LOUIS KAHN

THE POWER OF ARCHITECTURE

建築之境｜**路易·康**

An exhibition of the Vitra Design Museum, Weil am Rhein, in collaboration with the Architectural Archives of The University of Pennsylvania and the Netherlands Architecture Institute Rotterdam, (since January 2013) part of The New Institute.

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引言

路易·康（1901-1974）是二十世紀最具影響力的建築師之一。他運用多重的空間組構以及精湛的光線操控手法，將建築化身永恆，賦予遠古的魅力。康的作品在完成之初，即已震撼了當時的建築界，及至今日仍舊是業界的典範和指標，尤其對年輕一代的建築師，其重要性更是不言而喻。

短短的 25 年間，便以寥寥可數的作品成就了康在建築史的地位。執業初期，康一直在費城－－他的家鄉－－從事住宅設計和城市規劃。直到 1950 年代末，才在他五十歲左右踏入公共建築領域，於國際間嶄露頭角，設計了美術館、研究大樓、學校、教堂、猶太教堂，甚至國會。有很長一段時間，他的作品都集中在美國，後來逐漸獲得海外的邀約，因此，在印度和孟加拉進行了他最重要的兩項建築設計作品：阿美達巴達的印度管理學院（1962 年至 1974 年）以及達卡的國會大廈（1962 年至 1983 年）。

針對康的作品，本展以六項主題加以鋪陳：「城市」、「科學」、「住宅」、「地景」、「社群」、「永恆」，這樣的展覽架構同時也呼應了他的作品發展的歷程：在科學領域和工程技術積極的探索與開拓，導引他重新詮釋建築的歷史與傳統；順應賓州住宅設計的理路，衍生出他後來將自然和地理景觀納為建築基本要素；早期費城都市規劃師的角色啟發了他關注建築的公眾與社會責任，這一點我們在達卡的國會大廈，看到最清晰的展現。

在他所主張的建築傳統是，康認為建築不僅是滿足實際需求的工具，也可被視為藝術思辯，以及反思自然、歷史和人類社會的途徑。對照今日建築的運作越來越屈從於行銷機制和投機操作，康提醒我們建築是人類普世價值的流露，有其悠遠流長的深義。

Introduction

Louis Kahn (1901–74) was one of the most influential architects of the twentieth century. With complex spatial compositions and a choreographic mastery of light,
Kahn created buildings of archaic beauty and powerful universal symbolism. His work impacted many of his contemporaries and still serves today as a model and measure among architects, especially those of the younger generation.

Kahn's acclaim is based on a small number of buildings that were erected over a short time period of just 25 years. While his early work focused on housing and urban planning in his home city of Philadelphia, he started to gain a worldwide reputation toward the end of the 1950s as an architect of public edifices. Kahn designed museums, laboratories, schools, churches, synagogues, and even a national parliament. For a long time he was exclusively active in the USA, yet his later work took on an increasingly global dimension. Consequently, two of his most important projects were executed in India and Bangladesh — the Indian Institute of Management in Ahmedabad (1962–74) and the National Assembly Building in Dhaka (1962–83).

The exhibition presents Kahn's work within the framework of six central themes, which also demonstrate the chronological development of his oeuvre: from his pioneering role in the exploration of science and engineering to his reinterpretation of architectural history; from his designs for houses in Pennsylvania to his inclusion of nature and landscape as fundamental elements of architecture; and from his beginnings as an urban planner in Philadelphia to his interest in the public role and social responsibility of architecture, which culminated in Dhaka.

Kahn regarded himself as part of a tradition that understood architecture not only as a means of satisfying utilitarian needs, but as an instrument of artistic speculation and a way of contemplating nature, history and human community. In today's world, where the act of building is increasingly subordinated to marketing strategies and financial speculation, Kahn reminds us of the age-old significance of architecture as the universal conscience of humanity.

城市
CITY

都市改造實驗場：費城

康將費城形容成是一個充滿機會的都市。他來自愛沙尼亞的猶太移民家庭，費城是他成長、受教育的地方，學習建築的起點，也是他執業的所在地。康身為建築師，以費城為對象探究建築與都市之間相互關係。在費城這個實驗場域當中，他發展出自己獨特的都市與建築理念。

費城故事

費城是著名的美國獨立的起源地，**1682** 年湯瑪斯•荷馬接受賓州的創建者威廉•潘思之託，擘劃出市中心棋盤街道的格局。在十九世紀中期，費城成為美國機械工業的根據地，名列美國第三大城，僅次於紐約與芝加哥。**1876** 年，費城舉辦世界博覽會慶祝建國一百年，是美國本土首次的世界博覽會。由賈克•格瑞伯設計的法蘭克林公園在 **1917** 年起造，對外開放後，成功的將費城從「國家誕生的搖籃」變身為「全美城市美化運動」的指標。就在此時，康開始對建築產生了興趣。

荒蕪之城

康及其同世代的建築師所共同面臨的城市問題是，因汽車大量的湧入市區，導致市容急速頹敗、環境惡化，隨之而來的郊區化效應，引發都市人口迅速外移。在艾德蒙．培根擔任都市計畫委員會主任期間 **(1949-70)**，他標舉著「打盤尼西林就夠了，不用動刀」的口號，將費城變成現代都市改造的實驗場域，並成為當時美國「軟性都市再造」的典範。康曾是培根的合作夥伴，但隨後兩人之間敵對關係，讓態度上轉趨現實的培根未接納康費城都市規劃的建議。

城市遠景

在費城都市更新的整體發展當中，儘管康所提出的計畫只有少部分被付諸執行 但他仍扮演著先行者的角色。一九五〇、六〇年代，康從社區住宅開始，針對費城市區的再造，倡議大膽而激進的都市改造理念，主要的提案包括市區交通重整規劃 (以行人專用區的概念來定位市區)，以及前所未有、高達 **180** 公尺的「費城塔計畫」。**1976** 年費城萬國博覽會籌辦之際，**Kahn** 曾提出公共論壇的構想。然而，這個計畫最後無疾而終。

Philadelphia as an Urban Laboratory

As the son of Jewish immigrants from Estonia, Kahn described the city of Philadelphia, where he grew up, where he studied architecture, and where he maintained his office, as a "City of Opportunities." For Kahn as an architect, Philadelphia became a kind of laboratory where he explored the relationship between architecture and city planning and developed his own urbanistic and architectural principles.

Urban History

Philadelphia, with its downtown street grid laid out by Thomas Holme under William Penn in 1683, is the birthplace of American Independence (1776). By the mid-nineteenth century, the city had become the capital of America's machine industry and the third-largest American city (after New York and Chicago). In 1876 Philadelphia became the host of the first World's Fair on American soil. The opening up of Benjamin Franklin Parkway, beginning 1917 (architect Jacques Gréber, 1882–1962), transformed the "cradle of the nation" into one of the key sites of the American City Beautiful movement – just when Kahn became interested in architecture for the first time.

Urban Decline

Kahn's generation of architects was confronted with a rapid decline of the inner city caused by the massive advent of the automobile and subsequent suburbaniza- tion. Under Edmund N. Bacon, Director of the City Planning Commission (1949–70), Philadelphia became a laboratory of contemporary urbanism and a model for soft urban renewal, guided by the notion of healing "with penicillin, not surgery." In the process, the more pragmatic Bacon, who had been a collaborator of Kahn, became his adversary and prevented Kahn's proposals from being realized.

Urban Visions

In spite of this, Kahn played a pioneering role in thinking about urban development. Starting out with housing projects, during the 1950s and '60s Kahn advocated increasingly radical and visionary concepts for the reconstruction of Philadelphia's inner city. Among his key proposals were a systematic reorganization of urban traffic (defining the inner city as a large pedestrian zone) and the bold project of a 180-meter high City Hall Tower. The projected 1976 World's Fair in Philadelphia, which he envisioned as a "Forum of Availabilities," never took place.

三角地帶重整計畫
賓州費城
1946-48 (未實現)

直到 1943 年，費城市中心市政廳以西的地區仍然被大街火車站長年廢棄的鐵路阻斷，一分為二，市區動線無法連成一氣。所以對於此時剛剛成立不久的「費城都市規畫委員會」來說，首要的任務是，透過規畫開發，將彼此分隔的市區重新聯結。尤其是紐約的洛克菲勒中心 1939 年落成之後，成為了紐約市民空間的建築典範。規畫委員會企圖循此前例將費城西區轉變成指標性的公共領域，畢竟這個區域在當時號稱是「20 世紀美國單一城市在市中心所能釋出的最大場域」。康與城市規劃委員會成員艾德蒙•培根和其夥伴奧斯卡•史托諾洛夫等人合作提出兩個方案，後來康繼續發展成「費城中心」(1948,1950)。培根與康原本的計畫是將這個區域塑造成一個廣闊的市民「廣場」，然而，這個區塊的發展終究還是屈服於業主的需求，原本的理想不得不向現實妥協，逐漸扭曲了培根與康的本意。隨後，費城中心商業摩天大樓的建造顯得毫無章法。或者，這也佐證了建築史學家曼菲多•塔夫里所指出的：「美國城市就是無法被規劃的」。

Triangle Redevelopment Project
Philadelphia, Pennsylvania
1946–48 (unbuilt)

By 1943, the tracks of Broad Street Railway Station, though no longer in use, divided downtown Philadelphia west of City Hall into two disconnected parts. To stitch the city together again and to develop it was a priority for the newly founded Philadelphia City Planning Commission. The ambition was to transform what looked like "the largest single space to become available at the center of an American city in the twentieth century" into a civic center that would mark Philadelphia the way Rockefeller Center had marked New York a decade earlier.

