

Global Architecture

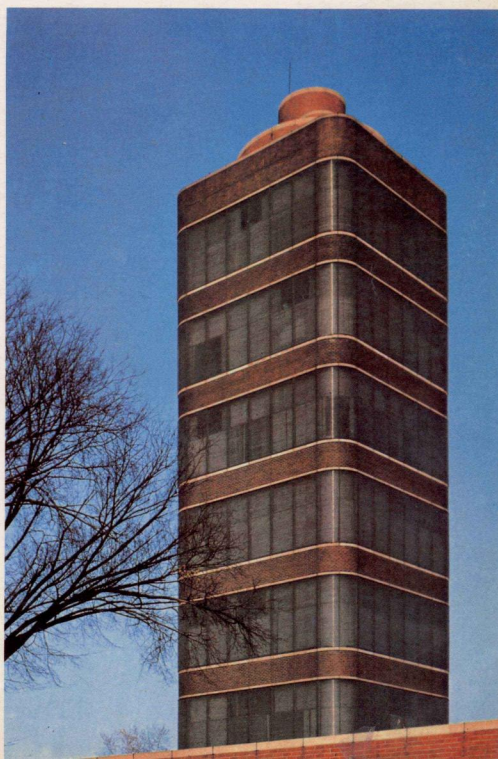
世界建築

Frank Lloyd Wright

*Johnson & Son, Administration Building
and Research Tower, Racine, Wisconsin. 1936-9*

Edited and Photographed by Yukio Futagawa

Text by Arata Isozaki



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世界建築 No. 1

廣森父子公司行政中心

與研究大樓 / 威斯康辛州・拉辛 / 1936—9年

建築師 / 喬蘭克・洛伊・萊特

攝影 / 二川幸夫

本文 / 磯崎新

中譯 / 王增榮

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佛蘭克·洛伊·萊特之空間觀 —— 磯崎新

Frank Lloyd Wright's View of Space, by Arata Isozaki

「某日，我到泰里雅森書房休息。隨手拿起一本小書翻閱，這是剛從日本駐美大使館收到的，書名叫做「茶經」由岡倉天心所著。我不知你們是否曾讀過這本書，話說回來，在這書裡，我讀到許多引自中國古代賢哲老子的格言，那些他早在紀元前五百年就說過的話。翻著翻著，突然有那麼一段文字映入我的眼簾：「建築的實存不在於其四面之牆壁及屋頂，而在於其中可以泊居的空間」。好像伙，這真是我從沒有看過的絕妙詞句，我好不容易才相信自己的眼睛，而且再三地讀了它幾遍。

就這樣，接下來的一、兩天裡我寢食難安地從前自己感到幻滅，覺得就像失帆之船般失魂落魄。後來，我又再地思考著，我想……現在嘛……等等，這話是老子說的，沒有錯，但是，且讓我來把它實現！於是，我又回復了以前的氣魄，甚至還有過之地，傲然直前！」*

對於萊特而言，空間本身就是建築師所要追求的目标。早在1904年，他就已經從自己的「拉金大樓」(Larkin Building)那種無償苦心才得到的空間裡，具體地領略到個中滋味。而且兩年之後，他更是把這種空間觀其中扣人心弦之處在「一體教堂」裡發揮到了極致，在此時，萊特已經開始能有條理地把握住空間的構成手法。

岡倉天心之「茶經」是在1906年間世的，但如果不是因為在1952年，萊特於一次美國建築師協會之集會裡，以「盒子之崩潰」為題的演講中，自己承認這段插曲的話，想要明白地標示出萊特與老子接觸之時機，實在是頗為困難。不過，總可以肯定的是，這項接觸應是發生在1906年「一體教堂」完成以後之時日。

其時，萊特剛剛從一場與方盒子式建築長期而且艱苦的奮鬥中艱難過來。這種掙扎於「拉金大樓」裡表現得尤其明顯，這種

而萊特使樓塔獨立開來，刻意地將它們從建築物各個隅角拉開，就這樣，萊特終於悟出其個人創造空間的竅門，同時，他把連通性及服務性空間貶次於建築的主旨空間之下，而使他在這類問題的處理上領先了約60年之久，路易斯·康在賓州大學之理查醫學研究大樓也就是因為對該問題出色的詮釋，使它成為60年代建築的佼佼者。

萊特的對空間之意識，似乎是在後來不知不覺之中形成的。萊特原是從當時已開發之手法中體驗出空間之實感。由於幼年時期是在實際上為文藝復興以後折衷式橫行之時代中渡過，因此萊特多少有點自以為是先知般自負。而他在與老子接觸之後，才開始認識空間之實存。所以認為他那種看準空間本質之無可比擬的能力是來自與老子之接觸的說法，應該是合乎情理的，但若要由此而斷言他所追求者乃「東方的」品味，就大可不必！

於老子凡五千餘的格言裡，有關實質空間之記述只在其中一隅被提及而已，並且它還不是真的談論空間本身，而不過是在道德經第十一章的一句，談論「空」或者是「無」對宇宙全體的漫延狀況。因此也許我們不用太過於關心老子自己的旨意，倒是「茶經」這部書把該小節闡釋及串連為認識空間的方法比較值得注意。為了要說明茶道已經是實質上的，自成一格的美學道統，岡倉天心把他推上一個以道教及禪宗為背景的舞台上。於岡倉天心的時代，茶道並不如今天我們可以找到其相關考證以及公認的看法可用。尤有進者，在當時被道貌岸然之儒教，神秘兮兮的密教，以及親屬物皆有靈之淨土宗普及生活各種層面的日本，茶道本身尚陷於諸子百家難分難解之狀態中，於宗教及藝術世界塵埃尚未落定之際，岡倉天心却有著先見之明地從中抽取道家與禪宗來作依歸，這般真知卓見之舉，即使在今天仍然是令人感動。於萊特的自傳以及其他的地方，他談到老子時，却總是跟上面

One day I went to my study at Taliesin to sit down and rest. I picked up a little book just received from the ambassador to America from Japan. It was called "The Book of Tea," by Kakuzo Okakura. I wonder how many of you have read it? Well, in that little book I came upon quotations from the great Chinese poet-prophet Lao tzu, things he had said five hundred years before Jesus. As I turned the pages I suddenly came across this: "The reality of the building does not consist in the four walls and the roof but in the space within to be lived in." Strange! Never had I seen it before. I could scarcely believe my eyes and reread it several times.

