

Global Architecture

世界建築

Eero Saarinen

Bell Telephone Corporation

Research Laboratories, New Jersey. 1957-62

Deere & Company Headquarters Building, Illinois. 1957-63

Edited and Photographed by Yukio Futagawa

Text by Cesar Pelli and Diana Pelli



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世界建築 No. 6

貝爾公司實驗所 / 紐澤西州 / 1957—62年

迪爾公司總部 / 伊利諾州 / 1957—63年

建築師 / 埃羅·沙利南

攝影 / 二川幸夫

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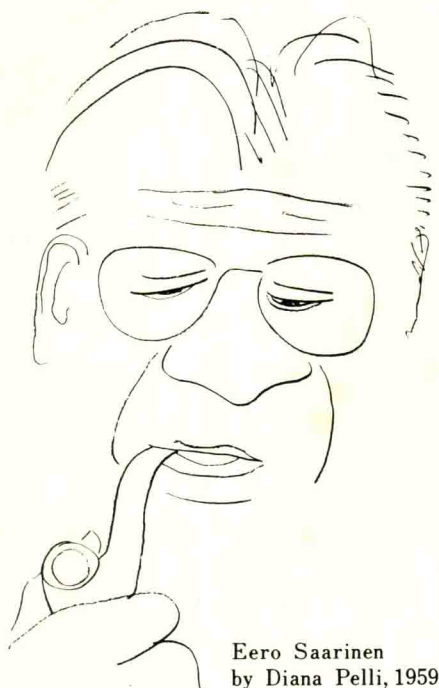
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Eero Saarinen, by Cesar Pelli and Diana Pelli



Eero Saarinen
by Diana Pelli, 1959

埃羅·沙利南.....

埃羅於1961年去逝的時候，只有51歲，在這兒所介紹的兩個作品——迪爾公司總部大樓及貝爾電話公司研究所，都是在他死後才完成的。另外，一些埃羅認為是他最得意的作品諸如：耶魯大學、TWA、CBS大廈、以及杜勒斯國際機場，以及他最喜歡的聖路易建築學院等，也都是在他死後才完成的。

而且，除了通用汽車工業中心外，幾乎所有他認為重要而且使他成名的建築物，都是在他死後才動工或完成的。

時代.....

從1948年到1961年這段時間，是埃羅創作的巔峯期，稱之為建造時期。

EERO SAARINEN

Eero lives till 1961. He is 51. Both buildings shown here, John Deere and Bell Laboratories, were built after he died. So were the Yale colleges, TWA, CBS, and Dulles International Airport, which Eero considered his best building. The St. Louis Arch, too, the project most dear to him.

All the buildings which he considered important and by which he is considered important were built or finished after he died. Except for General Motors.

IN TIME

His time is the time when he worked on all that was built of his: is 1948 to 1961: is the time of *The Building*.

The Building was done essentially for institutions, public

在這段時間，他所設計的主要是一些公共或私人財團法人的建築。因為在戰後美國經濟情況好轉，許多機構陸續希望能夠有一幢建築物，來做為代表他們本身業務的一個重要的象徵。

20世紀以前，美國的建築師所接的事業多為私人住宅設計，現在則有較多的機會致力於較具社會性的設計案。而埃羅則處於這新的型態變化之轉捩點時期。

地方.....

埃羅於1910年生於芬蘭，於1923年隨同家人抵達紐約，他的父親耶利爾來美國主要是參加芝加哥國際論壇報的競圖。之後，耶利爾繼續做了克蘭布魯克（Cranbrook）學校、底特律和 Bloomfield Hills 藝術學院等作品。這段期間，

or private. The war over, American institutions, now affluent, turned to buildings as important symbols of themselves.

The kind of jobs architects get tells much of the forces at work in the society. America in the 20th century had, until then, given mainly residential work to its architects. Eero's time coincided and intertwined with a new epoch.