In collaboration with city planner Edmund N. Bacon, his partner Oscar Stonorov, and others, Kahn elaborated two proposals for the creation of what later became "Penn Center" (1948, 1950). However, what ended up being built was a compromise between those ideas and the priorities imposed by the developers which gradually perverted Bacon's and Kahn's intentions to transform the area into a spacious civic "forum." Downtown became an increasingly amorphous accumulation of corporate skyscrapers—or, as architectural historian Manfredo Tafuri later put it, another demonstration of "the impossibility of planning the American city."

交通研究
費城，賓州
1951-53 (未實行)

就在商業建築師接手「賓州中心」的同時，康對於費城的都市規劃出現了理論上的轉向。他同時專注於兩項計畫：一個是未來的市民中心，特別是一棟新的市政辦公大樓「費城塔」；一個是市區車輛與行人行進動線的改進方案。康將早期從柯比易獲得的概念，結合後來在賓州大學都市發展科系期間所發展出來的想法，加以轉化，運用「河流」(快速道路)、「河道」(行走街道)、「碼頭」(端點) 的觀念，重新定義既存的街道模式。康的交通研究主要的特色是，停車場的結構體 (港口) 是圓柱型的，而購物中心和飯店則環繞在它的四週，形成一種帶狀的護牆，如此市中心就不會受到車流的干擾。這樣的圓柱型結構體在規格上都與羅馬競技場一樣巨大。

Traffic Studies
Philadelphia, Pennsylvania
1951–53 (not implemented)

While Penn Center was being built by commercial architects, Kahn's work on Philadelphia took a more theoretical turn. Side by side, he concentrated a) on the future Civic Center and in particular a new office building for the municipal administration (City Tower) and b) on ways to improve automobile and pedestrian circulation in the inner city. Working from ideas developed earlier by Le Corbusier as well as by the Planning Department at the University of Pennsylvania, he redefined the existing street pattern of the inner city in terms of "rivers" (Expressways), "canals" (go streets), and "docks" (culs-de-sac). A defining feature of Kahn's traffic studies were the cylindrical parking structures ("harbors") wrapped by shopping centers and hotels that were to form a security belt around the inner city to liberate it from automobile traffic. Each of them was to be as large as the Coliseum in Rome.

米爾克里公共住宅計畫
賓州費城
1951-63

有好幾年康一直在進行戰時公共住宅的規劃，費城西區的米爾克里的開發是他最後的大型公共住宅計畫。康與他的合夥人肯尼斯•戴伊、路易•麥克亞利斯特、安•婷，以及景觀建築師克里斯多夫•譚納共同合作，為米爾克里整個區域擬定了總體規劃。這項所謂的「衛城」計畫是高層公寓大樓與低矮房舍的集合體，這些樓舍排列在一個社區活動中心四周，其間有綠蔭步道和庭園縱橫交錯。有三棟高層公寓大樓和雙層住宅分別於 1952-54 年間，以及 1959-62 年間興建完工，提供了上百間住屋。房屋建材使用磚頭及預製混凝土，使得建造工程快速且有效率。2003 年，有關當局拆掉了這批建築群，新建了雙層住宅。

Mill Creek Project
Philadelphia, Pennsylvania
1951–63

Having worked on postwar housing commissions for several years, the development of Mill Creek, a neighborhood in West Philadelphia, was Kahn's last major public housing project.

Together with his associates Kenneth Day, Louis McAllister, Anne Tyng and landscape architect Christopher Tunnard Kahn proposed a master plan for the whole Mill Creek area. This so called „Acropolis" was an aggregation of high and low rise residential buildings grouped around a community center. The buildings were arranged within a network of green walkways and courtyards. Three apartment towers, row and twin houses providing hundreds of housing units were built in two phases between 1952–54 and 1959–62. The houses were constructed by combining brick masonry with precast concrete allowing for rapid and efficient construction.

The building complex was demolished in 2003 and replaced by new low rise family houses.

科學
SCIENCE

自然與設計

對於建築重新出發的基礎，康進行了最本質的探究，此乃根源於他的信念，也就是，自然與設計的概念基本上是相通的。如果生物物理學可以運用幾何的型式，析解生命最精微的結構體 (DNA)，建築未嘗不可採取同樣的方式。

耶魯大學

耶魯大學任教期間，康受到巴克敏斯特 • 富勒作品所吸引，又在與建築師安 • 婷的合作當中產生對設計空間桁架的興趣。耶魯大學美術館 (1951-53) 天花板的設計就是他的第一次突破，在耶魯他也曾和約瑟夫 • 亞伯斯共同開課。亞伯斯的藝術利用幾何造型，以及形狀與背景、平面與空間的交錯互動，挑戰人類的認知能力，這深深影響了康對於光影、虛實在建築上的構成。

工程技術

康在 60 歲左右所設計的賓州大學理察斯醫學實驗大樓 (1957-65)，運用了全新的手法結將工程技術應用在建築設計上，讓他聲名大噪。康後續的公共建築設計，如同里察斯大樓一般，都是他與工程師密切合作的成果。羅伯特 • 勒 • 李克雷 (1894-1977) 就是其中的一個，他是康在賓州大學的同事。此外還有奧古斯特 • 柯曼丹特 (1906–92)，他和康一樣都是愛沙尼亞的移民。勒 • 李克雷投注心力鑽研如何以最小之力產生在結構上最大的延展，他的科學結構應力測試成為康建築思考的關鍵要素。柯曼丹特則是協助康研發出全新的混凝土建構方式。

市政大樓與 DNA 程式

康曾與安 • 婷合作設計一座位於費城市政府旁、高達 180 公尺的費城塔 (1952-57)，康在這個設計中找到結構形式的最終極表現。費城塔的空間桁架源自於雙螺旋的結構，這個設計靈感來自美國生物學家詹姆士 • 華生與英國物理學家法蘭西斯 • 克里克於 1953 年所發現的 DNA 程式。

Nature and Design

Kahn's elemental research on the foundations for a renewal of architecture was rooted in his conviction that the concepts of nature and of design are fundamentally intertwined. If biophysics understands the microscopic building blocks of life as being based on geometry, why can't architecture do the same?

Yale University

While teaching at Yale University, Kahn, fascinated by the work of R. Buckminster Fuller and inspired by architect Anne Tyng, became increasingly interested in space frames. The ceiling of the Yale Art Gallery (1951–53) was a first breakthrough in this regard. At Yale, Kahn was intermittently teaching together with Josef Albers. With its basic geometric shapes and the interplay between figure and ground, surface and space, the art of Albers challenged human cognition and became an important influence on Kahn's architectural compositions of light and shadow, solids and voids.

Engineering

At the age of almost 60, Kahn reached an entirely novel synthesis of engineering and architecture in the Richards Medical Laboratories at the University of Pennsylvania in Philadelphia (1957–65), bringing him international fame. Like the Richards Towers, all of Kahn's subsequent public buildings are the result of an intensive collaboration with engineers, including Robert Le Ricolais (1894–1977), a colleague at the University of Pennsylvania, and August E. Komendant (1906–92), a fellow Estonian immigrant. Le Ricolais's fascination with structures of maximum span and minimum weight and his scientific structural stress tests became a key element of Kahn's architectural thinking. Komendant helped Kahn develop new ways of building with concrete.

City Hall Tower and DNA Formula

Kahn's "structuralist" approach reached its most radical form in his project for a 180-meter high office tower next to the Philadelphia City Hall (1952–57, designed in collaboration with Anne Tyng). The double helix that underlies its space frame structure directly evokes the DNA formula discovered by the American biologist James D. Watson and the British physicist Francis Crick in 1953.

