3. Architectural History
3.1 National Context

3.1.1 The Birth of Modern Architecture

Modern architecture has its origins in both changing technology and in the “re-envision-ing” of the social role of architecture in the mid 20th century. The foundations of the modernist movement were in Europe, although many of the technical innovations came from the experimentation of North American designers and builders. Some historians see technological improvements as the driving force behind the new architecture: the development of iron and then steel, followed by increased application of reinforced concrete. Other scholars see the aesthetic revolt against the excessive decoration of the late Victorian period as the key to understanding “modernism.” A few emphasize the simple practicalities of the new architecture — a style of building that emphasizes simplicity and functionality over sentimentality and historical or cultural reference.

The Industrial Revolution lay at the heart of the modern movement. Although most scholars now question historian Nicholas Pevsner’s emphasis on the importance of Joseph Paxton’s iron and glass exhibit hall for London’s Great Exhibition of 1851, few doubt the significance of iron and steel for new directions in building technology during the late 19th century. Iron served as a new supporting material for mill buildings and urban shops and warehouses, offering greater strength and allowing for wider spans and openings. James Bogardus’s innovative cast-iron facings for New York commercial buildings anticipated the curtain walls of mid-20th-century skyscrapers, permitting tall and wide windows and allowing daylight to penetrate deep into compact urban structures. The introduction of steel framing by architects William Le Baron Jenny, Daniel Burnham and others, particularly in Chicago during the 1890s, allowed another progression of technology. These innovations would be critical to the birth of modernism, providing the foundations for changes in aesthetic ideals.

Modernism’s aesthetic revolt had its origins in a number of late 19th and early 20th-century trends. In Great Britain, designers such as Charles Rennie Mackintosh and Edwin Lutyens moved to simplify architectural forms, drawing on both the fanciful work of romantic illustrators, such as Aubrey Beardsley, and deeper vernacular traditions. The Art Nouveau movement, led by practitioners such as Victor Horta in Brussels and Antonio Gaudi in Barcelona, further broke the monopoly of classicism and historicist design, offering alternatives to traditional design strategies and simplifying exterior surfaces and interior plans. Otto Wagner and the Vienna Secession movement were among the innovators in Europe; Louis Sullivan and his onetime employee Frank Lloyd Wright offered alternatives to a few receptive American clients. Wright had a profound impact on European architects following the publication of one hundred of his works in what became the Wasmuth Portfolio in 1910 and 1911.

World War I and the turmoil surrounding the Bolshevik Revolution of 1917 would further disrupt older architectural traditions. The prewar “Futurism” movement in Italy encouraged more radical experimentation with structures and forms. In post-revolutionary Soviet Union, artists and architects attempted to create a new bold architecture in keeping with socialist ideals; this short-lived movement was “Constructivism,” an architecture that seemed to return to the roots of building technology. Futurism devolved into the stark simplicity of mid 20th-century “stripped classicism,” a style of building embraced by the Fascists in the 1920s and 1930s. In Russia, a
new, state-led conservatism would replace Constructivist innovations with a resurgent Neoclassicism in Moscow and other Russian cities, which came at times to resemble the architecture of Fascist Italy and Spain. (Many U.S. projects of the 1930s, executed in the different political climate of Roosevelt’s New Deal, had much the same character, with their emphasis on simple forms and overall formality and symmetry.)

In Germany, however, the group known as the Deutscher Werkbund (The German Work Federation) broke with these trends. The Deutscher Werkbund attempted to incorporate ideals of artisanship exemplified in the British and American Arts and Crafts movement to create a new kind of building that brought crafts techniques into line with industrial production. The Dutch movement “De Stijl” (meaning literally, “the style”) further promoted simplicity and the use of industrial forms. Both of these movements helped to lay the groundwork for new kinds of architecture in the post-World War I period.

Germany provided the most concentrated example of postwar innovation. The Staatliches Bauhaus, known simply as Bauhaus, was the center of the progressive Weimar Republic’s experiment in modern design. Located in three different German cities — Weimar, Dessau and finally Berlin — the industrial and art school gained from the leadership of three pivotal figures in modern architecture: Walter Gropius, Hannes Meyer and Ludwig Mies van der Rohe, directors from 1919 to 1933, when the school finally closed. New German ideas had a prominent place at the 1929 International Exposition in Barcelona, introducing the outside world to the new aesthetics of machine-like design. The Bauhaus also made significant contributions to several German cities, before repression by the Nazis. This included as many as 4000 buildings for Tel Aviv during the 1930s. Combining architecture with furniture and fabric design, the school emphasized machine-made products and standardization of techniques and materials.

Modernism had another champion: the widely influential Swiss architect Charles-Edouard Jeanneret, known to the world as Le Corbusier, or “the crow,” or more charitably, “the raven.” Working independently, Le Corbusier developed a stark and uncompromising architecture that emphasized industrial components and broad expanses of white surfaces. Widely controversial, he developed prototypes such as the Dom-ino House and put forward provocatively visionary ideas such as the replacement of Paris by a grid of high-rise buildings — a proposal that uncannily anticipated the efforts of Urban Renewal in the U.S. during the 1950s and 1960s. With a few highly influential projects, such as the Swiss Pavilion (Pavillon Suisse) at the Cite Universaire of 1930-32 and the much photographed 1928-31 Villa Savoye in suburban Poissy, Le Corbusier’s ideas found expression in the Congress International d’Architecture Moderne (CIAM), begun in 1928. Made up of architects from throughout Europe, the CIAM laid out the principles of modern design, promulgating these in a collected volume known as the Athens Charter in 1943.

Although the Bauhaus and CIAM promoted orthodoxy, the early 20th-century Expressionist Movement offered an alternative. Among the most notable practitioners in this genre were Erich Mendelsohn and Bruno Taut, whose Einstein Tower (1919-22) and Alpine Architecture (a visionary work published in 1917), respectively, exemplified surrealist inventiveness and the incorporation of unusual materials and forms. With close alliances to literature and films, especially Robert Weine’s famous The Cabinet of Dr. Caligari, released in Germany in 1920,
Expressionism celebrated naturalistic forms, unusual massing and radical experimentation. Joined for a short time by architects Walter Gropius and Ludwig Mies van der Rohe, Expressionist architects championed reinforced concrete as a uniquely plastic building material, but also employed brick, glass and steel in unusual ways. Although suppressed by the rise of Fascism and the Nazi Party, Expressionism remained a powerful stimulant for architects of the modern period. Later designers, such as Hans Scharoun in Germany and Bruce Goff in the U.S. employed Expressionist ideas in their well-known work of the 1950s and 1960s. Expressionism also resurfaced in Pop-Art, and in later “Fantasy” and “Googie” Architecture.

3.1.2 Modern Architecture in the U.S.

Architects in the United States were slow to accept the new European initiatives. Most architecture schools still taught using the methods of the Paris-based Ecole de Beaux Arts, concentrating on traditional forms and ornamentation. Certain design innovations, however, began to break the wall of conservatism. Inspired in part by the powerful movie industry, both Art Deco and Art Moderne began to have an impact on the North American streetscape, offering a new both “Jazz Age” and “streamlined” view of the future. The Art Deco style took its name from the Exposition Internationales des Arts Decoratifs et Industriels Moderne (Exposition of Modern Decorative and Industrial Arts) held in Paris in 1925. “Modern” or “Moderne” was a variant on this title.

With its staccato patterns and references to ancient Egyptian, Neoclassical and Aztec and Mayan architecture and design, the Art Deco Style was popular for a wide variety of commercial buildings, particularly buildings associated with the new automotive culture of the U.S. In 1929, the powerful Chrysler Motor Corporation would employ the Art Deco style with dramatic results in its own New York City headquarters building. Other Art Deco inspired buildings served as highway cafes and shopping centers. Movie theaters especially employed the style as did movie sets for many Hollywood films. Reinforced by films of the late 1920s and the Great Depression of the early 1930s — the Busby Berkeley musical “extravaganzas,” especially the “Gold Digger” films, featured Art Deco motifs as a form of escapism — the Art Deco style proved to be an inexpensive way to create a sense of dash and excitement in an otherwise depressed era.

The Moderne Style, a more streamlined and horizontal form of modern architecture, frequently substituted for Art Deco. The Zigzag Moderne, with its regular patterns of geometrical ornament, similarly matched Art Deco in popular design. Known variously as Streamlined, Deco, Zigzag and Modernistic, these new styles helped open the way for more abstract and functional architecture in many American cities. The resort city of Miami Beach thrived on the combined effects of Art Deco and Modernistic buildings, providing a rich fantasy land for northern vacationers, as did Los Angeles, the originator of America’s increasingly influential film industry.

The government-backed architecture of the Depression Era closely aligned with the Art Deco and Art Moderne styles. Inspired in part by the Stripped Classicism of Mussolini’s Fascist designs and by Italian Futurism (see above), the many simplified classical style buildings sponsored through the Works Progress (later Works Projects) Administration (WPA) and
Public Works Administration (PWA) included many features redolent of more the popular architectural designs of Deco, Zigzag and Streamlined Modern. Post offices, railway stations, fire-stations, police stations and schools funded by the federal government embraced the simplicity of the stripped-down designs, both for aesthetic and economic reasons. Bridges, dams and other purely functional structures followed the same general pattern, also employing — as did other public buildings of the era — a bounty of reinforced concrete in their construction. Not expressly "modern" these many buildings helped set the stage for later acceptance of more radical European design ideals.

More high-minded architects both imitated and helped inspire some of these forms. Foremost among these was Frank Lloyd Wright, who disdained both European modernism and popular commercial architecture, but managed still to incorporate both Modernistic and Art Deco features into many of his buildings. Among these was the influential Barnsdall House in Los Angeles (called Hollyhock House) of 1919-20, with its famous Aztex or Zapotec motifs, and the Millard House (called La Miniatura) of 1923, with its distinctive “zigzag” decoration. Although Wright moved on from these projects to what became his mature “Organic Style,” both Art Deco and Modernistic motifs continued to recur in his work, notably in the curving forms of his 1944-51 Johnson Wax Headquarters Tower in Racine, Wisconsin and his Price Tower in Bartlesville, Oklahoma, built in 1956.

There were other American innovators in addition to Wright. Bertram Goodhue managed to convey a modern starkness in his 1914 plan for the mining town of Tyrone, New Mexico as did California-based Irving Gill in his Dodge House of 1914-16. Both architects built upon vernacular traditions of the Southwest, giving them a distinctly modern feel. Gill’s Horatio West Court in Santa Monica (1919) and his Cossitt House in San Diego (1918) demonstrate his affinities to the Cubist movement, while at the same time showing a loyalty to the more traditional Mission Revival so popular at the time in California.