Well ... well ... for a day or two I walked about disillusioned of my former self: felt something like a sail looms when coming down. Then, being well, I began to think again. I thought ... now ... wait a minute: Lao-tzu said it. Yes, But, I built it. Then I began to come up again to former size and have been doing quite well ever since, arrogance unimpaired - thank you.*

To Frank Lloyd Wright, space itself was the object of the architect's quest. As early as 1904 he realized a concrete suggestion of the kind of space he sought in the Larkin Company Building, and two years later he appeared with an almost eloquent articulation of that view of space in the Unity Temple. By this time Wright had already begun to come to methodological terms with ways of organizing space.

Kakuzo Okakura's *The Book of Tea* was published in 1906, but it was not until 1952, in an address entitled "The Destruction of the Box," delivered to a meeting of the AIA, that Wright confessed this episode, and so it is extremely difficult to pinpoint the exact date of Wright's encounter with Lao-tzu. It may be said with reasonable certainty, however, that the encounter probably dates from some time after the completion of the Unity Temple in 1906.

Wright had just come through a long and bitter struggle with box-style architecture. This is particularly notable in the Larkin Company Building, where Wright made the stairwells independent by forcing them out from the four corners of the building. With this, Wright discovered his own personal method of forming space. At the same time, he made communication and service areas subordinate to

the primary space of the building and anticipated by nearly sixty years the solution to this problem, illustrated well by Louis I. Kahn's Richards Medical Research Building at the University of Pennsylvania, which was to lead the 1960's.

Wright's sense of space, it would seem, crept up on him from behind. Wright had a feeling for the existence of space as it had been developed up to that time. As the child of an age virtually flooded with post-Renaissance syncretic forms, Wright perhaps felt himself something of a prophet. His insights into the concrete reality of space began with his encounter with Lao-tzu. The idea that Wright derived his crucial ability to define the essence of space from his encounter with Lao-tzu is entirely plausible, but it does not necessarily follow that the object of his quest was "Oriental."

In all of Lao-tzu's 5000 aphorisms, physical space is mentioned in only one place, and even that is not a discussion of space itself but rather a single line in the eleventh chapter of the *Tao Te Ching*, which discusses the permeation of the cosmos by vacuity or nothingness. Perhaps we should be less concerned, then, with Lao-tzu himself than with *The Book of Tea*, which illuminated this passage and presented it as a statement of the recognition of space. In order to interpret the tea as practical, incorporating within itself a total aesthetic tradition, Okakura places it alone on a stage with Taoism and Zen as backdrops. In Okakura's time the reference works and definitive descriptions of the tea we have today were not available. In a Japan where moralistic Confucianism, mystic esoteric Buddhism, and animistic Shinto pervaded every aspect of life, and, furthermore, where the tea itself was a morass of all but indistinguishable schools, where the worlds of religion and art were as yet in a fluid state, Okakura's farsighted abstraction of Taoism and Zen was an act which remains impressive to this very day. In his autobiography and elsewhere, Wright refers to Lao-tzu, but the quotation is always the same as that referred to above. Its nuance, however, differs slightly from the quotation to be found in Okakura's *The Book of Tea*.

This Lao-tzu illustrates by his favourite metaphor of the Vacuum. He claimed that only in vacuum lay the truly essential. The reality of

所引用的話一樣。然而，它與我們可以從“茶經”所找到的引文多少有點出入。

「這裡，老子用他最得意之隱喻“空”來說明。他宣稱只有空才是真正的本質。譬如：屋室的實體是存在於由屋頂及牆壁圍構起來之空洞的空間，而非屋頂及牆壁本身。水瓢的有用性在於它被挖空使水滯留的地方，而不在于水瓢的造型或材料。空最有能耐因為它有包容力，唯獨於空才可能有活動。一個肚懷若虛，可以欣然接受別人見解的人方足以成為各種情勢的主宰。整體永遠能支配部分。」¹¹

借著老子的話，岡倉天心試圖透過“空”的隱喻來解釋虛空間的本性。於此所謂建築的虛空間，是相對於構成其容器的外境而言，並非僅為了空而空，而是因為，正如在視覺之形勢與週圍環境的關連性那樣，它本身就以表示出空的包容性，以及它滲融於整個實體的能力。然而，萊特不見得會了解得到這層隱喻，而只是著手去塑造他所欲求之空間，使用物質性的手法去捉摸。在此我並無意批判萊特對老子之誤解。反之，對我而言，萊特的“自然”觀，就如表現在他之有機建築上的，主要是受益於老子，而不是梭羅及惠特曼，而且尤令我感到有意思的是，實際上萊特似乎有意地把握虛空間從上述之隱喻的層面解放出來，而重作詮釋，使它本身變成一個可行的目的。就像岡倉天心所明白，茶室的空間，亦即是它虛體的範圍，乃是宇宙運行的一部分，也就是處在一種恆動的狀態中。器具以及裝飾會被移動，而有時整個房子亦有可能消失！因此茶室的特徵是完全無機造性的，使它能夠同時地維持著其內在的真實與非真實的意味。

於萊特的空間裡並沒有出現這種非真實性的意味或過程，由

*a room, for instance, was to be found in the vacant space enclosed by the roof and walls, not in the roof and walls themselves. The usefulness of a water pitcher dwelt in the emptiness where water might be put, not in the form of the pitcher or the material of which it was made. Vacuum is all potent because all containing. In vacuum alone motion becomes possible. One who could make of himself a vacuum into which others might freely enter would become master of all situations. The whole can always dominate the part.*¹²