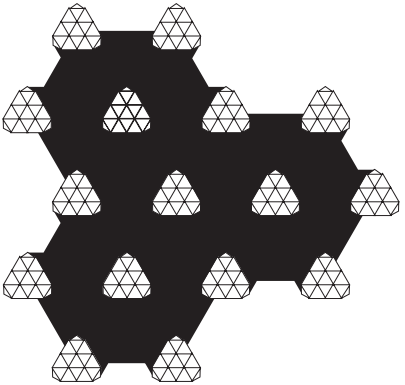
費城塔計畫
賓州費城
1952–57 (未實現)

「費城塔」原本是為費城市政府大樓而設計的，將來也是費城的重要地標。但是，這項計畫終究未實現。「費城塔」是一個以鋼筋混凝土構作的三角結構，這個大膽的想法主要是出自於安•婷，她一直熱衷於空間桁架研究。1957 年康與安•婷共同製作了「費城塔」的模型，這個模型有 9 個主樓層，在每 2 個主樓層中間再夾著三個半層。「費城塔」總高度 616 公尺，預估可提供 3 萬平方呎的樓板面積，以及 55 英呎高的公共空間。依照康的設想，塔的表面是由會反光的鋁製網格構成。現在看來，「費城塔」確實令人讚嘆。康這項大膽的嘗試將 DNA 研究在觀念上最新的突破與建築設計相互結合。而就在這之後不久，黑川紀章與其他日本代謝派運動的健將也同樣受到生物學概念的啟發。然而，類似的建造構想要到數十年後才得以付諸實現。

City Tower Project,
Philadelphia, Pennsylvania
1952–57 (unbuilt)

The City Tower was meant to become the seat of Philadelphia's municipal administration and a landmark, but it remained unbuilt. Its daring triangular structure of reinforced concrete was in large part determined by Anne Tyng's interest in spaceframes. In 1957 Kahn and Tyng created a model of the tower with nine main floors and three half floors sandwiched in between each two. With a total height of 616 feet the twisting tower would have offered 3,000,000 square feet of floor space and a maximum ceiling height of 55 feet for public spaces and assembly. Kahn envisioned the façade to be a lacey network of aluminum reflecting the sunlight.

In retrospect, the project stands out as a bold experiment in bio-technics that was to inspire Kishō Kurokawa and other protagonists of the Japanese Metabolist movement. It took decades until similar solutions were actually built.



理察斯醫學研究大樓
費城賓州大學
1957–65

賓州大學的理察茲醫學研究大樓讓康在國際聲名大噪，建築師紛紛前來朝聖，美國與國際間的建築專業雜誌更是熱烈的報導。這棟研究大樓是由多種樓塔所組合成的聚集，實驗室空間如同片板層層堆疊在其中。依照康“服務空間”與“被服務空間”的概念，以三個樓塔為一組圍繞著一個“服務空間”的樓塔，“服務空間” 將公共設施的管線 , 維修機械設備以及動物舍房收攏於其中。同樣是“服務空間”的樓梯間則接在實驗室塔樓的外側。工程師柯曼登特協助康運用預鑄預力混凝土的范倫迪爾桁架系統構作樓塔的支撐結構，這些可用起重機在施工現場快速組裝。大樓的支撐系統是水泥的質地，和紅磚外牆形成強烈的對比。

Alfred Newton Richards Medical Research and Biology Building
University of Pennsylvania, Philadelphia, 1957–65

With this laboratory building for the medical faculty at the University of Pennsylvania, Kahn achieved his international breakthrough. Architects flocked to see the construction site and architectural magazines both in the US and overseas reported enthusiastically about it.

Kahn conceived of an agglomeration of towers in which the labs were layered on top of one another like tablets. According to Kahn's concept of the "servant" and "served" spaces, three towers are grouped around a "servant" space tower housing basic plumbing, building services, and animal cages. The stairwell towers are docked on the outside of the laboratory towers.

With the help of the engineer August E. Komendant, Kahn planned the support structure of the towers using prefabricated and post-tensioned concrete Vierendeel trusses, to be rapidly assembled, Tinkertoy fashion, by crane. The visible supporting structure of concrete elements contrasts with the red, non-load bearing brick façades.

艾克瑟特學院
圖書館與食堂
新罕夏布州艾克瑟特鎮
1965–72

艾克瑟特學院是一座私立高中，創立於十八世紀。康在 1960 年代中期接受委託，設計新的學校圖書館，做為學校社群整體的知識中樞。這個計畫的概念非常簡單：它必須引導圖書館的使用者從書架上挑選一本書，然後坐在窗邊就著自然的光線翻閱展讀。按照這個概念，圖書館大樓從內到外被區分為三層：中間最裡層是開闊的入口大廳，這裡是交談與交流的場所，進到這裡就可以望見 25 萬冊藏書。第二層是不受陽光照射的圖書館藏書陳列空間，康稱之為“水泥甜甜圈”。最外一層是“紅磚甜甜圈”，在這個區域有 200 多間利用自然光源的研究小間。圖書館之外，康也設計了學校的食堂。

Phillips Exeter Academy
Library and Dining Hall,
Exeter, New Hampshire
1965–72

Phillips Exeter Academy, a private high school founded in the eighteenth century, commissioned Kahn in the mid-1960s to design a new school library as the intellectual center of the school community. The project was based on a simple concept: library users were invited to select a book and then go to the windows to read in the natural light. Based on this idea, the building is divided into three layers: at the center is a large entrance hall, as a site of encounter and exchange, from which the surrounding holdings of 250,000 books can be seen. They are housed within what Kahn used to call a “concrete donut” to protect them from the sunlight. A “brick donut” finally surrounds that core, containing more than 200 naturally lit library carrels. Besides the library, Kahn also planned the school dining hall.

耶魯大學藝廊
康乃狄克州紐哈文市
1951–53

1947 年，康開始在耶魯大學執教。就在他以「訪問建築師」身份在羅馬的美國學院駐留期間，他收到耶魯大學的設計委託，要在一座從 1920 年代起造至今尚未完工的新哥德建築的旁邊增建一座藝廊。對康而言，這項設計案是其建築生涯重要的里程碑。對耶魯大學來說，這項設計案則是在校園建築邁向現代化的進程中，相當關鍵的步驟。耶魯大學藝廊的立面是用磚與玻璃砌成，內部天花板整體是由三角形的鋼筋混凝土構成，相當令人震撼，這種結構是受到理察•巴克敏斯特•富勒空間架構理論的啟發。天花板的深度足以容納燈光電線與空調系統。這座藝廊也是康在建築的空間組構中，最早賦予機械維修系統專屬空間的案例。

Yale University Art Gallery
New Haven, Connecticut
1951–53

Kahn began teaching at Yale University in 1947. During his stay as Architect in Residence at the American Academy in Rome, he received the commission to plan the Yale University Art Gallery, as an expansion of a neo-Gothic building of the 1920s which had remained incomplete. The commission was an important stage in Kahn's career, and for the university it was a decisive step toward the architectural renewal and modernization of the campus.

The façades of Yale University Art Gallery are made of brick and glass. A striking triangular reinforced concrete ceiling inspired by Richard Buckminster Fuller's space-frames is the dominating feature of the interior. Due to its depth, it can house lighting, electric wiring, and ventilation. The Yale University Art Gallery was one of Kahn's first projects that assigned the mechanical services a place of their own in the spatial makeup of a building.

住宅
HOUSE

從功能主義到整體營造

康設計的住宅都位於費城或費城週邊一帶。康視住宅為一種機構，像教堂、市政廳、美術館等機構一樣，都是建築的實體。人們在住宅裡體驗社會的存在，並且感受到周遭環境，只是住宅是最小的建築實體。

住所・一棟房子・家

康探究人類居住問題近 40 年，可歸納出三個概念。康將「住所」視為抽象的觀念或是住宅的原型，也就是說他針對的居住者，是普遍的、放諸四海皆準，不僅是最原始的，也是世世代代的。而「一棟房子」則是指個別獨立的個體，依照客戶需求所建構的單一建築物。康的「家」指的是，居住者個人對於住所的經營。

空間的秩序與自由

康不只將房子視為聚落或是城市的核心，他更認為兩者的構思也應該是雷同的，一座房子的平面圖等同於一座城市的地圖。雖然他也使用網格來協助繪製平面圖，不過他也採用自由組裝的模式，不在平面圖上事先預設每個房間的功能，而是透過整個空間的構築顯現各個房間的定位與功能，這是受到早期美國新英格蘭區新教徒聚落的啟發。

藝術與工藝

康的住宅大多採用木質建材與裝潢，可看出美國美術與工藝運動對他的影響。當時許多此運動的推廣者都以費城為基地，包括雕刻藝術家沃爾頓 ・ 艾許里克。康與他合作設計了他的姪女瑪格麗特的宅邸。此外，康也深受到夏克派傢具與室內裝潢簡潔風格的影響。

From Functionalism to Regional Planning

All of the houses built by Kahn were realized in and around Philadelphia. Like the church, the city hall or the museum, Kahn envisioned the house as an institution: the smallest architectural entity, from which society and built surroundings are experienced.

House, a House, Home

Kahn's architectural exploration of human habitation spanned four decades and circled around three notions. Kahn spoke of "house" as the abstract principle or archetype of a house, timelessly valid, not only for the initial inhabitants of a space but also for all who followed. Whereas "a house" refers to the individual form, to the realization of "house" according to the client's requirements. In Kahn's terminology, "home" refers to what the occupants personally make of the house.