In the next decade, Austrian-born Rudolph Schindler and his compatriot Richard Neutra pushed the Spanish Eclectic Revival Styles of Southern California to new limits, providing Americans a first glimpse of exciting trends in Europe. Schindler’s house for himself, completed in 1923, and his Lovell Beach House of 1926 were clear frontrunners of modernism, showing a debt to both European innovations and simple functionalism. Similarly, Neutra’s Jardinette Apartments of 1928 and Lovell House of 1929 both employed features common to Le Corbusier’s work in France and helped to popularize the new design trend. His work continued unabated during the 1930s and 1940s, serving as the inspiration for many of the more common contractor-built apartment blocks and commercial buildings of the post-World War II era in particular.

On the East Coast, European designs began to gain slow acceptance in the late 1920s and early 1930s. The well-publicized Tribune Tower competition of 1922 introduced many Americans to the work of European architects, including proposals by Gropius, Bruno Taut and Czech architect Alfred Loos. (None were successful and the winning design was a Neo-Gothic building by John Mead Howells and Raymond Hood; Finnish architect Eliel Saarinen’s modernist design came in second.) The Philadelphia Savings Society Building (PSFS) by Swiss architect William Lescaze and his partner George Howe, completed in 1932, would be the first truly "International Style" building in the U.S. Thirty stories high, the building divided into
clear functional areas and featured a smooth face of glass, polished limestone and granite. Office windows formed horizontal strips, only intermittently interrupted by vertical columns. The rear service core had a covering of glazed and unglazed black brick, emphasizing its function. The building was also air-conditioned, which allowed for windows to remain closed.

The pivotal event in the spread of newer, mostly European architectural ideas was the “International Style” exhibit held at the newly founded Museum of Modern Art in New York in 1932. The occasion of the first use of the term, the exhibit featured the work of both European and American architects who exemplified, in the eyes of curators Philip Johnson and historian Henry Russell Hitchcock, the best aspects of the modern architectural movement. Although the title suggested that the movement was primarily an aesthetic one, many of the featured architects objected to the term, believing their work as “outside” of style and more in the way of an honest response to new social and economic conditions. The exhibit nonetheless gave a nod of acceptance to the new movement and sped the acceptance of new architectural ideas in the U.S.

A more immediate cause of acceptance was the influx during the 1930s of several prominent modern architects. Fleeing Nazi Germany, Walter Gropius, Marcel Breuer and then Ludwig Mies van der Rohe, all prominent members of the Bauhaus, took academic positions at American universities; Gropius and Breuer at Harvard and Mies van der Rohe at the Illinois Institute of Technology in Chicago (IIT). Other Bauhaus trained architects and designers taught at Columbia University and Washington University in St. Louis and their influence extended well beyond their teaching. Gropius, Mies van der Rohe and Marcel Breuer all had private practices, and set examples through their well-publicized work.

Throughout this period, American Frank Lloyd Wright continued to make his own mark on the architectural landscape. Rejecting the European-led International Style, Wright maintained a practice from his combined home and atelier Taliesin, in Wisconsin. There he trained a new generation of architects in his own brand of Organic Architecture. With only a few clients and often strapped for funds, Wright managed to keep his name before the public, completing the celebrated Kaufman House, known popularly as Falling Water, in 1934-37, and starting a western branch of his home and school, to be called Taliesin West, at Scottsdale, Arizona, beginning in 1937. Wright also experimented with compact, standardized dwellings he called Usonian Houses and published visions of his new low-density settlement called Broadacre City. As an architectural maverick, Wright was an object of both derision and esteem. Nonetheless, he offered a striking alternative for many younger architects who would hold Wright up as a kind of model of the “architect-as-hero”— an image perpetuated in novelist Ayn Rand’s highly popular The Fountainhead, published in 1942 (with eventually over 6.5 million copies sold worldwide).

The 1939 World’s Fair in New York was probably the most popular vehicle of new architectural ideas. Held outside the city on an over 1200-acre site and visited by over 40 million people over nearly two years of existence, the World’s Fair caught the imagination of many Americans. New architectural designs, such as modernist architect Alava Aalto’s Finnish Pavilion, introduced visitors to the new architecture of Europe, while other exhibits, such as those in the Transportation Zone, laid out the possibilities for new cities; one of the most popular exhibits in the zone was design Norman Bel Geddes’s “Futurama,” which featured a
ride over an immense model of a section of the U.S. showing modern divided highways, clean city centers and model suburban homes.

A final impetus in the move toward modernism by U.S. architects was the growing importance of industrial design. Building on a long history of utilitarianism, factory owners began to expand plants along even more ambitious lines in the post-World War I era. German-born architect Albert Kahn’s work was among the most admired. In addition to hundreds of factories in the Soviet Union, Kahn contributed substantially to the U.S.’s industrial buildings, beginning as early as 1902. His factory designs included work for the Packard Automobile Company, for General Motors, the Fisher Body Company, Kresge, the Detroit Free Press, Ford and Dodge. By 1938, Kahn had designed, according to some estimates, as many as 20 percent of the factories in the U.S. Highly innovative and open to new engineering ideas, Kahn was hugely influential throughout the country. He was notable especially for replacing older wood members with steel and concrete and with the development of slender “flared mushroom” columns combined with concrete slab floors and ceilings to provide more reliable support.

3.1.3 War-time and Postwar Developments

World War II put a stop to some development but encouraged the introduction of even greater efficiencies. The war required new construction of all kinds: wharfs, dry-docks, hangers, runways, barracks, schools, recreation buildings, swimming pools, warehouses, both officer and enlisted housing, administration buildings, detention centers, jails, brigs, hospitals, libraries, officers and enlisted personnel clubs and many other kinds of structures. While the WPA and PWA had anticipated some of the wartime needs through projects in the 1930s, most bases and naval stations were not prepared for the wartime buildup and the new demands on facilities. Wood barracks and officer housing, metal aircraft hangers and warehouses answered some of these needs. Tents and other temporary structures offered alternatives.

World War II was a time of maximum efficiency and organization — despite frequent jokes to the contrary — especially on the industrial front. While there was certainly waste, the Navy Seabees and Army Corps of Engineers did all they could to stretch materials and limit costs. Mostly built by private contractors, new housing alone had to meet the temporary needs of up to 6 million military personnel. (The prewar Army had only 200,000 soldiers.) The Army’s two construction divisions, the Quartermaster General and the Army Corps of Engineers, for example, laid out five principles to guide mobilization construction plans: speed, simplicity, conservation of materials, flexibility and safety. Based on these principles, construction divisions drew up standardized building plans for simple wood-frame structures. Built in assembly-line fashion, the standardized units included inexpensive and prefabricated materials. A single package could meet the needs of a 125-man company, complete with barracks (with central heating, interior showers and latrines), mess halls, and recreation buildings and supply buildings.

In all the Army developed over 300 different standardized designs. Many followed prewar conventions, consisting of wood-frame walls, gable roofs and double-hung windows. Other buildings were more innovative, especially warehouses and hangers. In 1941, the U.S. Navy commissioned a lightweight building produced by the George A. Fuller Company that could be easily assembled and shipped anywhere on short notice. The final design was a 16 by 36 foot
structure, with steel framing, pressed wood lining, sheet metal side walls and plywood ends. This could be set on grade or on wood pilings. There was also an all-wood “Pacific Hut,” produced for use in the Pacific Theater. Named after the site of their manufacture in Rhode Island, Fuller’s Quonset huts became synonymous with World War II — much as did the Willys Company’s ubiquitous Jeep also introduced that year. The Army and Navy oversaw the construction of as many as 170,000 Quonset huts during the war years. The new building transformed the appearance of American military and naval facilities, creating virtual cities of semicircular structures laid out in seemingly endless rows. Sites as remote as Tinian and Guam became enormous expanses of Quonset huts, as did significant parts of the Territory of Hawaii, where the military build-up was particularly significant. Rural sugar fields quickly became the sites of tent and Quonset hut cities, dramatically transforming the character of the islands.

The war effort resulted in over $23 billion of direct government expenditures and many more billion in associated private investment. The wartime program included military camps, factories to produce munitions, planes and vehicles, test facilities, and housing for defense workers. Typically, industrialists joined with the government for many of these projects and even at the local level private contractors did much of the work (see above). Architects, many in the private sector and some in the military, contributed to the projects, learning to both stretch and substitute materials to meet wartime needs. Both engineers and architects also experimented with new materials and techniques to gain greater efficiencies.

The results of the wartime buildup were multiple. Many civilian workers traveled to new places in order to work in the war effort. Women took on jobs they had never done before. Housing was often at a premium, due to scarcity and the growth of new centers of manufacture. Many of the new plants were in coastal areas to cut down on shipping time and costs. These included many new munitions factories — fully 34 new plants were under construction by the end of 1941 — as well and clothing factories, automobile and truck manufactories and especially shipyards. Construction of the million square-foot Pentagon began in 1941, before the U.S. entered the war. This effort alone employed hundreds of workers and eventually housed over 40,000 War Department employees.

There were a number of innovative new buildings as a result of the effort. The Navy created a total of 17 new hangers for its blimp fleet, anticipating the need to patrol for submarines. These measured 1000 feet long and 300 feet wide and were the equivalent of 18 stories high. Lacking sufficient steel for the structures, the engineers devised a way to build most in wood. In Hawaii, Navy engineers developed the largest fuel storage facility ever made. Carved out of the mountains of Red Hill on Oahu, 20 domed cylinders measuring 250 by 100 feet provided storage for over 6 million gallons of fuel. There were also innovations in the construction of military airports and airstrips. Portable runways and hangers aided the effort, especially once the Pacific War was underway.

On the civilian front, workers faced round-the-clock work shifts. Factories and familiar landmarks had new coverings of camouflage paint and nets. Florescent lighting won respect and acceptance due to its cheaper operating costs and better light quality — an important factor for night shifts as well as for workers during the day, since many factories were either windowless or had received a coat of blackout paint over their windows. Workers lived in new housing tracts, such as that developed by Henry Kaiser in Vanport, Oregon in 1942 to provide
housing for 40,000 shipyard workers and their families. At Oak Ridge, Tennessee, the Army Corps of Engineers allocated $1 billion to house some 47,000 workers working on the production of uranium for the then secret development of the atomic bomb.

The relocation of more than 15 million Americans to war production centers constituted the greatest internal migration in the nation’s history. Between 1940 and 1944 more than 500,000 people moved to Los Angeles alone. Many of these worked in new aircraft plants on the city’s outskirts. Developers built residential projects near these plants, hastening the decentralization of Los Angeles. Not only housing but highways changed as well. Los Angeles built many new roads and exploited its existing buses and trolley cars to their fullest. In Detroit, civil engineers devised the first tri-level highway interchange, built in 1942 near the Willow Run bomber plant outside Detroit to accommodate the thousands who commuted to work there.

