

High-Tech Architecture, “New” Urbanism, and an Early 21st-Century Second Modernity?

In the late 20th century, beginning in the 1960s, there is greater engagement with existing urban systems and technologies, and less of a “clean slate” approach to modern architectural design that had been seen with the International Style of the 1920s and 1930s. Where Venturi or Rossi and the Krier brothers would develop a variety of patterns and systems of signs that tapped into “memories” of older architectural forms and everyday, commonplace urban signs, other architects would seek to accommodate cities and technology, adding to the city in dramatic and previously unimagined ways. Examples: Kenzo Tange’s unbuilt **project for Tokyo Bay**, 1960 -- cyclical transportation system at a height of 40 meters above existing Tokyo that only touches the ground at points of interchanges. This system connects to all major highways and railroads. Plan shows the integration of the new transportation system into the existing one, with districts of high-rise and low-rise buildings for business, and terraced apartment blocks dispersed on subsidiary boulevards that relate to the water.

Tange’s project reflects the influence of Team X, the group of “young Turks” who agreed to organize the tenth and last CIAM Congress in 1954, and included Peter and Alison Smithson, Georges Candilis and Shadrach Woods, Jacob Bakema, and Aldo van Eyck, among others. Their interest in architecture that was more responsive to context and more permissive of individualistic architectural expression helped give rise to the “**megastructure movement**” of the 1960s. Ralph Wilcoxon (College of Environmental Design, Berkeley) defined a “megastructure” in 1968 as consisting of the following: • constructed of modular units; • capable of great or even ‘unlimited’ extension; • a structural framework into which smaller structural units (for example, rooms, houses, or small buildings of other sorts) can be built, or even ‘plugged-in’ or ‘clipped-on’, after having been prefabricated elsewhere; • a structural framework expected to have a useful life much longer than that of the smaller units which it might support. The megastructuralists’ urban visions emphasized stretching the boundaries of the possible, a sensibility boosted by the prosperous economy of the 1960s, and suffused with a (utopian/modernist) belief in the liberating power of automation. The plans can be seen to reflect the processes of social revolution sweeping through Europe in the 1960s as well as the predicted rapid population increase.

Example: Paul Rudolph, **Lower Manhattan Expressway project**, 1970, and Hans Hollein, **Aircraft Carrier** (originally “Flugzeugträger,” 1964), evocative both as a piece of surrealist art, an anti-militarist statement, and a reminder of Le Corbusier’s model of the steamship as an inspirational structure for modern architects. In Japan, the **Metabolist group** adopts a name that underscores architecture as a mutable, changing phenomenon (contra CIAM), and one that should grow, not uncoincidentally, within the parameters laid out by other anti-CIAM sympathizers and megastructuralists. Example: Kisho Kurokawa, **Nakagin Capsule Tower**, 1972: 140 detachable spatial units joined to a central core for services and circulation

At Britain’s AA school (The Architectural Association in London), **Archigram** (Archigram = **architecture** + **telegram**) is a group of bright young architecture students led by Michael Webb, Peter Cook, Ron Herron, Warren Chalk, and Dennis Crompton. Groups like these create **unbuilt projects in the 1960s** that flesh out megastructure notion of constructed, modular units subject to great or even “unlimited” extension, capable of being “plugged-in” or “clipped-on,” and moved around after having been prefabricated elsewhere. Archigram’s science-fiction fantasies first published in their own early “zine,” Archigram 1, in 1961. Examples: **Plug-In City**, 1964; **Walking City** 1964. Another British architect, Cedric Price, **Fun Palace**, 1960s, offers similar view. The pre-history to this nascent hi-tech sensibility lies as far back as the Futurists and Constructivists, but can also be seen closer in time in some important post-World War II housing experiments in southern California – in particular, John Entenza’s *Arts and Architecture* Magazine’s sponsorship of the **Case Study Houses** in Southern California, beginning in 1949. This was an anti-establishment modernism constructed through cooperation of architects and industrial suppliers, who, in de-accessioning war materials from the World War II (steel; aluminum; other metals; glass) provided many of the materials free of charge for architects to innovate with. These houses make a theme of transparency and penetrability through simplest means, along with promoting access to outdoors and visibility of Nature. Examples: **Case Study House #8**, Charles and Ray Eames, 1949, Los Angeles (Pacific Palisades); alternating glass, wood, aluminum panels clad a space frame set into a hillside. The Eames partnership grows to become responsible for major innovations in U.S. industrial/furniture/interior design as well – examples of Eames chairs as the reflection of a modernist ethos that embraces technology, plastic injection molding, “moderne” neo-streamlined styling. **Case Study House #22**, Pierre Koenig, 1959-60 – the “free-floating roof shelter oriented to an expansive panorama.” CSH #16 and #22 use only stock steel components and a single retaining wall; all other walls are of glass in modules up to 20 feet wide. In Italy, the radical group **Superstudio** (Italian architects Adolfo Natalini, Alessandro and Roberto Magris, et.al.) produces an unbuilt project called **Continuous Monument**, 1969: Layering existing landscapes with new architectural additions with highly engineered, “hi-tech” utopian elements. Superstudio’s continuous monument project actually questions the limits and utility of modernists’ megastructure philosophy and approach with its global scope and hi-tech extremity, but many late twentieth and early twenty-first-century architects see it as “visionary” and miss the point,

which is criticism of modernist excesses and hubris (Superstudio's project is a "negative utopia," a "dystopia" and a *demonstratio per absurdum*, according to critic/historian Sarah Deyong). Case study houses have a huge influence on European audience, who view the projects in journals and often journey to CA to see for themselves. For Norman Foster and Richard Rogers, who meet while studying at Yale in 1961-62, the Case Study Houses exert different influences; They get together as "Team 4" from 1964-66, consisting of Norman and Wendy Foster, and Richard and Su Rogers. The Case Study Houses, Archigram, and to some extent the Metabolists shared a sense of possibility, play, and exuberance, and they helped brought this sense back into modernism. Rogers and Piano combine the Archigram/Superstudio/Case Study House sensibilities and win a major competition for the **Pompidou Centre**, Paris, 1971-77. Early multi-layered media-savvy façade gives way to 2-layered exterior, open floor plan achieved through engineering abilities of Peter Rice at Ove Arup & Partners Engineering Office (Rice combines ferro-cement and ductile iron to achieve unusually long interior spans). The Pompidou Centre (or Centre Beauborg, as the competition was known) helps launch a new, actual built phase/strand of modernism known as "hi tech."

Hi-Tech: According to its leading Western practitioners like Richard Rogers, Norman Foster, Nicholas Grimshaw, and Renzo Piano, Hi-Tech is not a style of architecture *per se*, but an "approach to building," one that arises in the 1960s and 1970s and continues to develop today. A Hi-Tech Paradox?: Hi-tech buildings generally consist of carefully wrought, individually crafted and highly engineered parts that raise the individual industrial components of the structure to an art form. Buildings are a celebration of infrastructure, but machine-age standardization that these buildings seem to celebrate gives way, instead, to an assemblage of parts that for the most part continues to occur only within a single building system, not across the building industry. Hi-Tech architecture inverts the nineteenth-century "historical picturesque ideal" (follies in aristocratic landscaped gardens, for example) by exhibiting a nostalgia not for the past, but for the future (a "picturesque inversion").