Order and Freedom of Spaces

Kahn not only understood the house as the nucleus of a settlement or city, he was also convinced that both should be similarly conceived, comparing the floor plan of a house with the map of a city. While he developed some of his floor plans with the aid of grids, others were created in a free assembly of volumes in relation to each other, inspired by early Pilgrim settlements in New England. In his plans Kahn did not wish to predetermine the use of each room — this was to reveal itself from the architecture of the space.

Arts and Crafts

Kahn's houses, predominantly constructed from and furnished with wood, show the influence of the American Arts and Crafts Movement. The movement had many exponents in and around Philadelphia, among them the artist and sculptor Wharton Esherick, with whom Kahn collaborated while planning the house for his niece, Margaret Esherick. Stylistically, Kahn was particularly inspired by the simplicity of Shaker furniture and interiors.

瑪格麗特・艾許里克住宅
賓州費城栗樹丘
1959–62

諾曼與朵麗絲・費雪住宅
賓州哈特伯勒
1960–67

史帝芬與托比•柯曼住宅
賓州華盛頓堡
1971–73

艾許里克住宅面向街道的門面相當封閉，而面向庭園的這一面則是挑高、開闊的大片玻璃窗。住宅座落在樹木中，樹影讓灰泥粉刷的牆面顯得生氣蓬勃。深深內嵌的玻璃窗，讓室內明亮並有助通風。精雕細琢的內部裝潢是康和雕塑家沃爾頓・艾許里克共同設計。費雪住宅是康花了七年時間所建造的，這棟住宅包括兩個木質的立方體空間，立於傾斜的坡度上，兩者相交呈 45 度角。其中一個立方體空間是臥室、浴室，另一個則是客廳、餐廳、廚房。住宅樓高兩層，坐落在由當地石材砌造的地基上。科曼住宅佔地寬敞，承襲了美國莊園宅邸傳統，三個煙囪標示出綠茵綿延的外部空間。

Margaret Esherick House
Chestnut Hill, Philadelphia, Pennsylvania
1959–62

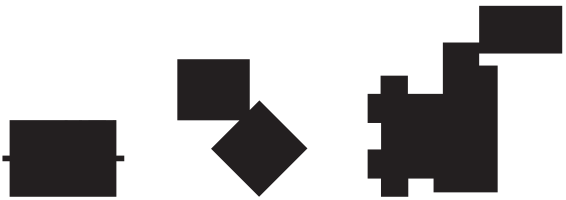
Norman and Doris Fisher House
Hatboro, Pennsylvania
1960–67

Steven and Toby Korman House
Fort Washington, Pennsylvania
1971–73

The Esherick House presents a rigorously closed facade toward the street and an openly fenestrated garden elevation. The shadows of surrounding trees enliven the sand-finished stucco surfaces. Deeply recessed windows provide light and natural ventilation. The finely crafted interiors were designed by Kahn and sculptor Wharton Esherick.

The Fisher House, designed by Kahn over the course of seven years, consists of two wood-sheathed cubes that adapt to the sloped site and meet at offset corners in a 45° angle. One of them contains bedrooms and bathrooms, the other the living room, dining area, and kitchen. The living tract is two stories high and sits on exposed foundation walls constructed of local stone.

The generously proportioned Korman House, built for a family with three sons, stands in the tradition of great American country estates. Three chimneys mark and frame the public areas that look out onto expansive lawns.



傘屋
1944 (未實現)

命名為傘屋乃是源自於它的基本模組：預製的屋頂單元，它的形狀類似一根支柱支撐的金屬傘。在屋頂單元集結而成的方形網格平面圖上，加入不同牆面單元，以及各種預製組件，就可以規劃出各種功能的空間。傘屋設計是由家具製造商漢斯 • 諾爾所組織的委員會發起，他們邀請康卡恩和他的搭檔奧斯卡 • 史托洛諾夫，以及其他六位建築師和設計者參與「生活新品」設計徵件競賽。二次世界大戰後，得以利用飛機製造公司既有的技術與產能，生產製作得獎的設計。雖然他所設計的項目未被選中，康仍持續研發傘屋設計發展的可能性，不管是兩層樓房或是連棟住宅。

Parasol House
1944 (unbuilt)

The name, Parasol House, is derived from its basic module, an industrially prefabricated roof element that was shaped like a metal umbrella with a single supporting column. Wall elements of varying transparency and prefabricated functional units could be added to the orthogonal grid of the floor plan to create individual rooms.

The design was initiated by a commission from furniture manufacturer Hans Knoll, who had invited Kahn and his partner Oscar Stonorov as well as six other architects and designers to participate in a competition for new "equipment for living." The winning design was to be manufactured by an aircraft corporation offering its facilities for peacetime production after the end of World War II. Despite his project not being chosen, Kahn continued to explore the possibilities of this design to create two-story houses as well as row houses.

地景
LANDSCPAE

土・水・風・光

不管是從結構的角度，或者就建築融入地景這一點來看，「自然」在康的建築裡是相當關鍵的要素。建築該如何對應游移不定的光、水、風？如何融入環境的地形與機能？又該如何提供當地人工作機會、並延續當地的建築傳統？

景觀與歷史

先後受到景觀建築師喬治・派頓與哈莉耶特・派提森的影響，康開始研究文藝復興的景觀建築，以及古文明和中東的建築傳統，藉以更進一步了解建築物與環境之間的關係。他在旅途中留下的素描記錄也清楚的印證了這一點。例如在金貝爾美術館 (1966-72, 美國德州沃斯堡) 設計將地面、花園視為建築本體的自然延伸。在沙克生物醫學中心 (1959-65, 加州拉霍亞)，大自然變幻無窮的壯闊景觀將建築化為充滿生機的場域。在列維紀念遊戲場 (1961-66, 紐約) 的設計中，康與景觀雕塑家野口勇合作，企圖將整個環境加以雕塑化，這項計劃終究沒實現。從 50 年代住宅設計開始，到晚期南亞的委託案，康逐漸重視傳統與地方性的建構工法。

廢墟包覆的建築

康運用細膩的手法掌握光線的變化，藉此彰顯他的信念：「唯有在光的擴散與反射之中，室內空間才轉化為建築的場域。」沙克研究所會議室的設計 (1965，未實現)，利用第二層外牆調解空氣的流動，且保護建築免於陽光的直接曝曬。這個不具侵入性的氣候控制系統，日後在熱帶地區的建案，例如印度與孟加拉，都發揮了相當大的功效。

Earth, Water, Wind, Light

Nature was a key element in Kahn's architecture, not only in structural terms but also in the sense of embedding his buildings in the landscape. How does a building respond to the vagaries of sun, water, wind? How does it relate to the topography and the physiology of a site? And, finally, how does it provide people with work and help vernacular building traditions survive?

Landscape and History

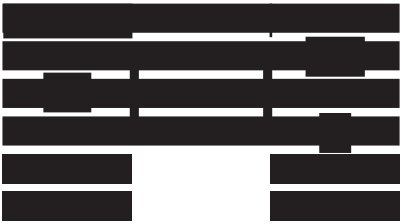
Inspired by the architect George Patton (1920–91) and later by the landscape architect Harriet Pattison, Kahn turned to landscape architecture of the Renaissance and to the building traditions of antiquity and the Middle East in order to understand a building's relation to its site. These explorations were vividly illustrated by Kahn's travel drawings. In his own designs, Kahn treated grounds and gardens as "natural" extensions of his buildings (Kimbell Art Museum, Fort Worth, Texas, 1966–72). He created architecture as a stage activated by nature's ever changing spectacles (Salk Institute for Biological Studies, 1959–65) or subjected the site altogether to a sculptural treat- ment (Adele Levy Memorial Playground, New York, 1961–66, with Isamu Noguchi, unbuilt). Beginning with his houses built in and around Philadelphia, tradition and regional construction methods became increasingly important in his late buildings in South- east Asia.

"Ruins Wrapped Around Buildings"

At the same time, Kahn developed a sophisticated choreography of natural light to illustrate and dramatize these concerns: an interior, he insisted, only becomes an architectural space through the diffusion and reflection of sunlight. In the Meeting House at the Salk Institute in La Jolla (1965; unbuilt) a second layer of outer walls resembling windowless ruins was to provide aeration and to protect the building from direct sunlight. In Kahn's buildings in hot climate zones, in India and Bangladesh, this type of passive climate control came to full effect.