Architects and designers played an important part in many of these innovations. The government commissioned Frank Lloyd Wright, Walter Gropius and Richard Neutra to design defense housing. Their projects were among the first to employ flat roofs, slab-on-grade construction and large windows, introducing Americans to European ideas that had seemed distant before. Several contractors, such as Henry Kaiser in the west and Levitt and Sons on the East Coast, revamped their approaches to housing, developing new efficiencies of scale in purchasing and construction. Some of these developments extended into the late war and postwar period as well. Levitt used his experience to construct several large “Levittowns” immediately after the war. Henry Kaiser did the same in Southern California. (In the 1960s, he would extend his methods to Hawaii as well.) All of these developments provided housing for many of the war’s veterans and their families, eager to settle into homes and make up for lost time.

Several experimental efforts, such as inventor Buckminster Fuller’s Dymaxion House, begun in collaboration with Beech Aircraft Company in Wichita, Kansas, in 1944, never found acceptance. Other projects, such as that of the Lustron Corporation, which manufactured prefabricated steel houses from military surplus, were short-lived; the company began in 1947 and was out of business by 1950. But all of these projects indicated openness to new ideas and techniques and application of wartime experience. In Los Angeles Charles and Ray Eames worked on molded plywood furniture as a direct result of their designs for the Navy. Zenith Plastics also took the Eames bothers designs into new territory, creating the first plastic chair.

The war generated a lasting legacy in the form of new buildings, new ways of designing and building and new building types. People also were used to moving from place to place and became accustomed to utilitarian structures and surroundings. The end of the war — in 1945 — marked a time of new beginnings as well. Many factory workers preferred to stay where they were; California experienced an enormous boom in population, and once faraway places, such as Hawaii, attracted new populations, particularly of former service personnel seeking new lives. The suburbs developed in unparalleled proportion, providing housing and schools for veterans and their families and also for civilian workers eager to settle down. New highways, including the beginning of the national System of Interstate Highway and Defense Highways, inaugurated by President Dwight D. Eisenhower in 1956, began also to transform the countryside as well as linking new communities. Inspired in part by Germany’s successful “autobahn,” together with the prewar Pennsylvania Turnpike (started in 1940), the new highway system further underwrote the automobile industry in the postwar period. America’s towns and
cities were soon well on their way to becoming the kinds of disbursed settlements we know today, while urban centers were soon to experience the jolt of economic divestment. This was Wright’s Broadacre City come to life, but without the authority and aesthetic sensibility of the architect.

3.1.4 The Triumph of the International Style

Americans in the late 1940s and 1950s were open to new architectural ideas, but slow to reinvest in new institutional and corporate buildings. Many of the first larger buildings were continuations of prewar projects. W.S. Arrasmith’s celebrated design for the Greyhound Terminal in Cleveland, completed in 1948, adhered to a predilection for Streamlined Modern that had been evident in his prewar terminal buildings as well. Similarly, Frank Lloyd Wright’s iconic Guggenheim Museum, first unveiled in 1943, went through several minor modifications until its completion in 1959. Modernistic traits show up as well in Wright’s Research Tower for the 1930s Johnson Wax Company Headquarters in Racine, completed in 1951 and in his Price Tower of a few years later (see above). However, with his Marin County Civic Center in San Rafael, California, begun in 1957, and his Gammage Auditorium in Tempe, Arizona, one of his last projects before his death in 1959, he showed a creative affinity for older classical forms — although in a distinctly modern vocabulary.

Wright was openly opposed to the new direction of postwar architecture and pressed for a uniquely American solution to the country’s needs. He was bitter about his rejected design for the new Air Force Academy, criticizing the winning design by the Chicago firm of Skidmore Owings and Merrill (SOM) as lacking in romance and imagination. Wright continued to experiment and to promote the idea of affordable, yet elegant housing for the middle classes, partnering with contractor Marshall Erdman — builder of the Unitarian Society of Madison, one of Wright’s earlier projects — to manufacture prefab houses. Like Wright’s proposed “Mile-high Tower” for Chicago (also known as Illinois Sky-City), the Marshall Erdman Prefab Houses project came to little, with only a handful of projects completed between 1957 and 1960, when the business ceased.

Some of the most prestigious new buildings of the postwar period were those designed by the very architects that Wright opposed. In 1953, Walter Gropius, fresh from completion of the Harvard University Graduate Center (1949-50) and by then a teacher of many young and ambitious architects, unveiled his design for the Boston Back Bay Development Center. An integrated grouping of low-rise industrial style buildings, punctuated by two glass and concrete towers, Gropius’s design was harbinger of the new movements in both planning and architecture. Not content to work within the preexisting grid of Boston’s Back Bay, Gropius created a separate “campus” with walkways, parks and parking structures. Never built, the proposed development set new standards that other architects would soon emulate.

Among the first of the new commercial complexes was Lever House in New York City, designed by the young firm of SOM in 1953. Like the proposed Boston Back Bay Development Center, Lever House is a combination of a low-rise podium combined with a tall steel and glass tower. Lever House would be the first New York skyscraper designed around an urban plaza, and again like Gropius’s earlier project, conspired to break the constraints on Manhattan’s grid of streets. Not to be outdone, Ludwig Mies van der Rohe, the inspiration for
the partners of SOM, designed the nearby Seagram Building, a bronze and glass tower again set in a public plaza. Completed in 1958, the building was in part the brainchild of Seagram heir Phyllis Lambert and would become probably the most notable of "Miesian" buildings in the U.S. Philip Johnson, onetime curator at the Museum of Modern Art and a later student of Walter Gropius at Harvard, collaborated on the design.

Mies had been active in Chicago as well. Still teaching at IIT (Illinois Institute Technology), he had designed his first tall apartment building for the city in 1949. A year later he was involved in one of his most important commissions, the twin towered Lake Shore Drive apartments overlooking Lake Michigan and the Illinois River. Mies’s midcentury designs drew heavily upon his work with the Bauhaus in the 1920s and early 1930s. He was particularly enchanted with the idea of a unifying “grid,” based on his own system of ideal proportioning. He also celebrated the industrial “I” beam, using it both as the basis for his glass curtained walled buildings’ frames and as a unifying exterior embellishment — a new kind of “classical order” as both Mies and architectural historians have recognized.

In the early 1960s, Mies’s glass boxes proliferated in the major cities of the U.S. Mies’s own work included the IBM Plaza in Chicago (1966), Lafayette Towers Apartments in Detroit (1956), Highfield House in Baltimore (1964), S.R. Crown Hall at IIT (1950-56), and the University of Chicago, School of Social Administration (1962). Other projects in the Miesian style included the California College of Arts, San Francisco Campus, begun in 1951 and designed by SOM, the Chase Manhattan Bank in New York, designed by Gordon Bunshaft of SOM (1961), and the U.S Air Force Academy, again designed by the SOM team, with Walter Netsch designing the strikingly symbolic Chapel (1956-1962). Sixth Avenue in New York became in the process a canyon of gray and black tinted skyscrapers, most with foreboding concrete plazas beneath.

Not all modern architecture was in a style that imitated Mies. The team of Stafford, Morin and Longwood completed the International Style Eugene City Hall in 1964. Employing concrete, steel and glass curtain walls, the architects managed to create a more domestic and friendly version of modern architecture for West Coast consumption. Similarly, Italian-born architect Pietro Belluschi fitted the modest 12-story Equitable Life Assurance Building in Portland, Oregon with a glass curtain wall that seemed not to intimidate so much as Mies’s Chicago and New York City slabs. In New York itself, an international team created in the late 1940s and early 1950s the campus of the new United Nations Secretariat buildings using a range of modernist idioms. Principal among the designers were Le Corbusier, his admirer Brazilian architect Oscar Neimeyer and American architect Walter K. Harrison, who coordinated the efforts.

The architecture of glass and steel found its complement in the more sculptural forms employed by Le Corbusier. Active in the rebuilding of Europe with such important commissions as the Unite d’Habitation in Marseilles, Le Corbusier began to explore the use of reinforced concrete to greater effect. In the U.S., he designed the Carpenter Center for Harvard University (1961-64) again employing concrete panels and a complex circulation system of ramps and overlooks. The beginning of his more mature work at Chandigarh in India (built between 1950 and 1956) and his stark and sculptural Notre Dame du Haut in Ronchamp (1953-55) and Monastery of Sainte-Marie de la Tourette in Eveux (1956-59), the Carpenter
Center provided a striking alternative to Mies’s glass and steel structures. It also anticipated one of the later movements that moved self-consciously away from the International Style — late 1960s and 1970s “Brutalism.”

In addition to Le Corbusier, other European architects left their mark on American building in the late 1950s and early 1960s. Foremost among these was Finnish architect Eero Saarinen, son of Eliel Saarinen of the Chicago Tribune contest. Saarinen was born in Finland, but spent his youth at the Cranbrook Academy outside of Detroit, where his father taught art. Educated in France at the Architecture School at Yale, the younger Saarinen made his first mark designing furniture. In 1940, he received a first commission for the Crow island School in Winnetka, Illinois. Saarinen returned from service in U.S. Army intelligence (OSS, the Office of Strategic Services) to receive an important commission from General Motors for a new Technical Center, a project he completed in 1956. He soon afterward designed headquarters for a number of U.S. corporations, including John Deere (1963), IBM (1957-61) and CBS (1965). He also designed buildings for several U.S. colleges and universities, including Vassar and Yale. While his early work was much akin to that of Mies van der Rohe, he soon moved on to far more expressive and fanciful forms. These included his bird-like TWA Terminal at New York’s Idlewild (now Kennedy) Airport (1962), Dulles Airport outside of Washington, D.C. (1958-62) and the soaring Gateway Arch at St. Louis (1961-66), probably his best remembered work.

All broadly “International Style” in character, Saarinen’s buildings introduced a new heroic spirit somewhat at odds with the former vision of “architecture as machine.” His work also recalled early modernism’s Expressionist movement as well as hinting at Le Corbusier’s more “brutal” designs. Other architects similarly tested the envelope of the new orthodoxies. Finnish architect Alvar Aalto brought a kind of timeless vernacular quality to his Baker House dormitory for MIT in 1947-48. Mies’s one-time student Bertrand Goldberg offered an alternative, far more sculptural version of his master’s Lake Shore Drive apartments in his Marina City project of 1959-64. Works such as these suggested new directions in modern architecture away from the glass box toward more dynamic molded forms. In retrospect, despite its enormous impact, the heyday of International Style as conceived by Walter Gropius and Mies van der Rohe during their Bauhaus days lasted no more than a few short years.