By quoting Lao-tzu, Okakura seeks to explain the reality of empty space through the metaphor of "vacuity." Here the empty space of a building, in contrast to the outer walls which form its vessel, does not exist solely for the purpose of being empty, but because, as a visible presence relative to its context, it alone is capable of demonstrating the comprehensive quality of vacuity, its ability to permeate the entirety of existence. Wright, however, did not understand this metaphor, but went about making space his object, trying to physically come to grips with it. I have no intention of accusing Wright of misunderstanding Lao-tzu. Rather, it seems to me that Wright's idea of "nature" as it appears in his organic architecture was more greatly influenced by Lao-tzu's *tao* than by Thoreau and Whitman, and what interests me most is the fact that Wright seems to have consciously freed empty space from the bonds of metaphor and reinterpreted it, making it a realizable end in itself. As Okakura knew, the space of the tea room, insofar as it manifests vacuity, is part of the revolving universe and is thus in constant motion. Utensils and ornamental objects may be moved about, and, on occasion, the entire building may disappear. The tea room is characterized by complete structurality, which forces it to support imminent senses of reality and insubstantiality simultaneously.

A sense of insubstantiality or process does not appear in Wright's space, for he organizes elementary materials in accordance with the formative laws internal to nature. "Form follows function." Horatio Greenough followed this rule in the formation of things, as Louis Sullivan did in architectural ornamentation, and as does Wright in the creation of architectural space.

It was Lao-tzu that stimulated this insight into space. Yet Wright

於他是依舊著大自然內在的形式法則來構組一些基本的素材。亦即“形隨機能”。荷雷修·格里諾就是遵從這個法則來處理物體形成的問題，正如沙利文之用於建築裝飾上，而萊物則是它來創造建築的空間。

總之，是老子刺激了他這種對空間之洞察力，但是，萊特却也沒有像一般人所可能以為的那樣，將茶室裡看到之空的觀念具體地實現出來。最後他的精神乃是專注於——就如他的遺囑前頭所陳述的，如何擺脫20世紀初期的建築情勢，其時文藝復興的型式已趨沒落，而且還墮入了折衷主義的死胡同裡，毫無保留地自我陶醉於這些潮流的餘蔭！也許對萊特來說東方正是其跳板，很明顯的，他那種肆意擴展的草原住宅乃是來自日本傳統住宅之延伸，但是後期所用的有圖紋之水泥塊與使用向心的螺旋形構成之阿拉伯風味，則是與非希臘系傳統之阿茲特克、馬雅、印加、以及伊斯蘭等文明接觸後的結果。

雖則萊特也曾為日本浮世繪木刻版畫所動，這種細緻的異國情調曾經深深影響19世紀末的歐洲藝術運動，萊特却没有為其接觸所擊潰，如當時格林兄弟建造的加州的住宅那般。反之，他融滲貫通這些經驗後，却巧妙地將它納進其個人的觀念體系，而埋首於創作一些以石塊或磚頭所構成的，內容充實的空間，這已經就不再是“東方”的了！

因此，任何企圖以其繁雜的歷史系譜及文化背景作前提來論斷萊特之空間都注定會不得其門而入，由於它們的痕跡就像他重觀老子之基本道理一樣，已被改造而不復原貌地埋藏於其作品的各個層面。

想要了解萊特似乎沒有必要上窮碧落發追溯至20世紀前期數也數不清之潮流門派，或者是文藝復興以來空間觀念的演進，勿寧說只要去探究從跟隨沙利文的時候開始，萊特對於每一種由自

did not move toward space that concretely embodied the concept of the vacuum as it appears in the tea room, as one might have expected him to. To the last his mind was occupied, as is stated at the head of his testament, with the escape from early twentieth century architecture, that architecture where Renaissance forms had already declined and which, sunk to the neck in the swamp of eclecticism, worked without reservation to swell the streams that fed it. Perhaps the East was only a springboard for Wright. It is clear that his latitudinally expanding prairie houses are an extension of Japan's traditional architecture, but the later use of patterned concrete block and spirals worked into centripetally organized arabesques resulted from contact with the anti-Hellenistic traditions of Aztec, Maya, Inca, and Islam civilizations.

Even if Wright had been impressed by Japanese Ukiyo-E woodblock prints, the refined exoticism of which had influenced European art toward the end of the nineteenth century, he was not completely overwhelmed by his encounter, as the California homes built by the Green brothers demonstrated they had been. Rather, he digested the experience, manipulating it into his own personal framework, and devoted himself to the creation of solid space, textured with stone and brick, that could by no means be identified as "Oriental."

It is thus that any attempt to discuss Wright's space in terms of its multifarious historical and cultural antecedents is doomed to failure, for their vestiges, exemplified by Wright's reworking of Lao-tzu's fundamental principle, are rephrased and irretrievably buried in every aspect of his work.

In order to understand Frank Lloyd Wright there seems very little need to examine the numerous currents of twentieth century architecture or the development of the concept of space since the Renaissance. It would seem much more to the point to investigate Wright's unique process of refining each of the methodological discoveries he made, beginning with his work with Louis Sullivan. The incomparably individual process of Wright's work is the unprejudiced incorporation of the legacy of every civilization, of Whitman and Lao-tzu, of Aztec and Momoyama Japanese. Of the many works born of this creative process, the Johnson Wax Building

已所發掘出來之手法，所作之獨步天下的提煉過程之特殊性，才是關鍵之處！萊特作品裡將各個體混合運作之過程，乃是一種無成見地把各種文明的遺產，諸如惠特曼及老子，阿茲特克及日本桃山文化等結合起來。在諸多以上這種創作方式所產生出來的作品中，詹森森品公司大樓展現了登峰造極的成熟度。這裡有上述的文明未曾有過的空間。但是為了便於瞭解該建築，我們提議我們的討論最好往回追溯30年，也就是從拉金公司大樓說起。