金貝爾美術館
德州沃斯堡
1966-72

康與景觀建築師喬治·派頓及哈莉耶特·派提森共同合作，將金貝爾美術館安置在一個梯台狀、庭園當中。精心設計動線與路逕引導參觀者進入這座隱蔽的美術館；先經過低凹的戶外雕塑庭園，然後穿過拱形長廊，長廊兩側水聲潺潺，最後穿過小樹林來到美術館入口。金貝爾美術館的平面構圖從方形、演變至 H 形到最後定案的 C 形，儘管過程曲折，設計的發展比較是垂直切面的推演，而不是平面圖的演變，因為從留存的圖稿等設計文件當中，發現大量有關半橢圓拱頂、半圓拱頂甚至 V 形拱頂的研究。透過混凝土拱頂連續相接的設計，康的初衷是希望將日常、氣候、季節的變化帶進美術館中。藉著拱頂上的狹長天窗及下方如翅膀般的鋁製反射鏡，整個展間因為自然光持續的變化而生氣勃勃，營造出欣賞藝術品的最佳空間。



Kimbell Art Museum
Fort Worth, Texas
1966–72

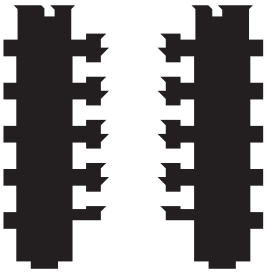
Working closely with landscape architects George E. Patton and Harriet Pattison, Kahn arranged the museum in a stepped, park-like setting. The introverted building is approached in a processional manner: Visitors follow walkways lined by grids of trees and a sunken sculpture garden before passing vaulted loggias flanked by reflecting pools of cascading water.

The composition of the plan evolved from a square and an H-shape to the final C-shape. Despite the complexity of this process the design development was more section- than plan-based. This is documented by numerous studies of semi-elliptical, semicircular or even V-shaped vaults.

The starting point for Kahn's successive scheme of cycloid concrete vaults was the idea to bring the change of day, weather, and seasons into the museum. By a skylight slot at the apex of each vault and wing-like aluminum reflectors beneath, the gallery space is animated with diffuse ever-changing natural light in which artworks are best viewed.

沙克生物醫學中心
加州拉霍亞
1959–65

瓊納斯・沙克 (1914-95) 是小兒麻痺疫苗發明者。當這位知名的醫學及細菌學家決定在加州聖地牙哥北部海岸邊建造研究中心時，一位他的朋友向他推薦了康來擔任設計建築師，這位朋友曾聽過康一場名為「科學與藝術的秩序」的演講。沙克要求康設計一所可以邀請藝術大師畢卡索來參觀的研究機構，身為客戶與建築師，他們之間發展出一段相當傳奇的關係。最後的定案包含兩排 6 層樓高的實驗室。其中，服務樓層以 Vierendeel 桁架包覆，夾在實驗室之間，這是另一個相當成功演繹「服務」（servant）空間與「被服務」（served）空間的案例。至於中庭及面海的研究塔樓，則遲遲未定案。後來應康邀請墨西哥籍的建築師路易斯•巴拉岡前來勘查，他建議保有中庭廣場的開放性。康所設計的住宿設施，貫徹其「古老遺跡包覆著建築」的理念。此外，一間提供科學家與文化人士交流的聚會場所並未實現。



Salk Institute for Biological Studies
La Jolla, California
1959–65

Jonas Salk (1914–95) discovered the first effective polio vaccine. When the famous medical scientist and bacteriologist decided to build a laboratory on a coastal cliff north of San Diego, a friend, after attending a lecture by Kahn on "Order in Science and Art," recommended him as architect. In what would become one of the most mythical client–architect relationships, Salk asked Kahn to design a research facility to which he could invite Picasso.

The final scheme consists of two laboratory wings with six floors. Service floors, contained in Vierendeel trusses, are sandwiched between the labs (another and most successful variation on the theme of "servant" and "served" spaces). The design of the court with its study towers facing the sea remained undetermined until the Mexican architect Luis Barragán, having been invited by Kahn to visit the site, proposed keeping it as an open plaza.

Residential facilities that Kahn designed following his notion of "wrapping ruins around buildings," and a meeting house for the exchange between scientists and cultural leaders, remained unbuilt.

列維紀念遊戲場
紐約河岸公園
1961-66（未實現）
野口勇共同創作

康對野口勇的作品並不陌生。早在 1930 年代初期，在費城的一個雕塑與繪畫展，康接觸了野口勇的作品。野口勇早期對遊戲場 (playground) 的設計相當感興趣，他為紐約的一個街區所設計的「遊戲山」(Play Mountain) 就是一個典型的案例，這個提案在 1934 年被紐約公園管理委員會委員羅伯特・摩瑟斯否決。1960 年代初期，慈善家奧德莉・黑斯為了紀念她的姑姑艾黛兒・羅森華爾 - 列維，計畫在紐約河濱公園建造一座遊戲場。野口勇接受委託，並邀請康一同參與。藝術家和建築師兩人合作超過 5 年的期間當中，製作了十幾個模型。他們重新賦予地表鮮明的雕塑性，創造出新型態的遊戲空間，令人聯想到古代祭禮的場所。該計畫雖然並未實現，但是對於創意性、非制式的遊戲場，其後續發展深具影響力。

Levy Memorial Playground
Riverside Park, New York
1961–66 (unbuilt)
With Isamu Noguchi

Kahn was familiar with Isamu Noguchi's work from the early 1930s, when he had seen an exhibition of sculptures and drawings in Philadelphia. Noguchi's "Play Mountain" for a New York city block, a proposal that had been rejected by New York Parks Commissioner Robert Moses in 1934, is typical of Noguchi's early interest in playgrounds.

In the early 1960s, when Noguchi was approached by philanthropist Audrey Hess to design a playground for New York's Riverside Park (in memory of her aunt Adele Rosenwald-Levy), he invited Kahn to join him. The artist and the architect collaborated over five years, creating more than a dozen models, sculpting the surface of the earth to create a new kind of playscape, reminiscent of ancient cult sites. The project remained unbuilt but was influential in furthering the development of creative, non-standard playgrounds.

美洲交流中心 B
佛羅里達州邁阿密
1963–69 (未實現)

泛美文化中心 (Panamerican cultural center) 建造的初期計畫，於 1950 年佛羅里達州邁阿密公布。在 1962 年古巴飛彈事件之後，美國政府視這項計畫為冷戰策略之一，決定在經費上予以支援：泛美交流中心 (Interama) 不僅被提升為展現中美洲、拉丁美國家文化和傳統的櫥窗，還變成一個自由世界交流的據點。康是當時建築菁英團隊的一員，成員還包括馬歇布•勞耶、保羅 • 魯道夫以及約瑟・路易斯・瑟爾特。這些建築師受邀共同為佔地 680 英畝的綜合設施進行規劃設計，內容包括廣場、展覽館、集會場所，以及各國代表與學生的宿舍。最重要的作品應該是山崎實設計的 1000 英尺高的自由塔。但由於資金缺乏，參與國又不支持，整個計畫在 70 年代中期就中止了。

Interama Community B
Miami, Florida
1963–69 (unbuilt)

First plans for a Panamerican cultural center in Miami, Florida, were published in 1950. Following the Cuban missile crisis (1962), the American government decided to support the project financially as part of its cold war policy: Interama was promoted as a showcase of Central and Latin American countries presenting their culture and traditions—and as a hub of the "free world."

Louis Kahn was part of an "all star team" of architects including Marcel Breuer, Paul Rudolph, and Josep Lluís Sert who were invited to design the 680-acre complex with public plazas, exhibition and assembly spaces, as well as housing for international delegates and students. The centerpiece would have been a 1000-foot "Tower of Freedom" by Minoru Yamaski. Due to lack of funding and support from the participating countries the project was disbanded in the mid-1970s.

集合群組
COMMUNITY

群組的邏輯

什麼才是建築的最終目的？它提供給人們聚集、工作以及共同生活的空間，它形塑出一個場域，激發認同感。康早年投入費城的都市規劃，他當年的理念，到了晚期在印度與孟加拉大型的設計案中，得到最極致的展現：兩者總體的設置都接近城市規模。

建築要成為什麼

就如同人類一樣，建築物的各各單位也是彼此聯結、共同運作。而建築就是量體與空間在平面圖上的組合與配置。對康來說，他會先問：「建築物的用途是什麼」。他會將建築物的各個單位配置在對稱的軸線上，或是繞著一個中心點隨機組合，藉此探尋可能的答案。這樣的過程有時會持續好幾年才找到答案。現代主義國際式樣崇尚開放、流動以及多功能的空間觀。康將個別單一的空間視為無限開放的基本元素，此概念被運用在特倫頓社區中心的設計 **(1954-59)** 以及鄰近美國費城的布林莫爾學院艾德曼禮堂。他也將不同尺寸的鬆散結構運用於其它地方，例如位於美國賓州梅迪亞的道明會修道院聖卡特琳．德．李奇 **(1965-68)**。

「服務」與「被服務」空間

康在一個完整的型態內創造出空間的等級制度。他區隔了「服務」與「被服務」的空間，技術設備、公共設施、以及內部流通領域的配置規劃，是遵循一個更高的統合概念所衍生的系統。

住宅、社區、城市

依照「盎格魯 - 撒克遜」的傳統，社區的概念是都市規劃的核心。換句話說，規劃的重點必須考量社區整體的呈現。康的建築呼應著這樣的精神。位於紐約羅徹斯特市的唯一神派第一教堂 **(1959-62)** 以及位於印度亞美達巴德的印度管理學院 **(1962-74)** 校園設計就是為了觸發人與人之間廣泛的互動。

THE LOGIC OF ASSEMBLY

What can architecture ultimately achieve? It offers a place for people to meet, work, and live together and it creates institutions that establish a sense of identity. While this notion guided Kahn's early preoccupation with urban planning in Philadelphia, it reached its apotheosis in Kahn's late and largest projects in India and Bangladesh – both city-like complexes.