Nothing better illustrates the shortcomings of the pure Bauhaus designs than the private housing market of this period. Mies himself designed the purely geometric Farnsworth House in Plano, Illinois in 1951. Gropius’s student Philip Johnson created his own Glass House on his estate in New Canaan in 1949. However, modernist houses such as these and Richard Neutra’s Bailey House in Santa Monica, constructed in 1946, appealed more to connoisseurs of modernism. Most home owners preferred more traditional forms — a point later made by writer Tom Wolfe in his attack on modernism, Bauhaus to Our House. There were exceptions of course. Joseph Esherick’s shingle-covered Cary House in Mill Valley, California and Pierre Koenig’s famous Los Angeles Stahl House had more popular appeal, the Stahl House, perhaps because of its dramatic hillside setting. Both designed in 1960, these became prototypes for high-end houses in Palm Springs and in other parts of the country, becoming part of what later writers have characterized variously as “Mid-Century Modern,” “California Modern” and “Tropical Modern.” (The Cary House was also the progenitor of the so-called “Shed” style, later explored by Charles Moore and other architects.) Charles Eames’s modest
house in Pacific Palisades of 1949 likewise piqued the public’s imagination due to the simplicity of its industrial parts and its overall modesty.

### 3.1.5 Alternative Trends

By the mid 1960s, the simple box forms of the full-blown Miesian style had fallen into disrepute. In part because of their simplicity of design, the glass enclosed skyscrapers of the 1950s and early 1960s offered little in the form of innovation. Already, by 1960, architects were looking for ways out of the cage of industrial looking designs toward new forms of inspiration. Among the most prolific of American architectural adventurers was Louis Kahn. Estonian born and American educated, Kahn was an architectural educator long before establishing his own distinct style. Adhering to International Style orthodoxy into the 1940s, Kahn had an opportunity to spend a year at the American Academy in Rome, a move that dramatically changed his aesthetic directions. Kahn’s buildings of the late 1950s and early 1960s moved away from the stark glass boxes of the International Style toward a new, volumetric architecture based on simple massed forms. His work also celebrated the distinct character of materials, whether brick, ceramic or concrete. The Richards Medical Research Laboratories at the University of Pennsylvania (1957-65), the Salk Institute in La Jolla, California (1959-65) and the First Unitarian Church in Rochester, New York (1959-69) established Kahn’s reputation as an innovator and helped point new directions in modern architecture. His National Assembly Building in Dacca extended the impact of his work abroad.

Kahn’s example opened the door for other experiments in modernism. Kevin Roche and John Dinkaloo further explored the honest expression of masses in materials in their designs for the Ford Foundation Center in New York City (1968) and the Knights of Columbus Building in New Haven, Connecticut (1969). Furthering the direction of architects such as Kahn and Roche-Dinkaloo, the Structuralism movement, engendered in part by Dutch writer and architect Aldo van Eyck’s influential publications, attacked the simple Functionalist rationale of European Modernism, as expressed through the still active CIAM. Structuralism, also known as the Structuralist movement, called for a new architecture based on the inherent logic of forms. Louis Kahn’s Kimball Art Museum in Forth Worth (1967-72) would embody these ideals as would the work of Junzo Sakakura and Kenzo Tange in Japan and John Habraken in the Netherlands. Le Corbusier himself produced several buildings in the Structuralist mode including some of his earlier projects. His collaboration with Japanese architects Kunio Maekawa, Junzo Sakakura and Takamasa Yoshizakai on the National Museum of Western Art in Tokyo, built in 1959, had clear Structuralist affinities.

The most dramatic break from the glass box was a countermovement known as Brutalism. Given this name by British architectural critic Reyner Banham in 1966, Brutalism used repetitive angular forms, rough blocky outlines, often incorporating dark foreboding interiors. Brutalist architects, such as Alison and Peter Simpson in the United Kingdom and Robin Gibson and Ken Wooley in Australia, insisted on the movement’s adherence to architectural honesty and practicality, citing the style’s “non-romantic” qualities and its visual excitement. U.S. based architects, beginning with Harvard’s Walter Gropius, saw aesthetic values in Brutalism, emphasizing concrete and stone surfaces with clear sculptural values.
Brutalism relied on various exterior materials, but tended to revert to molded concrete precisely for its bold and harsh textures. Practitioners took their lead from Le Corbusier’s postwar housing projects as well as his famous monastery of Sainte-Marie de la Tourette. Boston’s City Hall, designed by Gerhardt Kaffmann and N. Michael McKinnell, exemplified the Brutalist spirit, providing an intimidating, block-like structure at the center of an open paved square. The structure is suggestive of a Renaissance palazzo, but it also conjured up images of Piranesi’s nightmarish prisons. Louis Kahn’s architecture incorporated many Brutalist features, notably his library for Phillips Exeter Academy of 1965-71. Brutalist architecture was especially popular on university campuses. Notable examples are Paul Rudolf’s Architecture School Building at Yale (1963) and the J. Edgar Hoover Building in Washington, D.C., designed by Charles F. Murphy and Associates in 1964 (and inaugurated in 1975). Never widely popular with the public, Brutalism seemed to reflect the strident emotions of the late 1960s and early 1970s. However, many “softer” designs reflecting both Brutalist and other aesthetic directions have been more widely accepted; good examples are the Washington, D.C. Metro stations with their Neoclassical features.

Brutalism found its equivalent in the more “polite” architecture of New Formalism, which represented an effort to bring greater elegance to otherwise International Style buildings and provide greater “formality” through the reinstatement of traditional hierarchies in plans and facades. The principal adherents of New Formalism were Edward Durell Stone, Phillip Johnson and Japanese-American architect Minoru Yamasaki. All came to the style through different intellectual routes and different projects. Stone’s architecture drew deeply from his exposure to Indian and Middle Eastern Architecture. His U.S. Embassy in New Delhi of 1954 set his career on a new trajectory and gave him wide recognition, including a cover on Time magazine. Stone’s architecture typically employed lavish materials such as marble to create an overall effect of timelessness or “romantic historicism.” Stone’s architecture, as represented in prominent projects such as New York’s Gallery of Modern Art for A&P Supermarket magnate Huntington Hartford (1964), the Kennedy Center for the Performing Arts in Washington, D.C. (1962) and Fort Worth City Hall (1967) reintroduced a kind of Beaux Arts formality back to architecture.

Other late modern movements included a recurrence of Expressionism and the visionary movement known as Metabolism. An outgrowth in part of Le Corbusier’s late architecture and in part a re-exploration of themes developed at the beginning of the 20th century, Expressionism — sometimes called Neo-Expressionism — was resurrected by Mexican architect Luis Barragan and German theorist Mattias Goeritz in their collaborative Torres de Satelite (1957-58), a grouping of monumental sculptural towers in Naucalpan, Mexico. Eero Saarinen’s 1962 TWA Terminal at Idlewild Airport (now JFK) also exemplified the short-lived Neo-Expressionist movement as did Jorn Ultzon’s highly controversial, but clearly distinctive, Sydney Opera House of 1957-73.

Metabolism as an architectural movement had its greatest impact through a series of visually exciting proposals published in both popular magazines and architectural journals. Several Japanese architects led the Modernism movement: Takashi Asada, Kisho Kurokawa, Kiyonori Kikutake and writer Noboru Kawazoe, who was inspired by the work of Kenzo Tange. These Metabolists put forward revolutionary designs for new urban constructs. They presented their manifesto at the World Design Conference, held in Tokyo in 1960. Completed works included Tange’s Saint Mary’s Cathedral (1964) and Kurakawa’s Nakagin Capsule Tower (1970-72), both in Tokyo. Moshe Safdie’s Habitat for the Montreal World’s Fair in 1967 and the British Archigram movement also had close ties to the Metabolist vision.

### 3.1.6 Popular and Utilitarian Forms

Many Americans of the 1960s found themselves out of step with the new architecture of the times. Brutalism gained few adherents, and both Expressionism and Metabolism remained unpopular among the working and middle classes. The same was true of planning initiatives. New highways, the beginnings of mega malls and the refrains of urban renewal made many Americans question the direction architecture and planning were taking during the last part of the 20th century. The first rumblings of a national historic preservation movement were symptomatic in themselves of a growing disenchantment among some members of the public.

For most Americans, architecture was something left to experts and not subject to question by the lay public. Architects reinforced this idea, by distancing themselves from the needs of everyday people as they became embroiled in battles of architectural movements and political ideology. Nonetheless, a few architects responded to popular interests. Other buildings, often by non-architects, also contributed new, whimsical constructions to the changing environment of America’s cities, towns and open spaces.

A prevalent style during post Second World War movements was “Googie” architecture transformed everyday forms, including those engendered by various phases of the modern period, into fanciful structures aesthetically aimed at “everyman” Connected in large part to popular interests in space travel — and in UFO’s! — This style was sometimes described as Exaggerated Modern — the Googie appellation seems to have been specific to Southern California. Googie transformed the roadways of parts of the country with eccentrically designed service stations, restaurants, billboards and motels in popular motifs. Often, Googie designs appropriated direct symbols from other contexts: concrete tipis for cabin courts; space needles for viewing platforms and revolving restaurants; products, such as syrup bottles or hotdogs, for fast food stores — a “subset” of Googie, sometimes referred to as
Programmatic Architecture. Big Boy, Paul Bunyan, Aunt Jemima and Santa’s Land all caught the eyes of passing motorists, adding to the jumble of auto-dealerships and other new businesses at the edges of U.S. towns and cities.

Saarinen’s TWA terminal flirted with the Googie idea but most American architects remained oblivious to this kind of popular architecture. The exception was Robert Venturi, whose book *Complexity and Contradiction in American Architecture*, published in 1966, suggested that popular forms (as well as older styles of architecture) had an important place in the built world. Googie architecture sometimes imitated “high-style” designs as well. Typically, roofs swept upward, geometric shapes took new forms, and both neon lighting and glass and steel became sculptural elements in the fantastic designs of usually anonymous designers. These new popular forms referred to as Commercial Architecture, Novelty Architecture, Fantasy Architecture and simply “Pop” Art and Architecture transformed the edges of cities and penetrated into the centers as well. McDonald’s “golden arches” pointed the way to new kinds of commercial development; Capitol Records’ famous circular tower — located at the edge of Hollywood Boulevard in Los Angeles and designed by Welton Becket and Associates in 1955 — gave powerful expression to the growing power and influence of popular culture.

One of the great examples of this new, “metaphorical” or “programmatic” architecture was the architecture and interior design associated with what we know now as “Tiki Culture.” The Tiki style is credited to restaurateur Ernst Raymond Beaumont-Gannt, also called Donn Beach or even more commonly “Don the Beachcomber.” Tiki was further popularized in late 1930s and 1940s Hollywood with its evocation of distant tropical places. Joinled in the prewar period by Oakland-based Trader Vic’s, Donn’s original idea gained greater traction in the postwar period in large part because of the America’s wartime experience in the Pacific. James Michener’s *Tales of the South Pacific* and the subsequent Broadway show *South Pacific* helped popularize the style. Tiki lounges sometimes imitated traditional dwellings of Pacific Island peoples; the Bali Hai in New Orleans featured a Yapese ceremonial house with imitation grass roof and coconut decorations. Although architects and builders in the U.S.’s tropical outreaches — the postwar island possessions of Micronesia and the territories of Guam and Hawaii — sometimes based their structures on specific indigenous traditions, most of Tiki was clearly generic in character. The style fulfilled a fantasy of exotic places, just as did films and songs. Tiki — along with such Hollywood mainstays as Grauman’s Egyptian (1924) and Chinese Theaters (1926) and Wilshire Boulevarde’s Brown Derby restaurant (1926) — also helped lay the ground work for attractions such as Disneyland and many other theme parks of the late 20th century.