完工於1904年的拉金公司大樓是萊特第一個非個人住宅用途的建築物，同時也呈現出宣言般的意味，具體地表現了後來萊特所發揚光大之空間概念。

於1950年，拉金公司大樓不幸地被強火爆發的祭品。不論何時，重新玩味紀錄這一片刻的照片，真是栩栩如生，它巨大的，而木無表情的牆壁從空中轟然墜地成爲一堆灰土。

於整個1880年代裡，對芝加哥學派而言，最重要的目標乃是想透過結構性鋼材的使用，以誇張高層辦公建築的空間表現，同時也表達其工程技術的革新。在此可以假設，當時這位曾跟隨著該運動之領導人沙利文做學徒的萊特，也已經熟知鋼構造的潛力。但是，他竟然在拉金公司大樓使用了磚而不是鋼材，也因此造就出一種與沙利文在卡爾遜、皮利爾、史考特百貨行，把表露作為外牆之結構基礎鋼樑的手法所建立之厚實的格子花樣的空間截然不同的效果。由於所有芝加哥學派的作品，其中有絕大部份，投注其精力於輕快、簡明之空間感的創造上，萊特的拉金大樓倒是與芝加哥學派唯一之磚構造例子，即約翰·路特（John W. Root）之摩那諾克大樓（Monadnock building）的重量塊感有點同調，它的外牆由頭到腳披掛上寬條狀的磚塊。至於在草原住宅裡獨得萊特青睞的水平線條在此已經消聲匿跡，代而是一些厚重且直楞的牆面。無疑的，鋼樑構造法在這作品遭到了毫不妥

協的杯葛，雖然它可以使這類辦公建築具有水平延伸之空間特性，但是這些空間被他以垂直的分割而致成爲這個作品之印記。財務因素或許正是促使萊特在此抵制使用鋼材之時代潮流的主要原因。但是該作品最重要的還是在於它明示了萊特對空間的了悟，例如拉金大樓中央部份連挑五層所構成之大空間就很有這種意味，透過從高處瀟灑下來的光線，使得其建築的內部因此而活絡起來了。即使在展廊（Gallery）上的辦公空間也是如此如法炮製，只採頂光與側光照明，但與外界完全在視覺上隔離！

於此萊特豈立了一種整體性的建築設計手法，不再是侷限於盒子般構架那麼簡單了，代之則是有如試圖抖落四個隅角之壓倒一般的意識。透過這點認識，很有意思的是我們可發現芝加哥學派馳名之格子狀空間，反被在萊特執意回頭去使用既古老而且曾長時間支配了磚構造的技術之行動中，遭受到批判。換句話說，萊特捨棄了可能會造出一種與他曾經迷好一陣子之日式木構造建築品味類似的鋼構造法，而寧從一條以厚實的磚，較直接的空间意味以及較接近歐洲傳統的路作為其創作生涯的起點。而這也不過是離他在一體教堂復以混凝土來取代磚材之兩年前的光景罷了！簡而言之，萊特乃是從這個時候開始因為磚與混凝土更有助於表達整體性的設計手法，而逐漸地遠離木材及鋼材。也因此，必然地他的空間會更趨向於柔塑性了。

萊特這種最初決定的方向對他後來的發展扮演了一個極爲重要的角色。萊特——這個有著一般敏銳的洞察力以將各種材料或技術之潛力抽取而出的人——於是把他的注意力集聚於柔塑性的處理上，而非致力於一般適用之技術層面，且開始依著個人獨到的空間意境創造建築。

拉金大樓是磚造的，也因而不被炸成一堆廢土來了結一生，但帝國大飯店雖然也是在盡其半世紀的服勤後終結的，然而

represents a pinnacle of qualitative maturity. Here is space to which no civilization can lay claim. But in order to understand its architecture, we would be best advised to begin our discussion thirty years earlier, with the Larkin Company Building.

Completed in 1904, the Larkin Company Building was Wright's first project intended for purposes other than individual housing, and it appears as a kind of manifesto, the embodiment of the concept of space which Wright was henceforth to develop.

In 1950 the Larkin Company Building fell victim to a dynamite explosion. To peruse the photographic record of that moment is to identify in a most human way with the building, its mammoth, expressionless walls reduced to clouds of earth plummeting through the air.

Through the 1880's, the most important aim of the Chicago school was the heightening of spatial expression in multistoried office buildings through the use of structural steel, which at the time represented a revolution in engineering. It can be assumed that Wright, who spent his apprenticeship with Louis Sullivan, leader of this movement, became well acquainted with the potential of steel construction. Nevertheless, he used brick and not steel in the Larkin Company Building and produced an effect entirely different from the solid lattice-work achieved by Sullivan in the Carson, Pirie, Scott Store by revealing the steel-beam substructure in its outer walls. Of all the works of the Chicago school, which, for the most part, concentrated its energies on creating an approach to light, transparent space, Wright's Larkin Company Building was most closely related to the sense of mass achieved in the Chicago school's only example of stonework construction, the Monadnock Building by John W. Root. The outer walls were completely covered with a thick layer of brick. The interest in horizontal lines, which Wright had already expressed in his prairie houses, is here nowhere to be found. There are only massive walls towering in unadulterated perpendicularity. It is quite possible that, had steel beam construction been uncompromisingly employed, it would have been equally possible to realize the characteristic quality of horizontally expanding space in this sort of office architecture; but space perpendicularly partitioned became the hallmark of this structure. Financial reasons probably

lay behind Wright's decision against using steel at the time. Nevertheless, this building was of singular importance in giving direction to his grasp on space. In a sense, the five central levels of the Larkin Company Building comprise one enormous room. Through the use of overhead lighting, illumination seeps down from above, brightening the building from the inside. The offices on the gallery, too, are lit from the top and sides, having no visual contact with the outside whatsoever.