"What a Building Wants to Be"

Like people, building parts also meet, work, and connect. Architecture is about the assembly of architectural volumes and spaces and their arrangement within a floor plan. For Kahn, the initial question is about "what a building wants to be." By grouping parts, either on a symmetrical axis or around a central point in a seemingly coincidental manner, an answer begins to crystallize. The process can take years. The International Style believed in open, flowing, and polyvalent spaces. Kahn worked with distinctive rooms as elements of a potentially open-ended system, as in the Trenton Bath House and Community Center (1954–59) and in Erdmann Hall at Bryn Mawr College (1960–65). Elsewhere he let units of different size form a loose agglomeration, as with the project for the Dominican Motherhouse of St. Catherine de Ricci in Media, Pennsylvania (1965–69).

"Servant" and "Served" Spaces

Kahn created a hierarchy of spaces within an overall form. He distinguished between "servant" and "served" spaces, starting with an all-encompassing superior order as a generative system for the layout that contains technical installations, utility systems, and circulation areas in a building.

House, Neighborhood, City

In the Anglo-Saxon tradition, the neighborhood idea is key to urbanism. Planning is about forming a neighborhood. Kahn's architecture reflects that spirit. A church (Unitarian Church, Rochester, New York, 1959–62), a university campus (Indian Institute of Management, Ahmedabad, 1962–74), and a capital complex (Sher-e-Bangla Nagar, Dhaka, 1962–83) were designed to facilitate a maximum of open-ended interactions among people.

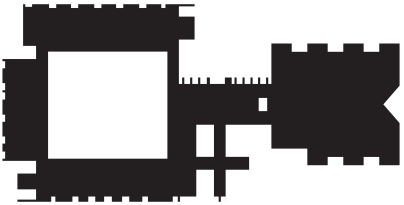
唯一神派第一教堂
紐約州羅徹斯特市
1959-62

對康而言，唯一神派第一教堂是「形式對應設計」的理論，在實踐上最經典的範例。從一開始他想到的就是對稱的十字中心式的平面圖，他稱之為教堂的形式。相對於此，業主要求聖壇與學校彼此分隔各據一方。依照業主的建議，康畫了一系列構想性的設計圖，最後他得到的結果是，學校的教室隨意的圍繞在聖壇四周。康認為如此一來，在聖堂可以回應教室提出的問題。最後定案的是一個鬆散的長形格局，它結合了康的最初的形式概念與業主方面的狀況需求。康將這樣的過程稱為「設計」。彩色的掛毯妝點著聖堂的牆面，掛毯是由傑克・雷諾・拉森所編製的，意圖藉此調合從四個屋塔的天窗傾洩而下的光線。

First Unitarian Church
Rochester, New York
1959–62

The First Unitarian Church was for Kahn the key example for his theory of "form" as opposed to "design." From the outset he proposed a centralized and symmetrical plan which he defined as the building's "form." The client, in turn, required a building with two separate wings for an auditorium and a school. In a series of programmatic concept sketches Kahn followed the client's suggestions but ended up arranging the classrooms freely around the sanctuary, arguing that the sanctuary might in such a way address questions that were raised in class. His final design, a loosely elongated scheme, resulted from the combination of his original "form"-concept and the "circumstantial demands" imposed by the client. This process he called "design."

Colorful wall tapestries woven by Jack Lenor Larsen decorate the sanctuary in an effort to help distribute the light that enters through the skylights of the four towers.

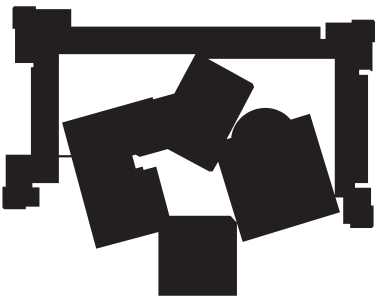


道明會修道院
聖卡特琳・德・李奇 , 賓州梅迪亞
1965–69

在多明尼克修到院的設計中，康的空間社會關係的理念得到了完整且充份的表達，這個理念強調彼此獨立的空間之間”互相對話”。在賓州的鄉間一處幽靜處所修建一所修道院，修道院容納 120 位修女，還包括一間禮拜堂、一間大禮堂、幾間教室、一間圖書館、一間餐廳。在 1966 至 68 年間康完成了 900 多張設計初稿、素描，固定不變的是並排成列的個人居室與各有不同造型的公共空間。隨著設計的發展，個人居室轉了 90 度。公共空間原本在開闊中庭的另一邊，後來被往內推到中庭，被個人居所包圍著。本案後來無寂而終，與申請者的人數逐年減少，以及 1960 年代僧院制度的改革有關。

The Dominican Motherhouse of
St Catherine de Ricci
Media, Pennsylvania
1965–69 (unbuilt)

With the Dominican Motherhouse project Kahn gave full expression to his “society of rooms” idea, in which discrete spaces “speak to each other.” Planned for an idyllic site in rural Pennsylvania, the monastery was to include dormitories for 120 sisters, a chapel, an auditorium, classrooms, a library, and a refectory. From early 1966 to late 1968 over nine hundred sketches, drawings, and prints were made. Constant elements were bars containing private cells, positioned in relation to an existing forest, and juxtaposed to the individually shaped communal spaces. In the design development the cells were turned 90° and the communal spaces—originally on the other side of a generous open court—were pulled inwards to be themselves framed by the cells. The project was cancelled due to the drop in numbers of new postulants and general reforms to monastic life in the 1960s.

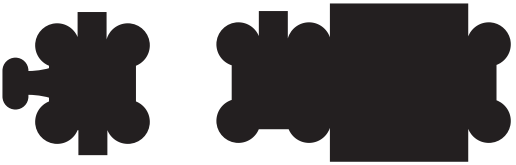


密克維以色列猶太會堂
賓州費城
1961–72 (未實現)

密克維以色列猶太會堂創立於 1740 年，是費城最古老的猶太會堂。到了 20 世紀的 60 年代，信徒希望能夠重回創立時位於費城市中心的原址。最早建議是將獨立廣場作為重建的基地，這個地點相當符合猶太人希望靠近國家發源地的期望。康認為，可藉由這個建案設計涉入費城市中心的重整計畫，當時的他早已被都市計畫委員會排除在外。11 年間，他發展出六種不同的方案。其中最詳細的方案是，以 17 米高的光塔環繞禮拜堂和聖壇，形成一條廊道。光塔本身向外、向內都有開口，讓光線透進內部，向外的開口則鑲嵌著玻璃。始終與宗教儀式保持距離的康，選擇這種方式去提昇光線的精神性。由於缺乏資金，這所猶太會堂始終無法起造。對康來說，這是最大的憾事之一。

Mikveh Israel Synagogue
Philadelphia, Pennsylvania
1961–72 (unbuilt)

Mikveh Israel is Philadelphia's oldest synagogue. In the 1960s, the congregation wished to return to the city center, where it had been founded in 1740. The proposed construction site was located directly on Independence Mall and met the desire for a Jewish presence near this "birthplace of the nation." Kahn saw the project as an opportunity to participate in the architectural redevelopment of Philadelphia's downtown area, from which he was otherwise excluded. Over eleven years, he developed six different schemes. In the most elaborate scheme, the chapel and sanctuary are flanked by light towers 17 meters high which, glazed on the outside and open on the inside, form an ambulatory. Kahn, who always had a distanced relationship to religious ritual, chose this form in an effort to make the spiritual quality of light palpable. The project could not be realized for lack of financing. It was one of Kahn's greatest disappointments.



