houses, viewing platforms, dioramas, and shooting galleries. Rapid development of the surrounding areas forced Jones’s Wood to close in the late 1860s just as a new era in amusement park design was beginning on nearby Coney Island.

In 1897 George Tilyou erected a walled enclosure around his Steeplechase ride on Coney Island. This act of enclosing the site and controlling entry to his rides is regarded as a defining moment in 20th-century amusement park design. Of similar significance is Tilyou’s claim that if “Paris is France, Coney Island, between June and September, is the World” (McCullough, 1957, 291). With this statement, Tilyou set in motion the 20th-century amusement park obsession with spatial and cultural simulation. Tilyou believed that by constructing replicas of famous building types from different parts of the world, he could simulate the entire planet in such a way that it could be quickly, efficiently, and safely experienced by large numbers of paying customers. Such was the success of Steeplechase Park (1897) that two new Coney Island amusement parks, Luna Park (1903) and Dreamland (1904), soon followed. Luna Park simulated a trip to the moon, and Dreamland featured a number of attractions, including a partial reconstruction of Pompeii (complete with simulated eruptions on the hour) and a six-story building where customers could experience an office fire firsthand. Such was the success of this building type that by 1919 there were more than 1,500 amusement parks in North America, although the Depression saw this figure drop to barely 200 financially viable parks in the 1940s. It was not until the 1950s that Walt Disney revitalized the industry with his themed zones (Fantasyland, Adventureland, Frontierland, and Tomorrowland) and his focus on the traditional values of middle America. The success of Disneyland at Anaheim saw a string of similar Disney parks opened around the world, including EPCOT (1982) in Florida and the more controversial EuroDisney (1992) near Paris. This friction between the “real” and the “simulated” or “virtual” is evident in many recent amusement park designs. At one extreme, amusement parks are increasingly producing more complex and realistic electronic simulations. Virtual World (1981–92) in San Diego, California; Acurinto (1996) in Nagasaki; and SegaWorld (1996–98) in Sydney each feature extensive electronic, or video game, environments. In sharp contrast to this trend is the rise in amusement parks that promote ecotourism as a “real” experience. Mitsuru Man Sendai’s Ashikawa Shunkodai Park (1994) and his Urawa Living Museum (1995) in Urawa are examples of parks that advocate a “genuine” appreciation of the environment or history of the “real world.” Ironically, in many respects each of these extremes is as artificial as the other. The only difference is that in one environment the simulation is glorified, whereas in the other it is repressed or hidden.

Michael J. Ostwald

See also Disney Theme Parks; Gehry, Frank (United States); Graves, Michael (United States); Predock, Antoine (United States); Scott Brown, Denise (United States); Stern, Robert A.M. (United States); Venturi, Robert (United States)

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ANDO, TADAO 1941–

Architect, Japan

Tadao Ando, one of the most important contemporary Japanese architects, has pursued what he calls an architecture that moves people with its poetic and creative power. His numerous buildings yield intensely meaningful and didactic experiences. In so doing, Ando has engaged the discipline in the core philosophical questions on humanistic values, such as the end and purpose of creativity, or what architecture can contribute to improve the quality of human existence. To study his architecture is to examine how architecture can conceivably enhance the world as a humanistic discipline.

On the tangible level, Ando’s works may be characterized by their primary walls, constructed out of limited materials and composed of purely geometric forms. Raw, unfinished reinforced concrete has been Ando’s material of choice since his earliest years; later he added a shorter list of wooden buildings. These rather reductive methods, however, should never be taken to demonstrate a lack of intention, nor do they result in poor spatial qualities; instead, they are the consequence of Ando’s willful determination to stage, though intangible they may be, rich architectural experiences. Ando’s simple materials and forms engage a viewer in an appreciation of architecture, making the piece significant to that person. Ando is therefore in no respect a formalist—his interest in the tangible stems solely from his much deeper concern for their ontological relation to the intangible aspects of architecture.