Wright set up the total design of the building, not as a simple box-like structure, but as a conscious attempt to deny the reign of corners. Strange though it may seem, the solid lattice-work space, of which the Chicago school had been the foremost proponent, was here criticized through the use of the old and long since mastered techniques of construction with brick. In other words, Wright discarded steel construction, which could have produced a kind of architectural expression similar to the Japanese wooden architecture he found so attractive, and set off on his career with the massive medium of brick and with a sense of space more immediate, more traditionally European. It was only two years, however, before the Unity Temple replaced brick with concrete. In short, Wright began to move away from wood and steel in favor of the integrated construction made possible by brick and concrete. Inevitably, his space took on a pronounced plasticity.

Wright's initial choice of a direction played an extremely important role in determining his later progress. Wright, who possessed a keenness of insight that enabled him to bring out the strengths inherent in each material and technique, focused his attention less on the universal applicability of technique than on plasticity, and began to develop structure based upon his own individual image of space.

The Larkin Company Building was constructed of brick, and so it ended its life reduced by an explosion to enormous pieces of falling debris, but the Imperial Hotel, which similarly ended its life after a half century of service, was dismantled by gradually peeling away each decorative ornament, each concrete slab, with the utmost caution. Wright discovered that concrete, used in cantilever fashion, was capable of achieving a quality of expression entirely different

却是被施之最審慎的步驟，逐一剝除其每一片裝飾物、每片混凝土樓板的方式解體。當萊特在為帝國大飯店的動態的耐震性能大傷其神時，他發現若以懸挑的方式使用混凝土，將會造出一種與磚造法完全不同的表現性。

拉金大樓是完全與外界隔絕的，或反過來說，由於它與外界的聯繫都被封鎖，故此有必要在內部創造出一個人工的空間意境。建築物是用磚砌就的，但照明、通風以及鋼鐵製品之辦公設備，却都表現出——「所有的牆面均盡量利用當時的技術水準技巧地處理」之適時性。例如，從建築物之隅角擠壓出來的樓梯間也被付與空調系統的入風口之意義。也就是說整個設計的注意力皆聚集於這個由人工架構起來的內部空間環境上。

或許可以這樣說，其時萊特視技術之運用之目的是一種表現非物質性的室內空間，一種老字式的虛，而不是可觸可看的結構實體。萊特作為環境主義者的立場早在這個時候表露無遺了！

如果我們同意拉金大樓——完成時萊特年方34歲——乃是其個人空間觀之宣言的話，則詹森福品公司，其先後完成於1936年（比前者晚32年），以及1947年（更晚11年）的行政管理大樓與研究部的塔樓，可以說是他作品中不朽者。這乃是萊特約69—80歲之高齡時期的創作。於詹森公司大樓裡最令人難以忘懷之處，乃在於整座建築物所用的語彙無一不是萊特本人的發明，他的各種構想——大多都曾經在拉金大樓完成後之30多年來其其他的設計案或完工之建築中嘗試過——而却在這個其具規模的作品裡用一種令人難以置信之嚴謹性契合在一起。這番嚴謹若非親自到實地去訪談或觀察的話，恐怕還是很難徹底領會了。

欲通往這座堡壘似——因為它的外觀乃徹頭徹尾地既堅硬且黝黑的磚塊所包被——之作作的門徑，須迂迴曲折讓人繞盡了整個建築才到達。於磚牆的上部都有明灰色的沙岩石條來壓頂，

外觀上則以隱藏的玻璃管來作分割。其外牆面之被處理成平滑無瑕，意不在於暗示密封之石頭或磚塊的彈性，而是強調它的明亮性與薄板般的性格。其水平性的、流動的與有著堪稱驚天之圓弧形隅角的外觀，令人在剎那間聯想到風靡了30年代之流線型的嗜好。由於這個皮膜於層層的包庇中，將室內的型態纖毫畢露地顯現出來，使它得以擺脫了厚實之外觀可能給予之沉重感覺。它看來幾乎就像是其室內空間要像一個巨大的氣泡般開始膨脹起來了，然後却又被瞬間地凍結停止於半空，而圓潤的管狀玻璃隅角更是強化了這種效果。

人們的眼光會自然地沿著牆面的弧線流動，牆面的凹退暗示著室內空間的情況是完全與外界阻絕的，就像是在洞穴一樣，而且也因為這些凹退，使這建築與文藝復興以來的建築形同對立，因為後者向來都要求建築有正式的正向立面。但是雖然這些牆壁很善於把對著街道的面都封起來了，對於行人而言它們仍然是很具煽動性與誘導性的。

於管理大樓裡，讓人最感興趣的空間體驗要算人們走進那貌似後門的入口路上玄關的那一剎那。這個拾離車道僅數階之高的門廳，突地變成了一個頂上透空三層樓高的空間。自然光則由天花上之圓狀邊緣的天窗灑落而下。至於它那些在三層樓高之結構體旁邊的樓梯以及共同構成玄關內部整體之戲劇氣氛的事物，則又再再地令人想起拉金大樓的入口處理手法。然而，實際上除了透過磚這個媒體的使用外，這兩座建築在建築的要素上是截然不同的。在此譬如其凸出的隅角是圓的，柱子是獨立的，而裝飾著玄關的磚則看起來是輕快與流線的。

在夾層裡有一條橋在空中橫越而過。其後則立著一大片樹狀向上怒放的柱林，高高地聳立於人們頭上。這番情景就好比羅馬萬神殿圓頂裡的空間，伊斯坦堡之藍色清真寺的蔚藍色天花、

from brick, as he went about developing the earthquake-resistant flexibility of the Imperial Hotel.

The Larkin Company Building was completely closed off from the outside world, or, conversely, implicit in the Larkin Company Building was the necessity to create entirely artificial space where all contact with the outside world had been cut off. The construction of the building itself was brick, but lighting, ventilation, and steel office furniture represented technical solutions to problems the times had hardly had the chance to pose. The stairwells, forced out of the four corners of the building, set the ventilating system off from the purposeful internal environment. All interest in design came to be concentrated on the artificially structured interior space.

It might be said, then, that Wright sought a technical approach to the immaterial body of interior space, to Lao-tzu's vacuum, rather than to the tangible, visible object of structure itself. Wright's stance as an environmentalist was made clear at this early point in his career.