IN SPACE

Eero was born in Finland in 1910. He came to the U.S. in 1923. Eliel, his father, came to America because of the Chicago Tribune Competition. After Chicago, Eliel stayed to do the Cranbrook schools and Academy of Art for the Booths of Detroit and Bloomfield Hills. Eero went to study sculpture in Paris, to study architecture in New Haven at

埃羅到巴黎學了一年雕塑，之後又進入紐海汶的耶魯大學接受正規的建築教育。學業完成後就在他父親的事務所工作，直到他父親死後，埃羅便繼承衣鉢接掌了在 Bloomfield Hills 的事務所。

埃羅絕不僅是一位地方性的建築師，他也很少為地方色彩、景觀或風俗習慣等狹隘的主觀因素所限制，而這些因素往往影響了許多其他建築師。但從另一方面來看，他生於芬蘭，在耶魯求學，而後工作於 Bloomfield Hills，這些歷程對埃羅本人及他的作品也有相當大的影響，使他具有一種移民者的特質；這種年輕的時候移入美國掙扎生存的體驗，使他在某些方面比美國人更美國化。

Bloomfield Hills 是底特律附近的一個小城鎮，它的地位之重要是因為埃羅在這兒設計了通用汽車工業中心。這是

Yale. Then returned to work with Eliel. The firm, in Bloomfield Hills, became his when Eliel died.

He was never a local architect, nor felt those ties to a locale, to a landscape or a light, that affect so many architects. Yet being born in Finland, studying at Yale, working in Bloomfield Hills affected Eero and his work. He had the characteristics of immigrants who come young, the permeability to the American experience that makes them in some cases more American than the Americans.

Bloomfield Hills, a suburb of Detroit, had spatially the importance of providing the top job of the 1940's, the General Motors Technical Center. This job set him up in practice. The size and budget of this job kept the office going for many years, it was *the* dream job for any architect of the

1940 年代建築中一個傑出的例子，也由於這個作品，使埃羅事務所在實務方面更加茁壯。在當時，這是個許多建築師夢寐以求的設計案，其龐大的工程規模及可觀的設計費，使埃羅的事務所維持了好幾年。這幢建築物最主要的功能是生產製造技術性的產品——汽車，雖然埃羅並非像美國人一樣，對汽車有著羅曼蒂克的感情，但他却具有美國人所有的對工業技術的愛好，雖然直到60年代工業技術才逐漸應用到建築上，但由於他們對材料使用的技術，追求美感的表現，使這種觀念早已呈現在通用公司及埃羅其它的作品中了，迪爾公司大樓及貝爾電話公司便是最明顯的例子。在埃羅死前不久，他決定把事務所往東遷至紐海汶，他曾在那裏讀書，該地並有他的兩件作品：耶魯大學校區規劃及冰上曲棍球場。
工作與生活.....

time. And it had to do with a technological product: cars. Though Eero did not share the American romance with cars, he did share its love of technology. The approach present in buildings of the 60's, basing their aesthetic resolution in the technological use of a material, was already present in GM and in other of Eero's buildings. John Deere and Bell Telephone are the clearest examples. Shortly before his death Eero decided to move the office East to New Haven. Where he had studied before. Where he had two jobs: the Yale colleges and ice hockey rink.

LIFEWORK

If one wanted to make a portrait of Eero's life, the place for one to look at it is always his work. Not his private life. Or his off-hours.

假若要對埃羅的生活做一番描述，那麼我們所注重的毫無疑問的應該是他工作的情形，而不是他的私人生活或是閒暇時刻的活動。

我們可以由他的工作態度瞭解其個性；假如要問什麼是他工作中最重要的東西，那便是他工作認真的程度。他是多麼努力地工作啊！他解決問題或是表現構想的方式，就是一小時接一小時地去研究探討，這種特質給人十分深刻的印象，也正因他以這種無比的熱忱，犧牲及誠摯的精神努力創作，使得每一幢建築物、每一個個別的建築作品，都是無數心血及精神的結晶，因此常使人們忘了個人的喜好與觀點，而對這幢特別的建築採取了與埃羅完全一致的立場。因為整個事務所都充滿了這種工作精神，使得埃羅這項特質在大部份

His work contains his essence. And if one were to say what was the most important thing about his work it would be how much he worked. How much he worked! The way he resolved any problem, any idea, was by working hour after hour on it. It is this quality that remains most vivid in memory, because there was an earnestness and a dedication and a sincerity in his effort that made the building, the work on a particular building, an all consuming interest, something that could at times make people forget any other personal interest and consideration, and simply be as concerned as he was about that particular building. This characteristic, a virtue in most cases, for it set the tone for the whole office, did not always produce good results. The London Embassy, one of the most worked on buildings was to be an example. It never satisfied Eero...later.

