo was over." His work included the restructuring and reconstruction of cotton warehouses (built in the 19th century), four bonded warehouses from the 17th century, and another recent warehouse, Millo. Several new constructions were an aquarium which has become one of Italy's most popular attractions, the harbor office, and Bigo, described as a gigantic derrick that served as the symbol of the expo, and supported a tensile structure for festivities as well as a panoramic elevator ride.

Another major intervention for Piano has been the Cité, Internationale in Lyon, France. Some 15 hectares (37 acres) along the Rhone River which was an International Fair Ground is being turned into a mixed use complex that so far includes office buildings, conference centers, a museum of contemporary art, and will have a hotel, casino and multiscreen movie theatre. It is Piano's first application of the "double skin" for buildings.

He explains it: "The protective finish of the buildings is provided by a terra-cotta covering that, as well as responding very well to the local climate, bestows a warm color and delicate texture on the buildings. The outer layer of the facing consists of glass panels. Some of these can be opened, turning on pivots like skylights. Between the two surfaces, a gap acts as a heat exchange, reducing energy loss. The reflections in the glass shells of the buildings cause the appearance of the constructions to change completely with variations in the strength, color and direction of light. Since all the buildings in the complex will be faced in this way, it will give the complex the unity (but not uniformity) that is necessary for the place to have a strong and distinctive character.

San Nicola Stadium in Bari, Italy was built for the World Soccer Championships of 1990. "The stadium was built of one basic material, concrete, and the contribution of the late Peter Rice, a structural engineer for Ove Arup & Partners, was essential," says Piano. "The shape of the stands and the

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beams clearly reveals the modularity of the structure. The entire ellipse of the stadium is made up of 26 petals, each assembled out of 310 crescent shaped elements, prefabricated out of concrete on site. Beneath this level, each sector is supported by just four pillars. Although these supports are fairly massive, the curvature of the elements lends impetus to the structure, and makes the petals rise above the banked ground as if they are floating. The gaps between the petals let the light and color of the landscape into the stadium, giving the tiers an extroverted character. Concave structures, especially when crowded with people, tend to induce claustrophobia. I believe the transparency achieved with the vertical cuts reduces this effect, and contributes to a more relaxed enjoyment of the sport."

Piano elaborates, "My insistence on transparency is often misunderstood and interpreted as insensitivity to the 'space' of architecture. In the jargon of our profession, to say that you have no sense of space is the vilest of insults. For many people, space does not exist except insofar as it is precisely—and solidly—circumscribed. This is a concept of space that disturbs me. It feels like the filling in a sandwich of bricks, a layer of air squeezed between the walls that surround it. I have a less suffocating idea of space: the space of architecture is a microcosm, an inner landscape.

"Of course, space is made up of volumes, high and low volumes, compressions and expansions, calm and tension, horizontal planes and inclined planes. They are all elements intended to stir the emotions, but they are not the only ones. I believe that it is very important to work with the immaterial elements of space. I think that is one of the main currents in my architecture.

"The Gothic cathedral moves us with its spaces soaring into the sky, which draw the sinner's soul upward. It also stirs our feeling with elongated windows that shoot blades of light into the dark church, and by the colors that filter through the stained glass. We have to give our profession back its capacity to arouse the emotions by creating dramatic spaces, serene spaces, participatory spaces, secluded spaces. The choice is linked to the function and use of the setting. If you are designing a museum, you offer contemplation. It is not enough for the light to be perfect. You also need calm, serenity, and even a voluptuous quality linked to contemplation of the works of art. This is what Ernst Beyeler asked from me one day, paraphrasing the words of Matisse.

"Beyeler, a Swiss collector of art retained me to create a museum among the trees of a state-owned park in Riehen (near Basel), Switzerland. He is a perfectionist, and a watchful, hands-on client who wanted to create a close collaboration. The result is the Beyeler Foundation Museum, a structure built around four main walls of the same length, oriented in a north-south direction and parallel to the boundary wall. The walls are of different heights and one extends into the park and becomes a low wall guiding visitors to the entrance. The transparent, cantilevered roof is, to some extent, independent of the building, extending beyond the perimeter defined by the walls. All of the walls are faced with a stone that was selected because of its similarity in appearance to the red sandstone of Basel Cathedral. Because the locally available stone aged badly and flaked, which could cause continual maintenance problems, a material was shipped in from Argentina after an extensive search."