If we accept the Larkin Company Building, completed when Wright was 37, as his spatial manifesto, then the Johnson Wax Building, its administration wing completed in 1936, 32 years later, and its research tower completed in 1947, eleven years after that, might well be called the most monumental of all his works. It was a work created when Wright was between the ages of 69 and 80. The most impressive thing about the Johnson Wax Building is that the entire language of its architecture was of Wright's own invention. Each of his ideas, which had been partially applied in most of his drafts and finished works in the thirty years since the Larkin Company Building, were here brought together on a vast scale with almost inconceivable precision. To fully comprehend this precision, one really is compelled to visit and see for oneself.

The approach to this fortresslike masterpiece, completely enveloped in a façade of hard, pale brick, requires one to weave one's way around an entire unit of the building. Each brick wall is capped with a ridge of beige sandstone, its entire face laterally divided by a buried belt of glass tubing. This outer wall, conceived as a perfectly smooth façade, reveals not a hint of the resilient power of dense stone or brick, but is impressive for its lightness and membranouslike

independence. The horizontal, flowing façade has, almost exclusively, rounded, curving corners and, if for only a moment, gives one the sense of the 30's penchant for streamlining. Because this membrane reveals unchanged the form of the interior, folded in on itself in innumerable layers, it is free of the heavy sense of resistance solid façades call forth in us. It seems almost as if the space of the interior had begun to expand like an enormous bubble, then had frozen in midair. The rounding of the tubular glass corners enhances this effect.

One's natural line of vision runs along the wall. The indentations of the wall hint at the existence of interior space completely cut off from the outside world like the inside of a cave, and they set this building in diametric opposition to the architecture which, since the Renaissance, had demanded that buildings have formal frontage. Even though the walls are here boldly forced outward to face the street, they are both provocative and inviting.

In the administration building, the most exciting spatial experience comes the moment one passes through the backdoor-like entrance and steps into the foyer. A few steps up from the low carport, this hall suddenly reveals an open forum three levels high. Natural light pours down through the skylights wedged between the circular slabs of the ceiling. Galleries border the three-leveled structure, and there are things about the dramatic integration of space just inside the foyer that again bring the Larkin Company Building and the treatment of its entrance to mind. Yet, aside from the fact that the basic elements appearing here are communicated through the medium of brick, the two buildings are entirely different. The convex corners are rounded, pillars stand independent, and the brick waisting the space seems light and flowing.

There is a bridge cutting through space at the mezzanine level. Beyond it a forest of spreading dendriform columns stands, soaring high above one's head. The inside of the dome of the Roman Pantheon, the sky blue ceiling of Istanbul's Blue Mosque, Fatehpur Sikuri's inner garden, and the veranda of the Daisenin: this hall alone seems able to rival a combination of the finest architecture of every civilization. It bears the undeniable seal of the twentieth century, its design belonging to no previous civilization, but its

Fatehpur sikuri 之內庭以及大仙院的迴廊一樣，單就這個大廳似乎已經足以和各類文明之傑出建築的組合匹配了。它有資格成為20世紀的一個穩如磐石的象徵，證明它的設計並不會屬於過去的任何一種文明，但是它那種幾乎已超越其原來之概念的堅密的空間感，却又讓它變成了歷史的一部分。

樹狀的柱子著實足夠使渺小的建築行政管理官員費憾。這些柱子小心翼翼地安放在鑄鐵製成的鞍座上，鞍座也是露明的。柱子的底部只不過九英尺寬，但於離地約24英尺的上部却拓寬到約3英尺之譜，另外還加套上直徑為20英尺的碟形圓盤。柱子的形狀看起來頭大尾小，而且好像已超過了安定狀態的極限，但事實上他們卻代表了萊特以挑出的方式探討混凝土可塑性最徹底的成就。或許我們可以這樣說，萊特的成就就在於他能夠以一種無懈可擊的精確性把柱、樑等線性的素材與混凝土樓板結合起來，賦予它們一個整體的有機形體，這正是樹狀的柱列。

這樣的形體其實可以追溯到帝國大飯店兩個邊廂的縱長結構的原始概念。在那裡混凝土柱子形成了結構樑，混凝土板則以對稱懸挑的方式置放在兩側，這種結構的配置方式用在滑窗接合(Roller Joint)之石造基礎構法裡既可以產生絕佳的平衡作用，同時在防震上亦有著無出其右的效果。萊特用了一個隱喻來解釋這個構想，即侍者們用手指來支撐盤子的那隻手，而樹狀柱似乎正是這類建築意象的終極表現。

與建築物其他部份一樣，套在柱子上部的鐵板四周也鑲上了一圈圓形的玻璃窗，日光從上灑落於此並折射四圍，奇妙的，是，於這些柱子所圍起來的空間裡，雖然照射下來的光線是經過了淡綠色玻璃之過濾，但呈現的却是帶有淡綠黃的色調。令人置身其中甚至還會有一種從海底24英尺深處的地方往上仰望水平面漫散的光綫般感覺，或者是好像處於一種四圍遍佈著透明膠質媒體裡。

spatial density made it, almost upon its conception, part of the continuum of history.

The dendriform pillars were more than enough to set meek architectural bureaucrats shaking in their boots. The pillars are carefully anchored in cast iron, with the anchorage itself left exposed. Only nine inches at their base, the pillars expand to three feet at their upper limits, twenty-four feet above the ground, and are capped by a round disc twenty feet in diameter. The pillars look top-heavy and seem to have far exceeded the limits of stability, but they actually represent a most radical achievement in the pursuit of the plasticity of concrete through the use of cantilevers. Wright's achievement may only be explained by pointing out that he succeeded in blending together the linear materials of pillars, girders, and concrete slabs with flawless precision, giving them a totally organic form, that of the dendriform column.