Although popular images dominated the commercial strips of America’s highways, other kinds of buildings began to proliferate in suburban areas. The 1950s and 1960s were the decades of the ubiquitous “Ranch House” and “Tract House.” Identified also as the American Ranch or Western Ranch, the Ranch House emerged as a housing type of choice in the 1950s. With its one-story elevation, easy access to the rear yard and relatively inexpensive construction costs, the Ranch House became a favorite style among the growing population of Southern California and large housing developments throughout the country. Derived in part from Craftsman-era bungalows and in part from Spanish-period haciendas, the Ranch House epitomized the casual, semi-outdoor lifestyle of the West Coast. Architects Cliff May and

The Ranch House eventually took on distinct regional styles during the 1960s. The East Coast featured the “Colonial Ranch,” a stylistic variant that competed with well accepted traditional forms such as the “Cape Cod” cottage style. Both Ranch Houses and Cape Cod Cottages became standard options for tract house builders throughout the country, including Levitt and Sons on the East Coast and builders such as Henry Kaiser in California (see above). By the late 1950s, the “split-level ranch” offered yet another choice. Efficient, cheap to build and employing standardized components, the suburban tract house became the housing form of choice for many Americans during this era, as new areas developed and cities lost their traditional populations causing of the growth of the suburbs.

Not all builders were content with this model. California builder Joseph Eichler attempted to improve on the suburban tract home through more comprehensive planning and the introduction of clearly “modernist” features in his housing units. Between 1950 and 1974, he developed nine large communities in both Northern and Southern California, totaling 11,000 houses in all. Eichler’s houses typically incorporated open floor plans, “cathedral” ceilings, sliding glass doors and clean, simple lines into their designs. Industrialist, shipbuilder and developer Henry Kaiser applied some of Eichler’s concepts in his owned planned communities, including that of Panorama, California and Hawaii Kai in Hawaii.

By the 1960s, a few more experimental architects had begun to look again at single houses, offering in part an alternative to tract housing. The most famous of these ventures was Sea Ranch in Gualala, California, about 100 miles south of San Francisco. Located in a large natural reserve, Sea Ranch took advantage of its setting, providing unobstructed views from each house and blending with the terrain. Laid out by landscape architect Lawrence Halprin, Sea Ranch employed a number of architects, including Joseph Esterick, Charles Moore and William Turnbull to create a distinct collection of private houses. Much of Sea Ranch’s architecture draws from vernacular traditions of the west, including shed roofs, shingle and vertical board siding and informal relationships among forms. Originally conceived in 1963 by architect and planner Al Boeke, Sea Ranch would eventually expand to over 1800 dwellings.

While intended for relatively affluent clients — in fact most of Sea Ranch’s houses are second homes — the Sea Ranch project helped open the door for more experimental dwellings. These would range from high-end one-of-a-kind custom houses, to imported Japanese “kit” houses, to naïve, self-built houses by artists and individualists. The 1960s marked as well the reintroduction of Buckminster Fuller’s geodesic dome — a form inaugurated at Black Mountain College in North Carolina in the late 1940s and employed at a number of expositions and for commercial uses during the 1950s and early 1960s — as a popular housing type among “counter-cultural” builders beginning in the mid-1960s.

By the 1960s, America’s cultural landscape had changed radically from prewar years. The Inter-State Highway System had expanded greatly along with networks of secondary roads leading to suburbs, shopping centers and a growing number of “business malls” and “industrial parks” located far from city centers. The 1960s marked the full blown emergence of the shopping mall as the focus of retail life for many Americans. Growing out of early clustered
plazas of the 1920s and 1930s, the first full-fledged suburban shopping center debuted in Seattle, Washington in 1950. The Northgate Center was anchored by a single department store and included a range of retail and food services. It became the model for many other open-air shopping facilities during the 1950s and early 1960s. Developer Victor Gruen conceived the idea of enclosing malls, beginning with the Southdale Center in Edina, Minnesota in 1956. Hundreds of other malls followed in the late 1950s and early 1960s.

While Victor Gruen’s shopping malls were transforming the nation’s retail experience, other kinds of buildings were filling in the gaps between suburban housing tracts, older urban centers and the new satellite office and commercial centers of “exurbia.” Filling stations, fast-food stores, motels and low-rise apartments and, eventually, “townhouses” grew up along roadsides radically altering the appearance of the U.S. countryside. Standardized building types began to emerge to answer these new needs. The Butler Manufacturing Company established in 1910 introduced prefabricated metal grain bins and storage buildings, and a new line of steel frame structures in 1939. In the postwar period, Butler and many competitors replaced earlier one-of-a-kind utilitarian buildings with standardized versions. Other innovations, such as “mansard” roofs which masked rooftop equipment, spread rapidly McDonald’s introduced its new “mansard” design in 1969 and it was soon utilized in home and apartment construction.

By the early 1970s, American architecture consisted of a few prestigious buildings for corporations, universities or other institutions and a plethora of popular and utilitarian designs for the general public. Many architectural “consumers” obviously preferred the familiar forms of the roadside strip. House owners also leaned toward traditional designs, a preference underwritten by mostly conservative bank lending officers. By the 1970s, these preferences were prevalent in commercial architecture and subdivisions, which led to its impact on the design of larger buildings. Post Modernism, a movement linked to literature and film, had translated to architecture. Robert Venturi, Michael Graves and Charles Moore all flirted with architectural forms that connected with the past — whether a Classical past or vernacular one.

Venturi’s second important book Learning from Las Vegas, published in 1972, cited the importance of ornament for “meaning” and “association” and the need for architects to better answer to the needs and expectations of the public. By the late 1970s, Venturi’s appeal had found wide acceptance. When architect Richard Meier and other members of The New York Five — the others were Peter Eisenman, Michael Graves, Charles Gwathmey and John Hejduk — began their exploration of early modernism, it was difficult to know if this was a return to the roots of the 20th century’s most important architectural movement or simply another aspect of late 20th-century, post-modern perplexity.

### 3.1.7 Modernism in Hawaii

Modernism had an immense impact in Hawaii, which a small Polynesian kingdom, a short-lived “republic,” and after 1898, a territory of the U.S. Although of great strategic importance — a fact made especially clear by the Japanese attack on Pearl Harbor in 1941 — Hawaii was in an architectural vacuum during the early part of the 20th century. A few nationally recognized architects had completed notable structures in Hawaii: the New York firm of Warren and Wetmore had designed the Royal Hawaiian Hotel in the 1920s and New Yorker Bertram Goodhue had been responsible for proposing designs in the “Spanish Colonial Revival” idiom
he had helped popularize at the San Diego Panama-Pacific Exposition in 1915. Goodhue had designed the Honolulu Academy of Arts, a building many see as contributing to Hawaii’s strong regional character. However, most of the buildings of the prewar era were fairly representative versions of mainland buildings, leaning toward “tropical styles” and conventions of the Ecole de Beaux Arts.

In the late 1930s, a few harbingers of modernist buildings began to appear in Honolulu. Improvements at the Army’s Schofield Barracks, a WPA project, incorporated Art Deco and utilitarian features that hinted at modernism. The public park at Ala Moana Beach, also a WPA project, incorporated a range of Moderne and Art Deco features, giving it a modern feel. (A few movie theaters and some commercial street fronts also had modernistic qualities that contributed a new feeling to urban areas.) World War II, however, would change Hawaii’s position in the world and infuse it with “national” significance. Military construction was a large part of this transition. Acres of temporary housing, tents and Quonset huts changed the rural character of Hawaii overnight. There were massive fortification projects, an expansion of the airfields and projects of national significance such as the fuel storage tanks at Red Hill.

The war brought Hawaii’s role to the forefront of the American perspective place in the national picture. Hawaii was very much a subject of world news throughout the war. Hundreds of thousands of U.S. service personnel spent time in Hawaii or passed through on their way to other sites and campaigns in the Pacific. The war acquainted Hawaii’s builders with new techniques of construction. Continuing a longstanding proclivity for utilitarianism — the islands’ many sugar and pineapple plantations were anything if not paragons of frugality — the military’s construction techniques set the standard for postwar developments. Cheap imported materials, standardized components and projected, relatively short building life-spans became the standard for many postwar Hawaii builders as Hawaii faced its new role as a fully integrated state in the union.

Modernism as an architectural movement got a slow start after the war. A few buildings of the late 1940s and early 1950s showed a clear influence of modernist ideals. Russian-born Vladimir Ossipoff’s Liberty Bank and Office Building of 1952 had a stark white-walled appearance reminiscent of early Le Corbusier’s architecture. Other good examples of early modernism include the Delagado Apartments, designed by architect Cyril Lemmon in 1948, and the Rosalei Apartments, designed by Morrison and McDonald, built in 1955. Sinclair Library at the University of Hawaii, designed in 1955 by the firm of Lemmon, Freeth and Haines, and the Princess Kaiulani Hotel on Waikiki, by architect Gardner Daily dating to 1955, are other good examples of modernism “come to Hawaii.” Several smaller hotels and apartment units exhibited the characteristic of modernism; the Hale Croton built in 1952, built by contractor C.H. Ching; the Ala Wai Apartment Building, also dating to 1952; and the White Sands Hotel, planned in 1957 and completed the following year.

All of these modernist buildings had simple spatial grids and consisted of reinforced concrete slabs supported by concrete posts. Typically CMU, or concrete tiles (blocks) served as infill for walls. Hawaii’s warm climate and the high cost of importing materials caused local architects and builders to shy away from the Miesian formula of steel framed, curtain-walled buildings, in favor of concrete for both structural systems and facings. Many experimented with different patterns for CMU walls. Stacked, indented (or protruding), split faces and pierced blocks were
popular with “high end” architects and contractors, giving these earliest buildings a strong sense of “newness” and novelty. A few architects also used angular splayed and battered walls, lending their otherwise modest buildings a sense of unusual grandeur. A good example is the 1962 Waikiki Bellevue Apartment Building, on Ala Wai Boulevard, with its dramatically cantilevered lanais and parking area.