胡瓦猶太會堂
以色列耶路撒冷
1967–74 (未實現)

胡瓦 (Hurva) 是希伯來文，原意廢墟，胡瓦猶太會堂的前身創建於 18 世紀，不久就因為猶太人與阿拉伯人的衝突被毀而成廢墟，百餘年後重建的會堂也在 1948 年第一次中東戰爭期間被夷為平地。1967 年的六日戰爭結束後，就計畫在原址重建一所猶太會堂。康建議保留現有猶太會堂的廢墟，在旁邊重新建造一座。康的設計包括內外層的建築，外層的建築是由 16 座巨石堆疊而成的塔門，每座 18 公尺高。內層的建築則以鋼筋混凝做成的土傘狀的屋頂，形狀像倒轉的金字塔底面，圍繞在聖壇的四周。康將胡瓦猶太會堂安置在山丘上，遙望遠處的聖殿山，聳然而立，與圓頂清真寺兩相對峙。耶路撒冷市長泰迪．柯烈克稱之為世界的猶太會堂。但康的胡瓦猶太會堂從未建成。

Hurva Synagogue
Jerusalem, Israel
1967–74 (unbuilt)

The name Hurva (Hebrew for "ruin") refers to the eighteenth-century synagogue destroyed during conflicts between Jews and Arabs. A later synagogue suffered the same fate in 1948. After the Six Day War in 1967, a new synagogue was to be erected in the same location. Kahn proposed to keep the synagogue ruins as a garden and to build the new Hurva next to it. His design was based on an inner and outer building: on the outside, he planned 16 pylons, each 18 meters high, made of large local stones. On the inside, he proposed four huge reinforced concrete umbrellas with roofs shaped as inverted pyramids and bases framing the sanctuary.

Placed on a hill across from the Temple on the Mount, the Hurva would have formed a monumental counterweight to the Dome of the Rock. Mayor Teddy Kollek called it "a world synagogue." It was never built.

猶太社區中心
尤恩鎮 (特倫頓市附近)
紐澤西州
1954–59

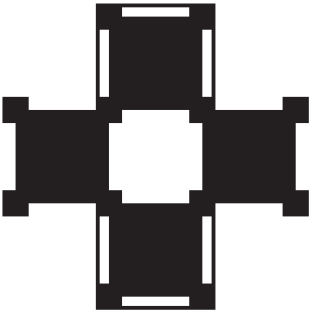
猶太社區中心原本包括一棟社區中心大樓、一個淋浴間供社區泳池使用及日間野營基地，但只完成後面兩個附帶的建築。這項委託案是康建築設計的一個重要的轉捩點，主要是因為它內在的模矩思維與科學相關，這可能是安 • 婷的貢獻。「淋浴間 / 澡堂」的平面圖是以希臘十字為基礎，四個正方的亭閣圍繞著中央的空地，亭閣的屋頂是角錐體 (金字塔形)。亭閣的四個角落是空心的，是以簡陋的混凝土塊製成，不僅形成角柱支撐屋頂，也有助內外的空氣流通，以及提供服務設施。入口處的壁畫是這裡唯一的裝飾品。相較於「淋浴間 / 澡堂」嚴密幾何的組合關係，日間野營基地四個沒有牆面遮蔽的亭台，它們之間的排列關係就顯得毫無章法。至於未建造的社區中心大樓，原來的設計是一個可延展的結構，由鬆散的塊狀組件所構成。

Jewish Community Center
Ewing Township (near Trenton),
New Jersey
1954–59

The Jewish Community Center was to include a community building, a bath house for the community pool, and a day camp but only the two subsidiary buildings were realized. The commission was a major turning point in Kahn's work because of its underlying modular thinking relating to science (probably the contribution by Anne Tyng).

The bath house is based on a Greek-cross plan, with four equal square pavilions covered by pyramidal roofs grouped around a central open space. Hollow corner piers made of cheap standard concrete blocks both support the roofs and allow for circulation and services. A mural at the entrance serves as the only decoration.

Juxtaposed to the strict geometry of the bath house is the day camp, with four open pavilions arranged in seemingly random order. The unbuilt community building was conceived as a potentially expandable structure made of loosely agglomerated modular units.



六百萬猶太人
受難紀念碑
紐約巴特里公園
1966–72 (未實現)

1967 年猶太委員會委託康設計一座紀念碑，選定的建址為紐約曼哈頓南端的巴特里公園，猶太委員會是一個聯合組織，由 30 個美國境內的猶太機構組成。康從最初就設定以玻璃來打造這座紀念碑。本來設計的巨型玻璃管因為技術的問題無法直接製作，不過就在康參訪可寧玻璃公司之後，他就決定改用獨特的玻璃磚來製作。初步的草圖包括 9 支玻璃管，每支 12 平方呎高 15 呎，成棋盤式排列。因為 9 這個數字在猶太數字命理學當中與人的誕生有關，是喜事，所以被猶太委員會拒絕。康的第二個提案是將 6 支玻璃管圍繞在一支中央有開口的玻璃管四周，中央這支玻璃管是一個小教堂。由於資金缺乏，紀念碑從未被建成。

Memorial to the Six Million Jewish Martyrs
Battery Park, New York
1966–72 (unbuilt)

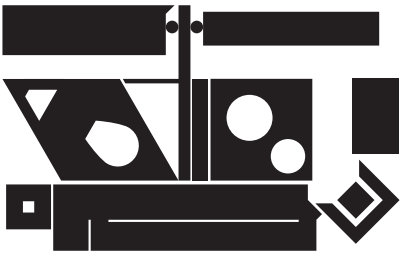
In 1967 the Jewish Committee, an umbrella organization comprised of thirty Jewish organizations in the United States, commissioned Kahn to build a Holocaust Monument in Battery Park on the southern tip of Manhattan. From the very beginning Kahn envisioned a monument made of glass. Since massive glass cubes could not be realized for technical reasons, after a visit to the Corning Glass Company he decided to create cubes using individual glass bricks. A first sketch included nine glass cubes each twelve feet square and fifteen feet tall, arranged in a checkerboard pattern. Since in Jewish numerology the number nine is associated with human birth—that is, a happy event—the design was rejected by the clients. Kahn's second proposal was based on six closed cubes grouped around a central open cube that would have served as a small chapel. Due to lack of funds, the project was never realized.

藝術中心
學院與表演藝術劇院
印第安那州韋恩堡
1961–73

康接受韋恩堡的美術基金會委託，要為這個擁有十八萬居民的城市，設計一個藝術中心，提出的計畫包括一座音樂廳、一所藝術學院、一所音樂學院、兩座博物館以及一間劇院。從設計圖與模型可以看出，康對於這個規模龐大的計畫，概念是從基本幾何形狀之間的虛實交錯而來。康將它們視為一個整體，每棟建築都彼此相依，整體遠大於個體。可惜的是，康設想的整體規模是原預算經費的十倍，最終只有表演藝術劇院建成，音樂廳本身是混凝土，外圍有薄磚牆包覆，隔絕附近鐵路產生的噪音。康將這座劇院比喻為在小提琴箱內的小提琴，是「一個裝人的樂器。」

Fine Arts Center,
School and Performing Arts Theater
Fort Wayne, Indiana
1961–73

When the Fine Arts Foundation of Fort Wayne approached Kahn to design a fine arts center for the city of 180,000 inhabitants, the project was to include a philharmonic concert hall, an art school, a school of music, two museums, and a theatre. As sketches and models show, Kahn's concept for this ambitious program was based on the interplay of solids and voids in basic geometric shapes. Kahn referred to them as an entity where each building depends on the other, the sum being greater than its parts. Unfortunately, the complex, as envisioned by Kahn, exceeded the projected budget by ten times. Only the Performing Arts Theater was eventually built: a concrete concert hall protected from the noises of the nearby railroad by a brick envelope. Kahn liked to compare it to a violin in a violin case: "A musical instrument containing people."



永恆
ETERNAL PRESENT

遺跡與建築原型

現代主義認為建築最重要的就是當代性，開放且輕量的結構並接受工業預製的建築構件，康則是重新評估歷史，但不是延用過去的風格，而是探討空間秩序和形式結構的根本，賦予建築嶄新的象徵性與紀念性。

羅馬與遺跡
康旅行世界各地，足跡遍及義大利希臘埃及，這些遊歷豐富了他的建築思想，他在旅途中留下的素描記錄印證了這一點。 **1950** 年初，康曾到羅馬遺跡中見證建築整合的範型，從頹圮的、沒有外在裝飾的建築廢墟中，找到建築結構最真實的形態。這個觀點反映在他許多的作品，樸實與純粹的物質性賦予這些建築永恆與神聖的質感。相較於古羅馬的廢墟，康在印度與孟加拉的建築宛如「逆向的廢墟」，時光凝結在建構的場域當中，充滿感傷之情。

皮拉聶西
十八世紀版畫家皮拉聶西從羅馬的遺跡取來的大理石碎片，採用幾何的圖式編造出一張古羅馬區域圖：《羅馬戰神廣場模擬圖》。這張圖在康的建築事務所掛了很多年。現在看來，孟加拉達卡國民議會大廈同心圓的結構回應了這張虛構市區圖。

球體．圓柱．立方
康最知名的作品都散發出球體、圓柱、立方的幾何魔力，兼具現代與古典，讓人聯想到法國十八世紀建築家布雷 **(1728–99)** 和勒杜 **(1736–1806)** 所設計的”奇想建築”。這兩位建築師在 **20** 世紀三〇年代重新被發掘，是「革命建築」代表性的建築家。

Ruins and Archetypes

The International Style defined buildings as open, lightweight structures and believed in industrial prefabrication of building parts. Kahn returned mass and weight to architecture. In Modern Architecture, a building had first to be contemporary. Kahn opened up ways of reassessing history — not by copying styles but by addressing fundamentals of spatial order and formal composition. The result was a new presence of the symbolic and the monumental in architecture.