It is altogether possible that this form relates back to the original conception of the longitudinal structure of the two wings of the Imperial Hotel. Concrete pillars form the core, then concrete slabs are introduced on both sides in a symmetrical cantilever arrangement, and this configuration is applied with roller joints to the stonework base in a structural format that is both exquisitely well balanced and supremely resistant to shock. Wright explains this idea with the metaphor of a waiter supporting a tray on the fingers of one hand, and the dendriform column seems to be the ultimate expression of this architectural form.

As elsewhere in the building, the discs which cap these columns are circumscribed by glass tubing, and natural light is refracted and pours down from above. The strange thing is that the air enveloping these pillars, though illuminated by light filtering down through green-tinted glass, appears with slight yellow-green tones. One even gets the sense of looking up at the diffuse reflection of the surface of the sea from twenty-four feet below, of being surrounded by a permeable colloid medium.

"The pale light of an evergreen forest." "The bottom of a subtropical sea." Poetic images, indeed, but so long as the space here remains incapable of supporting such images, the strangely shaped rows of dendriform columns are nothing more than cantilever

"長青樹林裡的微曦"、"亞熱帶的海底"，好詩意的意象，事實上，假使此處之空間非能有如此的空間意象來襯托，那麼，那些型態美妙的樹狀柱列就不過是懸挑式的特技表演，而玻璃管則是視覺圖案的把戲罷了。

幸運的是這作品並非如此。排排的柱子、玻璃以及磚塊的使用絕對不會使這個龐大的——共約228平方呎——辦公室令人心情不快。它的各構成組件並沒有對整體的一致性造成擾亂，而是為整體所包容共處，因此人們離開時會對整個空間的情況留下一種非常明確的印象。這種感覺正有力地證明了萊特詮釋老子學說之方法的有效性，在此作為生活的內部空間沒有必要還是沿用一成不變之東方式虛空。倒是它有點像柯多巴的清真寺，被一完全具體而帶有純粹的質感所包被，而且意圖把其形體擴充到極至。但是即使是這種比喻也是沒有必要的。因為毫無疑問，它只反映了一件事，那就是將萊特近40多年來工作所奮鬥的目標都結晶於此。

欲引導至夾層空間必須經由以燦爛奪目之黃銅管製成之圓筒形升降機，在這裡，會讓人們突然地有著一種彷彿處身在由無數濾網穿緣進來之光線所組成之大氣中浮游的感覺。從天花及柱簷投射下來的散漫光線經過一次轉折，然後在地面上又重新地被柔和地反射回空間裡。站在夾層空間中，人們會馬上進一步瞭解那種處身於一片由密佈之自然光線所形成之膠質媒體裡的意思。這真是一場光線的芭蕾舞宴！樹狀的柱子就在人們的眼前伸展著，一層層逐漸消散的光暈更是強化了渦流狀的形態。這般情景很可能會使人們忘記了他身處的地點：茂森蠟品工廠的辦公大樓。配置於地面之辦公桌椅，看起來讓人的意識裡浮現出類似潛沉在深海裡，帶有戲劇性形狀之柔細的亞熱帶海洋植物的聯想，對萊特來說，建築乃是把所選擇的素材，按照它本身獨具的型態，將其潛

acrobats, the glass tubing nothing more than a picturesque optical game.

Fortunately this is not the case. The rows of pillars, the use of glass and brick never offends in this enormous—228 square foot—office. There is nothing here but a single room. Components do not obstruct the unity of composition, but are subsumed by it, so that one is left with a very tangible sense of the total existence of the space. This sense is ample proof of the methodological efficacy of the interpretation Wright gave Lao-tzu, as a target for living interior space. It is in no way Oriental vacuity. It is rather the Cordoba Mosque, invested with an utterly concrete, pure texture, and provided with the ultimate expansion of its form. But even such similes are unnecessary. It represents, without any question, the realization in a single unit of the goal of Wright's forty years of work.

Guided up to the mezzanine via a round lift, created from a constellation of brass pipes, one suddenly feels oneself floating in a sea of air passed through numberless filters. The dispersed light pouring down from the ceiling and cornices is refracted, reaches the floor, and then is once again reflected softly back into the space of the room. It is on the mezzanine level that one realizes most immediately that one's sense of standing in a colloidal medium derives directly from this dispersion of natural light. It is a light wave ballet. The dendriform columns spread before one's eyes, their circumvolving pattern reinforced by layer upon layer of rippled light. It is altogether possible that one will forget for a moment that one is standing in the administration building of the Johnson Wax factory. Spreading across the ground level, the mass of desks seems to be sunk at the bottom of a deep sea, and the sense that here is a drama of forms, like the malleable flora of a subtropical sea, floats to the surface of one's consciousness. To Wright, architecture was the natural growth and extension of the innate characteristics of the materials chosen, within the terms of their own unique form. Design is the process of discovering the characteristics of materials, in other words their inherent natural qualities, and space, while mixing these materials, is the process of forming a unitary environment.

It is not only the enormous main office but also the complex of

在的特質自然地舒展和發揮出來。所謂設計，就是發掘素材的特質，即其先天的材質；而空間為將這些素材混成，以塑造成為一體之環境的過程。

這作品並不是只有一間規模龐大的辦公室那麼單純，其實它還是由一些較小格局的董事室、經理辦公室、集會室、與研究部門之高塔連接的天橋等之複合體，而且這些空間從外面的陽台開始，呈現出複雜之螺旋形的，和像薄膜一樣的外觀，以及非常壯觀的環境特色。小房間的照明方式，一樣地也是依靠玻璃管子。同時，就像我們可以在入口處看到的那樣，這些玻璃亦使用在房間的隔間上。人在其中會被散漫的光線所包蔽及覆蓋，於整個迷宮似的空間裡，看起來唯一比較真實的就只有穿越過玻璃管幕四處擴散的光線。而且，在通往研究部門之高塔的走道——光線可以完全地從拱狀的天花照射下來，光的表演於此幾近極致。僅只是簡簡單單地在拱狀天花上平行鋪排兩層玻璃管，它就已經可以賦予光線一種高密度的質感，令人目不暇接，因為它完全厚厚地蒙蔽在人的皮膚上，就像要鑽透其身體裡面一樣。這個時候，人們都會迷失了對素材的實在感意識，而感覺到被提煉至一種幾乎完全無感性的經驗。這就是將素材本性加以轉換的效果，而素材原來的本性，在此實際上已經被非現實化了。