Ando’s decision to limit his materials and forms comes from the belief that their intrinsic natures heighten the viewer’s experience of buildings, especially when they reveal their utmost state of existence. Therefore, Ando compares himself to the poet who chooses words carefully and gives them the most appropriate forms of expression. Ando is keenly interested in and highly knowledgeable about building materials. Once, in the early 1980s, Ando joined other sculptors, industrial designers, and architects in an exhibition, held in Tokyo, of objects made out of glass. Ando’s entry, nothing but numerous sheets of glass laid horizontally on top of one another, brought to the viewer’s attention the intrinsic nature of float glass. Produced by pouring liquid glass on a flat bed, ordinary float glass inevitably has minute irregularities on the upper-side surface. Compiling such sheets magnifies the irregularities, eventually causing them to shatter. Ando’s project celebrated almost perfect sheets that withstood the challenge and quietly acknowledged the great care the manufacturer took in producing them.
It is also in building projects that Ando reveals the material’s properties to the physical extreme with a high degree of care. The intention is to present the materials in their utmost essence. In fact, Ando believes that the more austere his wall, the more it speaks to mankind. Ando’s specification of hard concrete mixture stirred up the Japanese building industry in 1970s, when both contractors and architects were used to the norm of much softer mixes for the sake of its easy distribution into the forms. The specification demanded Ando’s attentive supervision, apt instruction, and even some on-site demonstration—he is said to have tapped the wooden panels incessantly while concrete was being poured. Once constructed, however, the walls were worthy of a critical gaze and required no finishing materials that would ordinarily hide the faults of construction.

Ando’s efforts to provide an intense architectural experience rest not only with materials but also with building form and open space. As one becomes familiar with Ando’s floor plans, one recognizes in them the persistent recurrence of pure geometry. However, once inside his building, a visitor is confronted with an enriched sequence of spatial experiences rather than a mere confirmation of simple forms. The ultimate goal is to draw attention to the space’s architectural qualities. Ando once commented that an unexpected experience generates a stronger impression and elevates man’s spirit. In such an experience, geometry is no longer an abstract factor but instead serves to generate the real human existence.

Ando’s interests in the spatial sequence led him to explore the potential significance of vertical circulation. A staircase is, in the utilitarian sense, nothing but the means to traverse between different floor levels. With Ando, ascending and descending become almost a spiritual opportunity of preparation before entering a place of religion, as in the Water Temple (1991) on Awaji Island. Or, as in the Oyamazaki Villa Museum (1996) in Kyoto, ascension is an awakening experience of one’s body while discovering the daylight reflected delicately on each step’s rounded nose, which in turn draws attention to the cascading waterfall just outside, which shines similarly under the sun.

The simplicity and purity of form and materials also support what Ando has called the nature—in particular, light, air, and water—of his architecture. Ando once commented that architecture should not be loud but rather that it should let nature, in the guise of sunlight and wind, speak. His concrete wall captures on its surface an ever-changing pattern of light and shadow. In return, the austere surface of the wall is enlivened, made rich with character. When his concrete walls, taller than eye level, bound a space, as in the Vitra Seminar House (1993) in Weil-am-Rhein, Germany, the observer’s attention is naturally drawn to the sky, both visually and spatially. When an opening is made in a wall at floor level, as in a number of residential buildings, the sight is directed specifically to the pebbled or grassed ground outside. A vertical sheet of water, as in the Forest of Tombs Museum (1992) in Kumamoto, or a serene horizontal surface of water, as in the Church on the Water (1998) in Hokkaido, could be waiting to fill the viewer’s hearing or vision. In these settings, man is in an immediate confrontation with nature, with only Ando’s architecture serving as a mediator.

Ando has acknowledged that the way he brings nature into architecture could require some severe living conditions. For example, in Row House Sumiyoshi (1976) in Osaka, the residents are faced with every element of weather each time they pass the courtyard on the way from one room to another. Ando’s rather forceful mediation between man and nature is not always without criticism. Some critics have commented that it leads to a spatial impoverishment. On the contrary, however, Ando believes that a close confrontation with nature is crucial for the enrichment of man’s life, which makes man keenly aware of the season and which that nurtures within man a finer sensitivity. This insistence on austerity and severity reflects his critical stance against modern society’s materialistic way of life. In this regard, Ando has taken a critical stance against the modern ways of living that may be materialistically rich and yet spiritually impoverished. He has made incessant inquiries as to what enriches an individual’s life in the contemporary age. He considers it critical to discover through his architectural works what is essential to human life. Ando believes that abundance does not necessarily enrich one’s life and instead thinks that an architectural space stripped of all excess and composed simply from bare necessities is true and convincing because it is appropriate and satisfying. In this understanding of the human conditions, Ando’s architecture constitutes a challenge to contemporary civilization.