In another quite different work, the Bercy 2 Shopping Center in Charenton le Pont (Paris), France, Piano says, "We inherited this project from another studio when the client thought their design for the roof too conventional. We had to accept the constraints for structural grid, access, services and parking that had already been made. The client had a clear objective, he wanted his shopping center to be visible, to attract attention. A degree of effrontery was necessary. Positioned as it was at an expressway interchange, we modeled the building after the curves of the highway, just as at Lyon, we had been inspired by the bend in the river. Approached in this way, the structure began to soften, to grow rounded, until it took on the appearance of a giant meteorite. Once we had established the relationship between the supporting structure and this complex three dimensional profile, it became a matter of determining the best material to accomplish the roof. We decided on stainless steel panels, which gave Bercy the final appearance of a gleaming airship."

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Another important project in France is 220 apartments called Rue de Meaux Housing in Paris, in which Piano took on the challenge of building low cost housing. "What fascinated me on this project," says Piano, "was the idea of going beyond shelter, comfort and functionally usable space. I wanted to show that with even limited funds, it's possible to produce houses filled with light, greenery and ornament."

The structure, six stories high, surrounds a courtyard planted with grass, low shrubs, birch trees and flowers. The short sides of the rectangle are interrupted by two vertical cuts that allow access to the interior court.

Piano explains further, "The original terms of this program called for a public road to run through the middle of the complex. We put courteous but firm opposition to this idea. The home should be a refuge of peace and quiet. Does this mean the quality of social life and possibility of participation has been reduced? Quite the contrary. True sociability is here, in this communal courtyard where all the residents can go to stroll, read and talk."

The Thompson Optronics Factory on the outskirts of Paris was designated for a site that had no other constructions, and the land was flat and characterized by no particular vegetation. The company which makes electronic equipment must be able to continually redefine its needs as technology changes. It was not clear how large the building might eventually be, nor how to break down various functions within it. As a result, Piano created a completely open space, using a tall arched element with a span of nearly 15 meters (approximately 50 feet) as the basic building module. Using multiples of these, the plant size is extremely flexible.

Before entering the competition for the Kansai Air Terminal in Osaka, Japan, Piano tells of asking the client to visit the site. There was a moment of embarrassment, but with great courtesy the Japanese took Piano on a boat trip. At a certain point on the open sea, they asked where the airport was to be, and their host replied, "Here." Since Osaka had no room for an airport, the authorities decided to build an artificial island for it in the bay. The island would be 15 square kilometers (approximately 5.5 square miles).

"With Tom Barker, a mechanical engineer with Ove Arup & Partners," says Piano, "we investigated streams of air, from which the form of the terminal's roof would emerge. In cross section, the roof is an irregular arch (in reality a series of arches of different radii), given this shape to channel air from the passenger side of the terminal to the runway side without the need for closed ducts. Baffles left open to view guide the air flow along the ceiling and reflect the light coming from above. We were creating an aerodynamic ceiling, concerned not with the flow of air outside, but inside. Kansai is a precision instrument, a child of mathematics and technology. It forms a strong and recognizable landmark; it has a clear and simple shape that declares itself without hesitation.

"It is a structure with undulating, asymmetrical lines. It spreads over the island like a glider - a missing link between ground and airplane. In the absence of other constraints, the only factor that has shaped its volumes is the space taken up by the aircraft and their maneuvering. The planes determine form, function and extension. They are the true masters of the island. We have paid homage to these local divinities with a departure area that has 42 passenger loading bridges and extends for 1700 meters (almost 1900 yards), and is capable of handling 100,000 passengers a day. Kansai is one of the largest buildings ever built, three Lingottos in a row."

In January, 1995, Kobe suffered an earthquake. Kansai was the same distance from the epicenter as Kobe. The intensity of the shock was the same, but Piano reports, "Kansai registered no damage, not even broken glass."