的場合都有很好的效果。當然，少部份作品却也無法達到十分理想的地步，倫敦大使館就是一個例子，雖然花了很多時間和心力，後來埃羅對它却一點都不滿意。

埃羅十分在意別人如何批評他的作品，也常因此而改變設計，因他能接納別人的意見，使得小組中的成員很容易與他相處。

這也是埃羅第二個重要的特性，或更正確地說，是他作品的特性。他從不自視為天才而輕視別人的意見，任何案子從開始設計，他總是在小組中帶頭工作。他事務所組織的小組制度，是十分現代的、十分美國式的，也是十分有效的組織方式。

這便是他工作的方法。

Eero was very sensitive to what was said of his work: design changed because of it. It is what made it possible to work with him as part of a team.

That is the second most important characteristic about Eero, or Eero in his work, to be more exact. He never worked as a lone genius. From the beginning of any project he worked as head of a team. His team system as an organizational method for his office was very modern, very American, very effective.

This is how it worked:

THE PROCESS OF DESIGNING A BUILDING
Eero preferred to believe that he was still an individual artist solely responsible for everything done in his office.

建築物設計案進行的過程.....

埃羅寧願自己仍是一個自主的藝術家，對事務所中所做的每一件事完全負責，而不必受其它雜事之困擾，但他最重要的成就之一，却是發展出一套完整的集體設計方法。

第一代建築師事務所與埃羅等第二代建築師事務所之間最大的不同，是對小組賦予不同的定義。第一代葛羅庇斯及包浩斯的小組，是由具有相同水準的專家所組成，他們不但受過相同的專業訓練，且對問題也有相同的看法，而一個現代化的小組像埃羅事務所中的，却是由一群具有不同的才能及負責不同任務的專家所組成。

當埃羅事務所接到一個設計案時，通常他會指定一位規劃設計負責人 (project designer)，在開始時儘可能地收集各方面有關資料，並以圖說表示出來。然後，便舉行一連串

But a well developed collective design process was one of his most important achievements.

A very basic difference between a first generation architectural office and a modern one lies in the different meaning given to the concept of the team. A team to Walter Gropius and the Bauhaus consisted in a group of equal minded professionals who had the same training and attitudes. A modern team such as those at Eero's office was composed of specialists with different talents and responsibilities.

When an architectural commission came to Eero Saarinen's office, a project designer was assigned to it. He started by organizing in graphic form the information available. A number of meetings would then take place at which Eero, the project designer, and Kevin Roche were present.

的討論，會中埃羅本人、規劃設計負責人、以及凱文·羅許都會參加。

在討論的過程中，埃羅不斷地繪出草圖把造形用意象來表達。他很喜歡用箭頭的方向來表示一個造形的意象。埃羅的草圖線條十分漂亮，他也很喜歡這樣做設計，小組中的每個人都必須對設計案的處理方法提出看法及其可能發展的方向，通常都是由埃羅做最後的決定，雖然他不願如此，但事務所中主要設計的方向，都是根據他的決定，在這方面，他確實比同代的大部分建築師要傑出多了。

以約翰迪爾公司這個設計案而言，設計負責人是戴維·保爾。(貝爾電話公司的設計負責人是魯斯登)，約翰·迪爾公司最初的造形，是一座倒置的混凝土金字塔，位於一座山頂上，這個案後來被否決了，取而代之的另一個構想，是

During these meetings Eero would be continually drawing and giving form to an image. A direction for Eero usually meant a form-image. He drew beautifully and enjoyed doing it. Everybody in this group contributed to the formulation and development of the approach, but all decisions were made by Eero. He would not have admitted to this, but he had made decision-making the key design function of his office. In this he was ahead of most architects of his generation.

In the case of the buildings for John Deere, the project designer was David Powrie (project designer for the Bell Telephone Laboratories was A.J. Lumsden). The first form for the John Deere building was that of a concrete inverted pyramid sitting on top of a hill. This was later rejected and replaced by the concept of an all-steel building, as the expression most suitable to a farm machinery manufacturer.