The proclivity for concrete construction predisposed Hawaii’s architects toward both New Formalism and Brutalism once these styles became popular in the 1960s. Vladimir Ossipoff’s 1962 IBM Building on Ala Moana Boulevard has clear affinities with buildings such as Edward Durell Stone’s American Embassy in New Delhi, with its formal pierced “screen” of lace-like concrete panels. Similarly, Roehrig, Onodera and Kinder’s Liberty Bank on Queen Street, also from the early 1960s, suggests the kind of abstract classicism of Lincoln Center for the Performing Arts, one of the true icons of the New Formalism. Chinese American architect I.M Pei’s several buildings for the newly established East West Center are comparably “formalist,” as is Edward Killingsworth’s 1964 Kahala Hilton, with its rectilinear outer frame and formal entranceway and lobby areas. In downtown the twin marble towers of the Topa Financial Center, built in 1968-71, also embody New Formalist ideals.

Expressionism as a style also found its place in Hawaii due to the widespread use of concrete. Alfred Preis’s award-winning Arizona Memorial of 1962 has both New Formalist and Expressionist qualities as does George McLaughlin’s St Augustine’s Catholic Church in Waikiki of the same year and Wimberley and Cook’s Windward Shopping Mall of around the same time. Combinations of Expressionism and New Formalism, grafted on a basic core of International Style architecture, also included Minoru Yamasaki’s Queen Emma Gardens (1964), Wong and Wong’s Community Church of Honolulu (1965), Skidmore, Owings and Merrill’s Mauna Kea Beach Hotel (1965) and Stephen Oyakawa’s Liliha Public Library (1966). The distinctive Waikiki Cove Apartment Building of 1959 and Peter Hsi’s C.Q. Yee Hop Plaza of 1966 demonstrate opposite ends of the same trends, with the Cove’s curving walls and large “portholes” harkening back to the first Expressionists and Hsi’s block-like commercial building suggesting early Bauhaus designs. A late example of Expressionism would be Roger Lee’s St. Stephen’s Catholic Church in Kaneohe of 1968.

Because of its strong ties to Asia, some of Hawaii’s first modernist buildings suggest strong links to Chinese and Japanese designs of both the prewar and postwar periods. Clifford Young’s United Chinese Society Building of 1954, with its symmetry and solid massing, is more like a Chinese building of the immediate prewar period than a western example of modernism. The University’s Bilger Hall of 1951 by Mark Potter, and Keller Hall, designed in 1959 by Clifford Young, has some of the character of a Chinese or Japanese administrative or commercial building. Both UH structures suggest the factory-like appearance of early Bauhaus designs. Wong and Wong’s Chinese Consulate of 1961 similarly blended Asian and western themes, this time with a nod to New Formalism.

Many of Hawaii’s new International Style buildings of the 1950s and 1960s had distinctive “local” features. These included “lava-rock” walls, inset tiles and murals of local scenes. Good examples include the 1955 Hawaiiana Hotel on Waikiki, a two-story walk-up, with a prominent lava-rock wall on the street side, co-joined with a “butterfly” roof and other newer details. The Eddtide Hotel Annex built in 1959-60 had a similar display of dark stone, whereas the Kaiulani
Court Apartment, built in 1946, relied on an intricate balustrade of trees and flowers to convey a sense of Hawaii’s tropical environment. Other modern buildings often had elements of “Hawaiiana.” The Delagado Apartments, despite their International-Style starkness also featured a rock wall at the garden level as did many other buildings of the era. Sinclair Library at the University of Hawaii, designed by Cyril Lemmon in 1951, used sandstone at its entrance for the same effect and incorporated many “traditional Hawaiian” details such as green-stained concrete floors and *koa* wood accents. The Princess Kaiulani Hotel, despite its modernist, late International Style tower, still included a ranged of double-pitched roof cottages along its principal Kalakaua Avenue frontage.

A number of architects and developers took the idea of “Hawaiian” features further. Hart Wood, noted for his “regionalist” style buildings before the war, combined International-Style and Beaux Arts formality in his Board of Water Supply Administration Building of 1958; the entrance displays a curved roof reminiscent of Chinese or Japanese design and other materials reflected longstanding local practice. Similarly, Vladimir Ossipoff introduced a distinctive blend of traditionalism and local character in his Bachman Hall for the University of Hawaii (1949) and for his design the new facilities for the long-standing Pacific Club (1960). His later design for the Robert Thurston Memorial Chapel for Punahou School (1966) continued this direction. Ossipoff’s private houses, notably the Liljestrand House of 1952 set the standards for what some now call “Kama‘aina Style” (also called “Tropical Modern”) — a unique blend of Modern, Hawaiian, Asian and possibly “Wrightian” elements — that celebrated Hawaii’s gentle climate and relaxed form of life.

A few architects took the idea of “place-making” very seriously. While ostensibly linked to the national “Tiki Culture,” the products of this exploration went far beyond the simple atmospheric qualities of Tiki to approach a genuine effort to create a new regionalism. Law and Wilson’s 1954 Holy Nativity Church seems to recall Maori men’s houses as do Wimberly and Cooks’ 1950 McInerny Store and the Waikiki-Kapahulu Public Library designed in 1951 by the firm of Lemmon and Freeth. Wimberly and Cook’s Canlis Restaurant on Kalakaua Avenue (designed in part by the Seattle-based firm of Terry and Moore) similarly recalled Pacific Island architecture. The firm’s 1956 Waikikian Hotel is probably Hawaii’s most ambitious example of regional style. It’s dramatic parabolic roof and “canoe-prow” decoration, the Waikikian exemplify the merger of “modern” and Pacific-style architecture. Alfred Preis’s Honolulu Zoo of 1962 showed a similar sensitivity to Polynesian architectural precedence.

Tiki took on more obvious overtones at other hotels. The Coco Palms on Kauai, which began in 1953, and Henry Kaiser’s Hawaiian Village Hotel, which opened in 1955, were clearly “Tiki” in spirit. Developer Clinton Murchison’s International Market Place began as a collection of grass huts by Don the Beachcomber himself in 1955 and still stands in much altered form in Waikiki today.

The mainland modernist style known as Brutalism had an enormous impact in Hawaii. Relying mostly on concrete for its surface form, Brutalism took several directions. Alfred Preis’s rough cast stone and concrete walls for his First Methodist Church on Beretania Street, completed in 1954, demonstrated a uniquely “Hawaiian” application of Brutalist vocabulary along with Vladimir Ossipoff’s understated Outrigger Canoe Club of 1963. Leo S. Wou and developer Victor Gruen’s Financial Plaza of the Pacific, of 1968, is a good example of the opposite
extreme. Wou and Gruen’s complex includes an imposing, block-like bank complex stepping to two towers, one 12 and one 21 stories high, which together dominate the site on Bishop Street. Brutalism, sometimes softened by smooth walls at other times embellished with exterior grids became a dominant theme in the late 1960s. This was particular true for the new large resorts: the Mauna Kea, by Skidmore Owings and Merrill (1968), the Kona Hilton (1968), Surfrider Hotel (1969) and Sheraton Waikiki (1971), by Wimberly, Whisenand, Allison, Tong and Goo and the Queen Kapiolani Hotel by John Hara (1969). All of these buildings may be labeled by as Late International Style.

Few of these buildings were “pure” examples of any style. The Queen Kapiolani’s entrance betrays a New Formalist range of columns; smooth textured walls and a pink color scheme soften the Sheraton tower, matching the Royal Hawaiian below. Other buildings, however, came close to “mainstream” or “high” Brutalism; Au, Cutting, Smith and Associates’ Ward Plaza (1969), the late 1970s Royal Hawaiian Shopping Center (1979) and the Federal Building at the corner of Punchbowl and Ala Moana Boulevard, designed by Architects Hawaii and completed in 1977. The imposing Hawaii State Capitol of 1969, designed by mainland architect Carl Warnecke and local firm Belt, Lemmon and Lo, has many Brutalist affinities despite its high level of symbolism and its overall New Formalist character.

A persistent theme in Hawaii’s architecture from the prewar period and one not commonly found in other states is a recurrence of Asian themes. Architects in Hawaii frequently incorporated Chinese or Japanese inspired details into their designs. Sometimes these were almost abstract as in the entrances to Ossipoff’s Liberty Bank Building (1952) and Hart Wood’s Board of Water Supply Administration (1958). At other times the references were overt and almost “kitschy” from an outsider’s point of view. The latter included the 1957 Lum Sai Ho Tong building in Chinatown, a kind of modern rendition of a Chinese Taoist temple, the 1956 Buck Toy Club Building, located nearby on Vineyard Boulevard and designed by local architect Ray Akagi.

There were other overtly Asian designs as well. These included the 1 ½-scale version of the Sanju Pagoda, designed by architect Robert Katsuyoshi in 1966 for the Kyoto Gardens of Honolulu Memorial Park off Nuuanu Avenue and the sprawling concrete replica of the Byodo-In Temple, built in Kaneohe in 1968 by Katsuyoshi. The Soto Zen Mission of Hawaii’s Indian style mission, on Nuuanu Avenue, although and built in 1952, is another example of borrowed Asian traditional architectural motifs along with the pagoda in Maui’s Jodo Mission Cultural Park, built in 1968. Asian-influenced architecture is displayed in the Wong and Wong’s 1961 Chinese Consulate and the late 1970s Korean Studies Building at the University of Hawaii, which reflects Seoul’s 14th-century Yi dynasty palaces, designed by In-guk Chung and Sang-gi La, with Paul Rognstad assisting. The East West Center’s 1962 Thai pavilion (sala) added to Hawaii’s collection of architectural “exotica.” (It was replaced in 2009).

Asian architectural ideas showed up in more subtle ways. Some of the postwar architects had experience in Japan; many of them found Japanese aesthetic ideals and utilitarian efficiencies appealing. It is difficult to determine how much of this reflected modernist architecture’s long-standing infatuation with things Japanese; Frank Lloyd Wright celebrated Japanese design in his work and became a noted collector and dealer of Japanese woodblock prints (moku hanga in Japanese). The Museum of Modern Art’s display of a Japanese
Hawaii Modernism Context Study

A traditional house in 1955 had a big impact on the design world and underlined modernisms deeper links to the simplicity of Japanese design. Architects working in Hawaii in the 1950s often brought some of Japanese design into their work as well. The 1964 Ilikai Hotel on Ala Moana Boulevard had sliding shoji type screens dividing rooms, as did many of the other new condominiums of the late 1950s through 1970s. Local Japanese restaurants and department stores also gave Hawaii a distinctly Asian flavor as did the continuing existence of Chinatown near the center of Honolulu. While clearly “modernist” in its overall architectural directions, Hawaii remained a distinct Pacific and Asian place; these influences continue to today.