Rome and Ruins

Kahn's travels to Italy, Greece, and Egypt were formative for his architectural thinking, as his travel drawings so vividly show. As a fellow at the American Academy in Rome (1950–51), Kahn came to see the ruins of imperial Rome as quintessential demonstrations of how buildings are put together. In the ruins of abandoned buildings, free of plaster and ornamentation, he recognized architectural structure in its most unadulterated form. This viewpoint, coupled with the architect's aim to achieve a timeless, sacred quality, is reflected in the austerity and elemental materiality of many buildings by Kahn. Compared to brick ruins from antiquity, Kahn's buildings in India and Bangladesh have the pathos of construction sites arrested in time. They could be seen as "ruins in reverse."

Piranesi

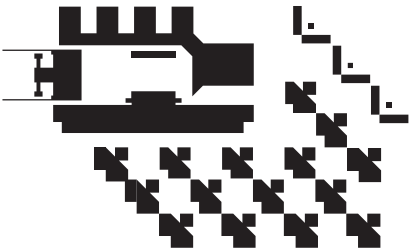
A print of Giovanni Battista Piranesi's imaginary scheme of the Campo Marzio in Rome decorated Kahn's office for many years. What interested Kahn was both the "utopian" reconstruction of a lost part of Rome in an abstract geometry, and the fact that it is engraved on a fragment from an ancient building, an antique marble slab. In hindsight, the geometry of Piranesi's fictional city plan reverberates with the concentric organization of the Dhaka Assembly Building (1962–74).

Sphere, Cylinder, Cube

Like the ideal architectures of the "Revolutionary Architects" Etienne Louis Boullée (1728–99) and Claude Nicolas Ledoux (1736–1806), who were rediscovered around 1930, Kahn's best-known works live by the magic of sphere, cylinder, and cube. That makes them both modern and classic.

印度管理學院
印度亞美達巴德
1962–74

印度管理學院是依照哈佛商學院的模式成立的，目的是為了培養印度年青的管理人才。這所學院的捐贈者也包括知名的薩魯巴伊家族，柯比易在 1950 年代曾接受這個家族委託進行三個計畫案的設計，也都是在亞美達巴德。有關建築師人選，相當當局徵詢了印度建築師博克利西那•多西，他曾經和柯比易共事過。結果多西推薦了路易•康。康初步的想法是，設計一座修道院，也就是說建築整體是自我封閉、自給自足的。校園的主要館舍包括一棟方形的教學大樓、一座圖書館、餐廳、學生宿舍以及各學科系所的辦公室。門廳廊道、中庭、走廊是要作為交流聚集的場所，藉此鼓勵學生多多參與社交活動。康聽從多西的建議，為了善用當地的風勢來降低熱氣，將最早的基地圖轉了 90 度。康選用磚造，這是當地最普遍的的結構工法。



Indian Institute of Management
Ahmedabad, India
1962–74

The Indian Institute of Management was modeled on Harvard Business School and intended to educate the young Indian business elite. The institution's benefactors included the Sarabhai family, which had already commissioned Le Corbusier to do three projects in Ahmedabad. When the clients turned to the Indian architect Balkrishna Doshi, who had worked with Le Corbusier, he suggested Kahn.
Kahn began with the idea of a monastery—i.e. a complex that is closed in itself and autonomous. Main elements of the campus include a rectangular school building with classrooms, a library, and a dining hall, as well as student dormitories, arranged at 45° angles, and apartments for faculty.

Foyers, courtyards, and corridors are conceived as meeting areas that encourage social interaction among students. At Doshi's suggestion, Kahn turned the first site plan 90°, to make better use of prevailing winds to cool the buildings. Kahn chose brick as a construction method typical of the region.

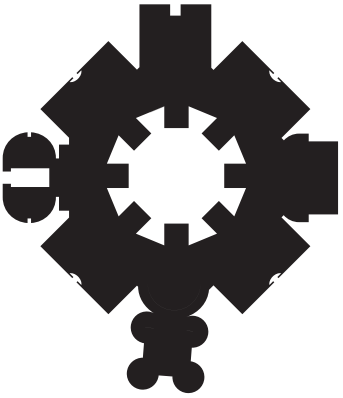
謝爾邦格拉區
孟加拉中央政府特區
孟加拉達卡
1962–83

對康而言，位在孟加拉達卡的中央政府特區是他受委託的建案中最具代表性的，也是最嚴峻的。在康承接本案時，巴基斯坦分為西巴基斯坦（首都為伊斯蘭馬巴德）與東巴基斯坦（首都為達卡）。整個中央政府特區的中心就是國民議會大廈，結構上，它是對稱的軸線交集於軸心。中央的議事堂外側圍繞著寬敞的廊道，最外圈連著有八個建築體，其中南邊的回教祈禱室是唯一偏離中軸線的，這是為了對準回教聖城麥加的方位而做的調整。沿著河岸，磚造的宅邸和辦公大樓排列成 V 字形。池塘是運用當地「挖填」技術建成的。建築豎立在填土之上，是為了避免洪水侵襲，康知道在孟加拉洪水經常氾濫成災。1971 年東巴基斯坦宣布獨立，國名變更為孟加拉。如今中央政府特區是達卡僅有的幾個公共空間之一，而正因為如此，非常受到當地市民的喜愛。基本形式的語彙、多重空間的組構、光線的處理與掌控，康的三大建築理念在這裡都得到最極致的展現。因此在當時，對這個剛成立不久的國家來說，這座由康所設計的宏偉建築便成為它的表徵。

Sher-e-Bangla Nagar,
Capital of Bangladesh
Dhaka, Bangladesh
1962–83

The government complex in what is today Dhaka, Bangladesh, was Kahn's greatest and most demanding commission. At the time he received it, Pakistan consisted of a western part with Islamabad as its capital, and an eastern part with Dhaka as its capital. The center of the complex is the National Assembly Building, structured axially around a central point. The plenary hall is surrounded by a generous ambulatory. Around it are grouped eight building elements. The Muslim prayer hall to the south is the only one that diverges from the general axis and faces Mecca. Along the water, residences and office buildings form a V-shape. The pool was created by the local technique of "dig and mound." Buildings were erected on the excavated earth to protect them from the flooding that regularly plagues the country.

In 1971 East Pakistan declared its independence and was renamed Bangladesh. Today, the complex is one of the few remaining open spaces in the city and as such is very popular with the local population. Here, Kahn's elemental formal vocabulary, his complex spatial compositions and his choreographic mastery of light reached its climax. Hence, Kahn's expressive architecture became the symbol of a young nation.



佛蘭克林・羅斯福四大自由紀念公園
紐約羅斯福島
1973–2012

羅斯福島（舊稱福利島）是一個坐落於紐約東河中央，是狹長小島，長三公里。1973 年紐約州長尼爾遜・洛克菲勒和紐約市長林賽，聯合宣布「富蘭克林・羅斯福四大自由紀念公園」建造計畫，園址在島的南端，與聯合國總部大樓隔河對望。康與建築師哈莉耶特・派特森密切合作，以兩個概念作為公園設計的主軸；象徵建築起源的空間，和以大自然為內蘊的庭園，庭園兩旁會有兩排的椴樹和櫸木。至於空間，康最早的設計是 20 米高、以鋼為材質，之後改成混擬土的祭壇，最終的版本是採用花崗岩巨石鋪設整個空間，並將羅斯福總統的銅頭像其上。這座巨型頭像的製作是依據雕塑家喬・戴維森 1933 年的藍圖。羅斯福紀念公園在康過世三十多年後起造，並於 2012 年秋建成完工。

Franklin D. Roosevelt
Four Freedoms Park
Roosevelt Island, New York
1973–2012

Roosevelt Island (formerly Welfare Island) is a narrow strip of land, three kilometers long, situated in the middle of the East River, New York. In 1973 Governor Nelson Rockefeller and New York Mayor Lindsay jointly announced the Franklin D. Roosevelt Four Freedoms Park to be built on the southern tip of the Island, facing the United Nations Secretariat across the river. As key elements of the park, Kahn, in close collaboration with land-scape architect Harriet Pattison, envisioned a room as "the beginning of architecture" and a garden as "the gathering of nature." The garden is lined by two rows of linden and beech trees. Initially Kahn designed a 20 meter high room made of steel. In a later version the room was to be built with concrete baldachinos. The final version of the room, built with massive granite stones, shelters a bronze head of President Franklin D. Roosevelt, modeled in 1933 by the American portrait sculptor, Jo Davidson (1883–1952).

After more than three decades the park was realized posthumously and completed in the fall of 2012.

臺北市立美術館
TAIPEI FINE ARTS MUSEUM