一幢全部以鋼材構築而成的建築物，以期充份表現出這農機具製造廠總部的特色。

埃羅不僅希望它是一幢鋼構建築，更甚的是希望它是一幢前所未有的純鋼建築。為此，他採用了毋需油漆耐候性極佳的柯田（Cor-ten）鋼。整幢建築裡裡外外都露出這種鋼材（沒有防火被覆）。接頭部份原打算用鉚接，鋼材上鉚釘的感覺，更充分強調了鋼鐵結構的特點，然而最後還是捨棄了這個構想而採用焊接工法。

案子主要設計負責人領著一組年輕的設計人員，很早便開始製做精緻的基地模型，用以研討不同的設計案不同的建築形式於基地上的感覺。

模型的使用對定案的過程及像埃羅這類對視覺效果具有敏銳觀察力的建築師有著十分重要的關係。在設計時假若有

Eero wanted it to be, not only a steel building, but the steeliest building ever designed. This led to the use of Cor-Ten steel (a self-protective steel that needs no paint), and to leaving the steel structure exposed (non-fireproofed) inside and outside the buildings. The original intention was to rivet all the connections and to leave the rivets exposed for maximum expression. This idea had to be abandoned in favor of welded connections.

The project designer led a team of younger designers. They started very early, building elaborate models of the site and testing on it all the possibilities of building forms being considered.

The use of models is intimately related to the decision making process, and to the preeminently visual approach to ar-

20個不同的構想或造形，那他就要求做20個模型，再從模型的研討中，決定出最好的設計方向。隨著設計的進展，模型也就做得更大更精細，到後來更變成以模型來做設計，然後再以圖面表示出來。

雖然一個案子用模型來研討進行設計，使設計者及做模型的人花費了不少時間，但却使埃羅本人所花的時間省到了最少，而且，從另一方面來看，模型也是一個非常有用的表現方式。

事務所.....

事務所中最重要的人物，是埃羅的財務伙伴約瑟夫·恩·賴西，以及專門負責技術方面研究發展的約翰·丁克盧，對埃羅的建築而言，新工法及新技術是十分重要的部份；另

chitecture that Eero had. If 20 ideas or forms were suggested, 20 models would be built, and from these the preferred direction would be chosen. As the project advanced, the models would become larger and more elaborate, and design would start to take place more and more on the model itself. It was later translated into drawings.

The use of models for making decisions increased considerably the amount of time dedicated to a project by designers and model makers but allowed Eero to reduce his own time on it to an essential minimum. They were also very useful in design presentations.

THE OFFICE

The key men in his organization were Joseph N. Lacy, his financial partner; John Dinkeloo, his partner in charge

外就是凱文·羅許，人們有時稱他首席設計師。他實際參與每個案子的設計，協助埃羅繼續發展或重新檢討他的設計構想，在許多設計案中他的影響力特別顯著，如約翰·迪爾公司及貝爾電話公司。華倫·普來特納，則是掌管室內設計部門；約瑟夫·詹生負責估價——對埃羅的建築物而言，這是件十分吃力的工作。另外有一組年輕的設計人員，與埃羅的看法及技巧密切配合。還有另一組個案負責人，掌管整個工程與顧問方面的聯繫及簽約發包。

他的妻子艾琳·沙利南，雖然不是事務所的正式成員，但她負責了埃羅所有的公共關係，並時常在言談之間激發他的靈感。

埃羅事務所型態雖然是70年代普遍的組織系統，但在50年代却是十分特別的。這種特色，因與當時一般的建築師形

of production and technical developments—technical development and innovation was an essential part of Saarinen's architecture—; and Kevin Roche, sometimes called his Chief Designer, who participated in the design of all projects. He acted as an extension and check to Eero on design matters. His influence was greater in some projects than in others. It was very substantial, for example, in the design of the building for John Deere and Bell Telephone. Warren Plattner headed his interiors department. Joseph Jensen was his estimator, and this was not an easy function to perform with Eero Saarinen buildings. There was also a group of young designers closely attuned to his attitude and techniques, and a group of project managers that watched over consultants and contractors.

His wife Aline Saarinen, although not officially part of the

象衝突，而未能明顯地表現出來。

結語.....

雖然埃羅的建築生涯十分短暫，但在各方面却放射出成功的光彩。從另一方面來看，當他去世時，正是他事業展露光芒的起點而已。

office, directed all his public relations and gave verbal form to many of his ideas.

This team had the form of a 1970's organization, but it was unique in the 1950's. And it was kept hidden as something in conflict with the image of the Architect as the Universal Man.

END
Eero's time was short. He was successful in all of his time. But his career was only beginning to gather momentum when he died.

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