Just as Ando is suspicious of the materialistic view of life, he is equally doubtful about what many modern and contemporary architects have taken to be an unquestionable goal: timeliness of design. Rather, Ando’s is a quest for the essence that allows architecture to endure the test of time. In the same regard, Ando is in a constant search for the kind of architectural heritages that have withstood various conditions of both time and place. Ando’s attitude toward architectural heritage should, however, be distinguished from the Postmodern regionalism in which traditional forms are replicated by modern, universally available industrial materials and technology, to which Ando is not at all sympathetic. A pseudo-authentic application is for him not a pursuit of the material’s intrinsic potential and therefore not essentially architectural.

Ando’s desire to scrutinize the time-earned architectural heritage and to appropriate it in his projects makes his practice critically cross-cultural. On the one hand, Ando is not hesitant to draw both from his native Japanese and from other, especially Western, traditions. On the other hand, his reference to the heritage is always based on the critical and creative appropriation that often brings the heritage one step beyond its traditional boundaries. For example, it is not at all difficult to discern a Vitruvian ideal with four equilateral triangles in his temporary theater, Kara-za in Tokyo (1988). Ando chose the dodecagon because of a certain order and perfection that the human mind tends to find in the number 12. This also referred to the 12-year cycle of the Eastern calendar and the 12 months of the Western year. Then Vitruvius’s recommendation is, for Ando, not restricted to the West but rather is cross-culturally human. For Ando, the dodecagon is the most appropriate form to give to the project in which theatrical events represent a construction of a temporary microcosm.

With Ando’s Church of the Light (1989), a cross becomes more than a Christian symbol. Instead, a vertical and horizontal linear opening in the otherwise solid concrete wall is a void at the end of the space. It embodies the sense of time and space beyond reach, so appropriate for religious contemplation. It encourages a respect for the past, a commitment to the future, and a trust in the universal applicability and effectiveness of one’s
particular religious activity, which in turn is limited by its place and time.

Ando has an extraordinary background as an architect. He did not receive any formal architectural education, nor did he apprentice in an office. As for career preparation, Ando often refers to the study tours he made on his own and the books he read, including Le Corbusier's oeuvre, during the period between 1962 and 1969, before he opened his architectural office in Osaka. This specific location was also somewhat out of ordinary, for many well-known, well-established architects are in Tokyo, by far Japan's largest center of economic activity. Because of this and because of the strong regional accent in his Japanese, Ando had often compared himself to a stray warrior, half mockingly and half proudly. His is the proof that still, in the economically driven contemporary societies, architecture can provide a spiritual and even sacred dimension of the human existence.

Although his early practice was limited primarily to residences and small commercial building in the nearby regions of his office, Ando gradually gained domestic and international acclaim and extended his practice to cultural and religious institutions. Ando has received virtually every award there is for an architect, including the Annual Prize from the Architectural Institute of Japan (1979), the Alvar Aalto Medal from the Finnish Association of Architects (1985), the Gold Medal of Architecture from the French Academy of Architecture (1989), the Arnold W. Brunner Memorial Prize from the American Academy and Institute of Arts and Letters (1991), the Carlsberg Architectural Prize of Denmark (1992), the Asahi Prize (1995), the 18th Pritzker Architecture Prize (1995), the eighth Premium Imperiale (1996), and the Royal Gold Medal from the Royal Institute of British Architects (1997). His vigorous influence is manifest in the range of exhibitions of his work, including the Museum of Modern Art, New York (1991); the Centre Georges Pompidou, Paris (1993); the Royal Institute of British Architects, London (1993); the Basilica Palladiana, Vicenza (1995); the Sixth Venice Bienalle (1996); the National Museum of Contemporary Art, Seoul (1998); and the Royal Academy of Arts, London (1998). His winning competition entries include the Modern Art Museum of Fort Worth, Texas (1997); the Hyogo Prefectural Museum of Modern Art (1997); and the Manchester City Centre Piccadilly Gardens Regeneration (1999).