Much of Hawaii’s architecture in the 1950s through early 1970s was not high-end design but contractor-built for pressing local needs. Two-story walk-up apartments proliferated along Kapiolani Boulevard and along Date Street and University Avenue, providing housing for Honolulu’s workers and for many veterans returning to study at the University of Hawaii after the war. Many of these had stark modernist CMU walls, metal or jalousie windows and included the ubiquitous lava-rock form and garden wall to give each a local flavor. Postwar housing also followed a uniform pattern. Many efficiencies of the plantation era housing continued in new subdivisions. Hicks Homes, established in Hawaii in 1951 began to appear in Aina Haina and soon set the standard for low-cost tract housing throughout Hawaii. By the time of his death in 1958, some 10,000 Hicks Homes had been constructed on three islands. Other large and small-time builders followed this example, creating duplexes and single homes and modest walk-up apartments throughout Hawaii. Henry Kaiser, with the beginnings of his development of Hawaii Kai in 1959, added significantly to Hawaii’s inventory of newer, single-story houses and made the modern Ranch House the new standard for single-homes.

Military surplus played a part in post war expansion as well. The Army auctioned off old Quonset huts and barracks and some found reuse as apartments, garages and warehouses. Now largely replaced by a successor generation of prefabricated buildings, these remnants of Hawaii’s World War II experience still appear in industrial areas and side streets of Honolulu. Although zoning — and eventually greater wealth — would eventually tame some of the informality of Honolulu’s streetscape, much of postwar Honolulu still had the character of a “wild west” town, with temporary buildings, mixed use and little development of public amenities. As the car replaced streetcars, trains and busses, this informality extended to the outer reaches of old Honolulu and into new parts of Maui, Kauai and the big island of Hawaii. Once a neat and reasonably well managed territory in the middle of the Pacific Ocean, Hawaii was becoming much like California.

New connections caused Hawaii to become more like other places; the move to statehood in 1959 further amplified this trend. Hawaii’s distance from manufacturing, lessened, the impact of some mainland trends. Steel buildings in Hawaii were scarce due to expense. Large expanses of glass found little favor in Hawaii the despite the growing advent of air-conditioning tried to maintain some relationship to its naturally gentle climate. (The 1955 Sinclair Library at the University of Hawaii relied on windows and cross ventilation, although by the time Moore Hall was added to the campus in 1971, when artificial cooling became accepted and the windows were sealed.) Hawaii’s condominiums and single houses were also small by mainland standards, in part because of the added expense of material and in part because of longstanding cultural preferences; few sugar workers lived in large houses.
and many wealthier residents were accustomed to spending much of their time in outdoor spaces.

Given its environment and the emphasis on small places and Japanese influences, it is surprising how little Frank Lloyd Wright’s architectural ideas impacted Hawaii. Ossipoff’s buildings have some affinities with Wright’s single houses although Ossipoff denied any direct influence. The many older buildings of Hawaii’s early 20th-century “regionalist” movement reflected Wright’s earlier Prairie Style houses with their wide roofs and generous overhangs. Many architects of the 1950s and 1960s admired Wright’s work and this was true in Hawaii. Both Sinclair Library and Frank Haines’s 1951 Occidental Life Insurance Building on Beretania Street have “Wright-like” massing, a bold juxtaposition of surfaces and anchoring tower-like features. Occidental Life, with its narrow masonry units and strong horizontal pattern, also suggest Wright’s interest in surface pattern. “Wrightian” ideas such as stacked masonry units and narrow courses of both brick and CMU also entered into the world of contractor buildings. Wright’s corner windows were also popular features of track houses and small apartments; although the source of this fashion has multiple influences.

One of the great additions to Hawaii’s landscape during the modernist period was Buckminster Fuller’s geodesic dome for Henry Kaiser’s Hawaiian Village Hotel. Built in 1957 by a crew working two 11 hour shifts, the 48-foot tall dome took only a weekend to complete. The Kaiser dome was an unprecedented addition to Waikiki that served as a prototype for Fuller’s later domes in Oklahoma City, Virginia Beach, and Fort Worth and his later geodesic “globe” at the 1964 New York World’s Fair. It was the first all aluminum building in Hawaii. The site the dome later became the regular venue for Don Ho and other local entertainers offer it was used for the Hawaii opening of Mike Todd’s popular cinema extravaganza *Around the World in Eighty Days*,. In 1964 it was in the background of Elvis Presley’s *Blue Hawaii*. The Kaiser Dome was demolished in 1999 to make way for another hotel tower. It represented an important moment in Hawaii’s recent history and one much missed by fans of modernism.
3.2 Architecture: Hawaii Overview

3-1 State of Hawai'i Map
(http://www.washingtonstatesearch.com/United_States_maps/Hawaii/Hawaii_map.html)
The modern movement in architecture with its rejection of the past and emphasis on regularity, clean lines, and minimal applied adornment, easily found its way into Hawaii’s built environment during the 1930s but was softened by its integration with the islands’ regional idiom. Pope & Burton’s temple for the Church of Jesus Christ of the Latter Day Saints (1919) at Laie on the island of Oahu provided the islands with an early, pre-Bauhaus glimpse of the new rationalistic architecture. The temple would prove to be the exception, rather than the norm, as Hawaii immersed itself in a regionalist/modern frame of mind.

The Honolulu Academy of Arts, anticipating the arrival of a Museum of Modern Art exhibition on “Modern Architecture in England,” mounted a show in August 1937 that examined modern architecture in Hawaii. It intended to stimulate public dialogue on the place of modern architecture within the context of Hawaii living, the exhibit displayed photographs, plans, and drawings of recent works by several Honolulu architects, including the Board of Water Supply Pumping Stations (1934-1937) by Hart Wood, C. W. Dickey’s Waikiki Theater (1936), Claude Stiehl’s Church of the Crossroads (1934), (Photo 3-2) as well as residences by Albert Ely Ives, Vladimir Ossipoff, and Ray Morris. The reporter covering the show noted,

In architecture Honolulu, with the rest of the world, is swinging eagerly into the modern trend. . . . Perhaps the reason why Honolulu (unlike many other places) has not become an “architectural battle ground” during the introduction of modern ideas for housing is due to the thoughtful and clever application by local men of contemporary building techniques which are particularly adapted to Hawaii.

Modern houses must be functional as well as beautiful. Building problems in the islands differ vastly from those in England or in New York. . . . These problems have been met and ably solved by our local specialists and certainly everyone will agree that the results are extraordinarily satisfying. The low sloping roofline of early Hawaiian homes has been used advantageously; simplicity has been the keynote. The easy charm of semi-outdoor living (from house to garden) has been worked out by means of delightful patios and open lanais.

The arrival of a new, modern, tropical style of architecture was reiterated in the February 12, 1938, Star-Bulletin’s special section, “Grow with Honolulu, Invest in a Home.” Residential commissions of Stiehl and Alvin Shadinger, and Dickey’s Wilcox Memorial Hospital illustrated this twelve page insert, and articles written by Connie Conrad, Morris, Dickey, and Wood
discussed the current scene. By far the most prolific modern-design firm was Dahl & Conrad who handled many walk-up apartments and duplexes in Waikiki in a modern vocabulary. The firm’s Topping residence (1938) (see Photo 3-3) garnered much acclaim, with its flat roofed rectilinear massing, large expanses of glass, and circular, central patio. It was the first completely air conditioned house in Hawaii. Dahl & Conrad’s allure was heightened in June 1939, when Alfred Preis, an Austrian fleeing Hitler, joined their firm bringing the latest in European design trends to the islands.

Waikiki became the hub of modernism in the city as Kalakaua Avenue assumed a sleek look thanks to Dickey’s mildly deco Waikiki Theater (1936) and numerous moderne and art deco shops designed by Dahl & Conrad, Stiehl, and Ives. The fascination with the modern idiom as a tool to glorify the island’s up-to-date, yet tropical situation, was briefly interrupted by World War II, but continued to be refined until the mid-1960s, with Vladimir Ossipoff’s Thurston Memorial Chapel (1967) (Photo 3-3) being one of the last structures built in this spirit. After World War II, the relationship between regionalism and modernism in Hawaii subtly shifted. In the 1930s, modern elements were but one of a variety of garbs in which to cloak an architectural response to the islands, but by the 1950s the buildings were now decidedly modern in character, and regional appropriateness was a design consideration. A shift in emphasis had occurred.

In the immediate post-war period Hawaii’s architectural scene changed and was marked by the death of C.W. Dickey, the father of regional design in Hawaii in 1942. Other talented regional designers, most notably Claude Stiehl, Harry Bent, and Bjarne Dahl had departed the islands by 1942 and never returned. Dahl’s partner Connie Conrad entered his family’s jewelry business, while Roy Kelley shifted his interests from architecture to apartment and hotel development. Of the 1920s generation of architects only Hart Wood, and Hego Fuchino maintained prominent
practices during the 1950s. Although both contributed magnificent Hawaiian-modern buildings in Wood’s Board of Water Supply Administration Building (1958) (Photo 3-4) and Fuchino’s Soto Zen Temple on Nuuanu Avenue (1952) (Photo 3-5) and Waipahu Hongwanji (1952), the stage was set for a younger generation to assume leadership for the next phase in the development of Hawaii’s architectural design.

Vladimir Ossipoff came to the fore as the preeminent architect of the post-war period with a design staff that at one time included Ed Sullam, Tom Wells, Sid Snyder, and John Tatom. George Wimberly, who had come to Hawaii in 1940 to work for the Pacific Naval Airbases Contractors, opened a partnership in 1946 with Howard Cook, whom he met at Pearl Harbor during the war. He eventually headed one of the premier hospitality and leisure oriented architectural firms in the world, Wimberly Allison Tong & Goo (WATG). Cy Lemmon, who worked with C. W. Dickey in 1928 and Louis Davis in 1930-31, returned to Hawaii in 1946 after ten years in India. He started Lemmon Freeth & Haines two years later, when the talented Princeton and MIT graduate Frank Haines became a partner. In 1973, the firm became Architects Hawaii, which for a number of years was the largest architectural firm in the State. Newcomers to Hawaii, Richard Dennis, Frank Slavsky, Edwin Bauer, Phil Fisk, and Robert Law also added to the design synergy of the times, as did Johnson & Perkins, and Alfred Preis, who previously worked for Claude Stiehl and Dahl & Conrad, respectively. A number of Hawaii born architects and engineers entered Hawaii’s architectural milieu during the 1950s, including Clifford Young, Takashi Anbe, Shizuo Oka, Robert Katsuyoshi, Stephen Oyakawa, Don Chapman, Ed Aotani, Alfred Yee, and Howard and Robert Wong. They joined Ray Akagi, Bill Merrill, Kenji Onodera, George Hogan, Ted Vierra, and Ernie Hara, all of whom had worked in various architectural offices in the 1930s.

All these architects worked within the vocabulary of the modern movement whose presence had to be acknowledged, yet at the same time, the magnificence of Hawaii and its culture was too compelling to ignore. These men, many of whom were trained in a beaux arts tradition with its emphasis on history and applied ornament, found themselves now stripped of their basic tools, yet they remained highly cognizant of architecture’s symbolic role and community dialogue. They strove to develop distinctive forms, which incorporated a Hawaiian atmosphere within a modern framework.