The UNESCO Laboratory and Workshop (also referred to as the Renzo Piano Building Workshop) came into being in 1989 on the coast west of Genoa, between Voltri and Vesima. Perched on the rocks and

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surrounded by the sea, it is half rock, half ship, and in fact, the place is called Punta Nave: Ship Rock. "Here I find calm," says Piano, "silence and concentration - all things that are essential to my personal way of working. Creating something is difficult, but putting yourself in the right state to create is even more difficult. You need peace and quiet, but also tension; calm, but energy too; time, but speed as well." Piano hastened to add that the office is no hermitage, first of all because a lot of people from many different countries work there, and also because it communicates in real time with the rest of the world.

Placed between the mountains and the sea, the workshop stands on terraced slopes, and is made almost entirely of glass, looking very much like the greenhouses that share hillsides in this part of the Riviera. The plants are inside and out, blending into the work spaces.

On the other side of the world in Noumea, New Caledonia, Piano is doing the Tjibaou Cultural Center, which he describes as "the most reckless of my many ventures into other fields." He explained further that the project addresses the difficulties of finding a way to express the traditions of the Pacific in modern language. His concept is a genuine village composed of ten structures of different sizes and functions, the largest being as tall as a nine story building. The ten structures of the center are organized into three villages: one is devoted to exhibitions; another is for administrative staff, historians, and other offices; the third is for creative activities such as dance, painting, sculpture and music. The constructions are, as Piano puts it, "an expression of the harmonious relationship with the environment, that is typical of the local culture. They are curved structures resembling huts, built out of wooden joists and ribs; they are containers of an archaic appearance, whose interiors are equipped with all the possibilities offered by modern technology."

Piano was approached by Padre Gerardo, an administrator to the monks of San Giovanni Rotondo, to design a temple for the ever-increasing numbers of pilgrims coming to visit the places where Padre Pio, a friar famous for his stigmata, used to live. Piano declined because he found the idea too intimidating. But for three weeks, he received fax blessings from Padre Gerardo until he consented to do the project. It is Piano's concept that the Padre Pio Pilgrimage Church will "spring out of the stone of the mountainside. Walls, parvis, supporting arches, and covering roof will all be made of a local stone. The main span of over 50 meters (over 150 feet) will perhaps be the longest supporting arch ever built out of stone." The dome of the church will not be very tall, in fact will not be visible until visitors are very close. A gently sloping courtyard will be capable of holding up to 30,000 people; another 6,000 could go inside the church.

"Cities are beautiful because they are created slowly," says Piano. "It takes 500 years to create a city, and we (a group of architects are involved) have been asked to reconstruct a large chunk of Berlin in just five years." He is referring to Potsdamer Platz, a part of Berlin that was destroyed by war, an area straddling the line between what was East and West Berlin, and not far from the Reichstag. In the 1920's and 1930's, it was the center of the city's social and cultural life. Piano won the competition to develop the master plan for the area which when finished will be home and workplace for some 40,000 people, a figure that will double during each day with people drawn to the various activities there. The square will have stores of every kind, residences of varying kinds including a hotel, offices, restaurants, theatre and casino, and the use of public art. The Debris Tower, offices for a subsidiary of Daimler-Benz which is managing the intervention, was the first of Piano's eight buildings in the plan to be completed in October 1997.

In Amsterdam, National Center for Science and Technology is set on top of the entrance to a tunnel that runs under the harbor, making the most of space in a country with no room to spare. "If at the base of the museum," explains Piano, "there are cars that go downward into the tunnel under the sea, then on one side of the building, asymmetrically, is a ramp to induce an opposite movement, taking pedestrians up to the sloping roof, the public square of the complex with a view of the city." The interior is organized on different levels that cut diagonally across the building that provides some 12,000 square yards of exhibition space.

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As has already been pointed out, the works of Renzo Piano are so extensive that it would take many books (and has) to adequately describe the various projects. This is a cursory survey of just a few of them along with some of Piano's comments and descriptions. But mention must be made of some other major works still in progress: a new Mercedes Benz Design Center, in Stuttgart, Germany; a new Auditorium for Rome which consists of three separate concert halls with capacities of 2700, 1200 and 500 seats; a mixed use tower for offices and residences in Sydney, Australia; and a new master plan for the renovation and expansion of Harvard University Art Museums in Cambridge, Massachusetts. And there are many others.

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