於萊特的建築作品裡，其中一個普遍的特色就是：一旦素材或某種獨特造型已經選定，這個選擇就會不厭其煩地不斷的幾近固執地被重複運用。於詹森蠟蟲公司的建築物裡，樹狀的混凝土結構，自立的磚砌表膜，以及以管狀的玻璃，擴散光線的表面等，都代表了萊特的擇定。他這般徹底地運用這些決定，倒是為這個作品奠立了呵成一氣之建築素質的基礎，這種作用在裝飾的運用上最容易為人所察知。在萊特的作品裡有著不少過度使用裝飾款式——尤其是阿拉伯式——的實例，但不知為何了種原因，萊

特在1930年代的作品却完全排斥了裝飾。在這個時期，萊特幾乎全心全意地把自己投注在對素材先天特質的追求上。如此狀況下，詹森蠟蟲公司的建築也一樣的具備了直率地使用素材和排拒裝飾的特徵。其決定，舉一個例，就在此單只使用玻璃管子來構成擴散光線的皮膜而不再用透明的平面玻璃亦不再用玻璃磚，為這個作品增添了一種真正的現代建築的氣勢。

如此地我寫下自己對詹森蠟蟲公司大樓的體驗時，我發現還有一個問題是我尚無法解答，那就是在這個作品之後，萊特再度地使用複雜錯綜的阿拉伯風格，只是非常奇性的，他在30年代的作品裡却完全不為裝飾所拘束。或許恰如萊特於20年代受馬雅／印加，而50年代則受伊斯蘭蘭的世界所指引那樣，同樣地推理，在1930年代時，可能是深受到他初次接觸到之平坦的，機械性構成的歐洲現代建築所影響的緣故。認為詹森蠟蟲公司大樓乃是40多年來漸次被引進以構成萊特作品特徵之元素必然的延伸之推論，應是無庸置議的，但究竟驅使他排除裝飾的念頭又是從那裡來的呢？而最讓我感到疑惑的就是這種看來頗令人費解的念頭，特別明顯地發生在他30年代的作品，尤其是在我發現詹森蠟蟲大樓之空間的密度——這也就是它環境效果的密度——是那麼的動人時，更加強了此念頭。也許，是因為我們早就已經被灌輸了對於過多裝飾之建築持有著偏見看法，故此使得我們喪失了瞭解萊特作品的全體之基礎。

smaller superintendant rooms, executive offices, and meeting facilities, comprising the link with the research tower and beginning on the balcony level which, from the outside, appears as an intricately convoluting, membrane-like surface and displays superbly environmental characteristics. The lighting for these smaller rooms, too, is done entirely through glass tubing. At the same time, this glass is used, as may also be seen around the entrance, in room partitions as well. One is enveloped and clothed in dispersed light. In the entirety of this maze-like space, the only thing that seems real is the light dispersed through the tubular glass screen, and, in the passage to the research tower, where it is possible to accept light from the entire surface of its vaulted ceiling, the theatre of light is pushed to its furthest extreme. By simply covering the vaulted ceiling with two layers of parallel glass tubing, it has become possible to lend light a dense texture. One senses the light with more than one's eyes, for it coats the skin and seems to permeate one's very core. At the same time, one's consciousness of the real materials used is extinguished, and one's feelings are refined to an almost completely tactile experience. There has been a transformation in the quality of material reality, for it is reality, in fact, that has been denied.

One of the pervasive characteristics of Wright's architecture is that once a decision has been made in the choice of materials or particular forms, that choice is applied with tireless repetition and almost obsessive persistence. In the Johnson Wax Building, dendritic concrete structure, independent brick membranes, and tubular glass, light dispersing surfaces, represent the choices Wright made. The relentless application of these choices provides the basis for an architectural entity with uninterrupted continuity. This effect is most easily traced in the use of ornament. In Wright's work there are examples of the excessive application of patterned ornament and its extrapolation into arabesques, but for some reason all ornament was denied in the work Wright did during the 1930's. Wright devoted himself almost entirely to the pursuit of the special qualities inherent in his materials themselves. In this sense, too, the Johnson Wax Building is characterized by a straightforward application of materials and the dismissal of ornament. The decision, for instance,

to use only glass tubing to form a light dispersing membrane, instead of transparent plate glass or glass block, lends the architecture a truly contemporary air.

As I record my experience of the Johnson Wax Building, I realize that there is still one question I have not been able to answer. After this project, Wright once more began using intricate arabesques, but, strangely enough, the works of the 1930's are completely free of ornamentation. Just as Wright was guided by the Maya-Inca mode in the 1920's and, in the 1950's by the Islamic world, he might likewise have been deeply influenced by his first encounter with the plain, machine-like structure of modern European architecture in the 1930's. The theory that the Johnson Wax Building was the logical extension of the formative elements that had characterized Wright's work for the forty years leading up to its construction is not without justification, but where did the impulse to banish ornament come from? What troubles me most is this seemingly inexplicable impulse, observable only in the works of the 1930's, especially since I find the density of the space of the Johnson Wax Building, that is, the density of its environmental effect, so deeply impressive. Or is it, perhaps, that we have been so indoctrinated with the prejudiced view of the superfluity of ornamentation in architecture that we have lost the basis for understanding the totality of Wright's work?

Translate into English by David Goodman

*Edgar Kaufmann, ed., *An American Architecture: Frank Lloyd Wright* (New York: Horizon Press, 1955) p. 80.

**Kakuzo Okakura, *The Book of Tea* (1906; reprinted ed., Tokyo: Charles E. Tuttle, 1956) p. 45.

*Frank Lloyd Wright
Johnson & Son, Administration Building
and Research Tower, Racine, Wisconsin. 1936-9*