Rumiko Handa

See also Church on the Water, Hokkaido, Japan; Japan; Modernism; Postmodernism

Biography

Born in Osaka, Japan, 13 September 1941. Self-taught in architecture traveled in the United States, Europe, and Africa 1962–

Selected Works

Row House Sumiyoshi, Osaka, 1976
Water Temple, on Awaji Island, 1991
Forest of Tombs Museum, Kumamoto, 1992
Vitra Seminar House, Weil-am-Rhein, Germany, 1993
Oyamazaki Villa Museum, Kyoto, 1995
Hyogo Prefectural Museum of Modern Art (first prize, competition), 1997
Modern Art Museum of Fort Worth (first prize, competition), Texas, 1997
Church on the Water, Hokkaido, 1998
Manchester City Centre Piccadilly Gardens Regeneration (first prize, competition), 1999

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APARTMENT BUILDING

Population growth and the increasing density of cities created a housing crisis in the 20th century. The apartment building emerged as a solution for housing large numbers of people in small areas. Although a preexisting type, during the 20th century the development of the apartment building dramatically re-shaped the built environment of cities and their surrounding suburbs. Apartment buildings developed in locations convenient to transportation networks and services that encouraged dense residential land use. The increase in apartment living subsequently inspired continued international dissemination of the modern apartment building type.

An apartment building contains multiple dwelling units of one or more rooms. Other basic aspects of the 20th-century apartment building’s program are a bathroom and kitchen for each unit and the provision of heating, ventilation, air conditioning, and other systems. As with other commercial building types, efficient use of space is integral to good apartment building design. Public areas of the apartment building are normally minimal, with a small lobby and laundry room or, in more luxurious examples, a roof deck, recreation room, or swimming pool. All apartment buildings share the basic function of providing shelter for numerous household groups, but the features and appointments of a building can vary greatly, depending on the socioeconomic level of the intended residents. Apartment buildings need to balance efficiency with comfort; this requirement is challenging, especially when building for low-income tenants.

In the early 20th century, most architecturally notable apartment buildings were intended for upper-class tenants. Living in a full-service apartment building could provide a luxurious home at much smaller cost than maintaining a single-family house. Rising land values in many cities made sole ownership prohibitively expensive even for the relatively well off. Use of Classical Revival and Italian Renaissance Revival decorative modes was prevalent, as evidenced by the lavish examples built in cities such as New York, Chicago, Los Angeles, London, Paris, and Vienna. The dominance of historical styles in apartment building design indicated the fashionable design mode for most commercial and domestic structures during the early part of the century.

For low- and middle-income tenants, apartment building design was characterized by tension between aesthetics and economic viability. Tenement house design frequently sacrificed aesthetic and sanitary concerns to create a profitable investment. By the 1920s, apartment buildings were integral to the international debate over housing and social reform. European avant-garde architects used the apartment building type to explore the potential of modernism and prefabricated structural systems for providing affordable worker housing. Government sponsorship of housing projects provided important opportunities for architectural experimentation not available in the commercial real estate market of the United States despite housing reform efforts. The housing policy of the Weimar Republic generated pioneering modern apartment buildings for German cities, such as Breslau, Hamburg, Celle, Berlin, and Frankfurt. Another example is J.J.P. Oud’s Kieftoek housing (1925), an International Style garden apartment complex built in Rotterdam. Both the garden apartment and the high-rise form of the apartment building were explored by architects throughout the mid-20th century. A key high-rise example in London is Highpoint I (1933–35), designed by Berthold Lubetkin and Tecton.

These two primary apartment building forms—the mainly urban high-rise and the suburban garden apartment—became internationally prevalent by the 1930s. High-rise apartment buildings, alone and later in planned groups, capitalized on an economy of scale. They distributed the rising cost of elevators, ventilation, and other systems-related apparatus by using modern building materials to create taller structures with more living units. Garden apartments were suitable for lower-density development on the urban periphery, where land was less expensive. Groups of two- or three-story buildings arranged on landscaped sites contained units that shared an entrance stairwell. The garden apartment form did not require formal public areas or expensive elevators but was not as efficient in land use or building materials as a more compact high-rise apartment building.