The surface remained of primary importance and highly textured buildings characterized the 1950s in Hawaii, in contrast to the corporate glass and concrete austerity associated with much of the modern movement in the United States. Lava rock, sandstone, and coral veneers grounded buildings to the land and a variety of contrasting materials differentiated a façade’s elements providing a high level of visual delectation. The Canlis’ Charcoal Broiler Restaurant (1953) by Wimberly & Cook in Waikiki, as well as Ossipoff’s Bachman Hall (1949) at the...
University of Hawaii (Photo 3-6), and the Laupahoehoe School on the island of Hawaii (1952) designed by Preis (Photo 3-7), all followed modern lines while celebrating Hawaii through their use of local materials and flowing indoor-outdoor relationships. Ossipoff’s buildings for the Pacific Club (1960) and Outrigger Canoe Club (1963) took the sensibility of graceful, modern outdoor living to a pinnacle within the realm of non-residential architecture.

While applied ornament was avoided in most buildings, it still was acceptable in those associated with various ethnic groups composing Hawaii’s multi-cultural society. Liberty Bank (1952) (see Photo 3-8), St. Luke’s Episcopal Church (1952) (see Photo 3-9), the United Chinese Society Building (1954) (Photo 3-10), and the Chinese Consulate (1961), as well as a number of Chinese temples and society halls, drew in a modern manner upon architectural references from peoples’ former homelands. Buddhist temples continued to flourish in updated garb, the Indian forms introduced in 1918 by the Honpa Hongwanji in Nuuanu. Concrete versions of pagodas (Photo 3-11), the Kinkaku-Ji (Photo 3-12), or Golden Pavilion, and Byodoin Temple further perpetuated the belief that Hawaii was where East and West indeed met.

The visitor industry’s “Tiki Culture,” offered another venue for applied ornament, responding to a romantic image of Hawaii promoted by the Hawaii Visitors Bureau and fostered by the numerous military personnel passing through the Islands during World War II. Thus modern, concrete, high-rise compositions such as the Kona Hilton (1968), Kauai Surf (1960), and Princess Kaiulani (1955) hotels offered reminders of an earlier Hawaii on their floors, light fixtures, elevator doors, and a variety of other surfaces. Similarly, the Hilton Hawaiian Village’s Rainbow Tower (1968) derived its name from the 286 foot high tile murals adorning its walls, and the Waikikian Hotel (1956) facilely combined a hyperbolic parabaloid roof, with tiki, traditional Hawaiian tapa motifs, and spiral stairs sans risers. Thatched roofed visitor
3-10
St. Luke’s Episcopal Church
Lemmon & Freeth, 1952, 45 N. Judd St.
(2006)

3-11
United Chinese Society Building
Clifford Young, 1954, 42 N. King St.
(2006)

3-12
Concrete Pagoda
Robert Katsuyoshi, 1966, 22 Craigside Pl.
(2006)

3-13
Kinkaku-Ji
Robert Katsuyoshi, 1966, 22 Craigside Pl.
(2006)
accommodations also appeared at Kaiser’s Hawaiian Village (1955), Kona Village Resort (1965), and the Coco Palms Hotel (1956-1965).

Religious architecture also assumed a strong regional tinge. The precepts laid down by Hart Wood in the 1922 Christian Science Church now came to the fore as innumerable churches and temples ventilated their naves with sidewalls of sliding glass doors, and lava rock became a popular exterior wall treatment. Glued Laminated timber (Glulam), a technological innovation of the 1950s, allowed arches to span great widths without the need for supporting columns making for broader, even more open worship spaces. Law & Wilson’s Church of the Nativity in the new suburb of Aina Haina (1954), Alfred Preis’ First United Methodist Church (1953) (Photo 3-13), and Wong & Wong’s Community Church of Honolulu (1965) all stand as fine examples of the period.

In residential design a regional modernism set the tone for high-end houses. Following World War II, architects such as Vladimir Ossipoff, Johnson & Perkins, Dennis & Slavsky, and Ed Sullam, among many others, reinterpreted the lanai in terms of the modern movement. The Honolulu Academy of Arts celebrated this new form as early as 1949, opening an exhibition of five lanai constructed at full scale in the academy’s courtyards. Architectural Record in its October and November 1950 issues and the November 1952 issue of L’Architecture d’Aujourd’hui featured the architecture of Hawaii and emphasized the “all-pervasive lanai” as a defining feature of the islands’ domestic design. As late as September 1976, Sunset magazine’s lead article, “Hawaii’s Lanai Idea—The Room with the Missing Wall,” continued the national media’s enchantment with Honolulu living spaces that were not only unenclosed but in most instances unenclosable.

Single-wall residences, often pre-fabricated, became the norm for the middle economic levels. The term single wall residence refers to dwellings which do not utilize studs, as their interior and exterior walls are formed by the same board. In the 19th century such walls were usually board and batten, but in the early twentieth century factory milled tongue and groove lumber proved more effective. The term single wall appears to have originated in California, as in most areas of the United States box frame is the name commonly applied to this construction method. Emerging from a plantation tradition of economic construction, single family, single-wall residences started to appear in Honolulu neighborhoods during the 1930s. In the post-war period, with the rapid development of new subdivisions, especially on Oahu, single wall construction was frequently employed as an economical and quick means of construction. Relying heavily on standard plans and off-site fabrication C. Q. Lum had built over 7,000 houses by 1962, while Harold Hicks had constructed over 10,000 by 1966.

Walk-up apartments begun to appear in response to the housing demand. During the 1930s, modern style apartment buildings including many designed by Dahl & Conrad or Claude Stiehl, appeared in Waikiki. Following the war, the intense need for reasonably priced housing led to
the construction of three and four story buildings in other parts of the city, as lots were consolidated to accommodate the larger structures that increased urban density.

The post-war period also saw the advent of high-rise buildings. By 1955 the Aloha Tower was no longer the tallest building in Hawaii. Tall buildings began to redefine Honolulu’s skyline, initially in Waikiki with the Biltmore (1955), Princess Kauiulani (1955) and Reef (1956) hotels and Rosalei Apartments (1955), then in other areas with the Ala Moana Tower (1961) at Ala Moana Center and Hawaii National Bank (1962) in the business district. With the islands’ land constraints, and the high demand for Waikiki and downtown properties, land prices skyrocketed, which in turn led to the appearance of ever more high-rises as owners sought to amortize their initial land purchases. Honolulu engineer Alfred Yee’s pioneering work in pre-stressed concrete in high-rise construction further facilitated the skyward trend in building.

As Hawaii moved from a rural based society to an urban one, its built environment also began to metamorphize, forsaking the regionalism of the Big Five dominated years, for the glass and concrete of Walter Gropius, Le Corbusier, and Mies van der Rohe. The Honolulu Advertiser, in an effort “to stimulate wider public interest in the appearance of Honolulu,” ran a series of articles in the beginning of 1966 on buildings which the Hawaii Chapter of the AIA selected as “representative of good contemporary architecture.” (Advertiser, January 16, 1966, A-14) The AIA selected nine Honolulu buildings presenting a broad spectrum of situations: the University of Hawaii’s East-West Center Photo 3-14), Queen Emma Gardens (Photo3-15), Chinese Consulate General, IBM Building (Photo 3-16), 320 Ward (Photo 3-17), Outrigger Canoe Club, McInerny Building, Arizona Memorial, and Kahala Hilton. All followed modern lines and were discussed in terms of the appropriate manner they fulfilled their functions. The Outrigger Canoe Club was extolled as one of Hawaii’s most significant buildings as “there is never a feeling of being ‘in a building’” (Advertiser, February 20, 1966) and Tommy Wells’ two-story office building, 320 Ward, with its landscaped courtyards received praise for introducing light, air, and “pleasant access to the various small offices.” Concerns over the high-rise’s impact on the character of Honolulu were expressed and Minoru Yamasaki’s Queen Emma Gardens and Ossipoff’s IBM Building were set forth as examples of tall buildings that addressed the needs of Hawaii. Such aesthetic contemplations and regionalist refrains were shortly overwhelmed by the ensuing building boom of the 1970s-1980s.

Low-rise offices such as 320 Ward’s larger, lusher iteration, Garden Court (1969), designed by Honolulu-born architect Donald Chapman, and single story commercial enterprises such as Ossipoff’s McInerny Store (1957) and Wimberly & Cook’s Canlis’ Charcoal Broiler Restaurant (1953) in Waikiki ultimately yielded to larger scale, mega-revenue generating developments. Even the highly touted signs of mid-1950s progress, such as the twelve-story Waikiki Biltmore and the eighteen-story Hawaii National Bank, suddenly imploded, giving way to newer, taller structures.

Although one third of the nine buildings presented by the Advertiser in 1966 were by mainland architects, the number of high profile, nationally known firms to obtain commissions in Hawaii in the last half of the twentieth century were rather limited. Buckminster Fuller led the way with his geodesic dome (1957) at Kaiser’s Hawaiian Village, and then the flush of statehood brought I.M. Pei’s East-West Center (1963), Minoru Yamasaki’s Queen Emma Gardens
(1964), Edward Killingsworth’s Kahala Hilton (1965), Skidmore, Owings & Merrill’s Mauna Kea Beach Hotel (1965), and Cesar Pelli’s Kukui Gardens (1970), with the latter two receiving national AIA honor awards. Paul Rudolph, the former chairman of Yale’s Department of Architecture, was commissioned to design a visual arts center at the University of Hawaii in 1965, but the building was never realized. A similar fate befell the I.M. Pei designed Metropolitan Tower project of 1960. The state hired John Carl Warnecke to design its new State Capitol Building (1969) and the University of Hawaii’s Campus Center (1973). These two Warnecke commissions brought a
number of talented architects from his San Francisco and Washington D.C. offices to Hawaii, some of whom decided to stay, including Tom Creighton, Steve Au, Charles Sutton, Ted Candia, and Gus Ishihara. Other Bay area architects attracted to Hawaii included University of Berkeley professor Roger Lee, who crossed the Pacific to design St. Stephen’s Roman Catholic Church in Nuuanu (1968) as well as several apartment buildings, and Leo S. Wou, who was brought in to do the Financial Plaza (1968) (Photo3-18).

The upward spiral of buildings generated in the 1970s frequently assumed the form of concrete slabs and boxes, with few exceptions. At the start of the period the S-shaped Marco Polo (1971) moved outside the box, at least in footprint, and the Davies Pacific Center’s (1972) lower level perpetuated the open flow of the Financial Plaza, while Warner Boone’s visually enticing buildings stand as some of the most inspired, graceful and distinctive high-rises of the period. Smaller scale commercial buildings too often followed the austere lines of the high-rise boxes, with Kawaiahao Plaza (1978) and a number of First Hawaiian Bank’s branches (Photo 3-19 and 20) rising above the ordinary.