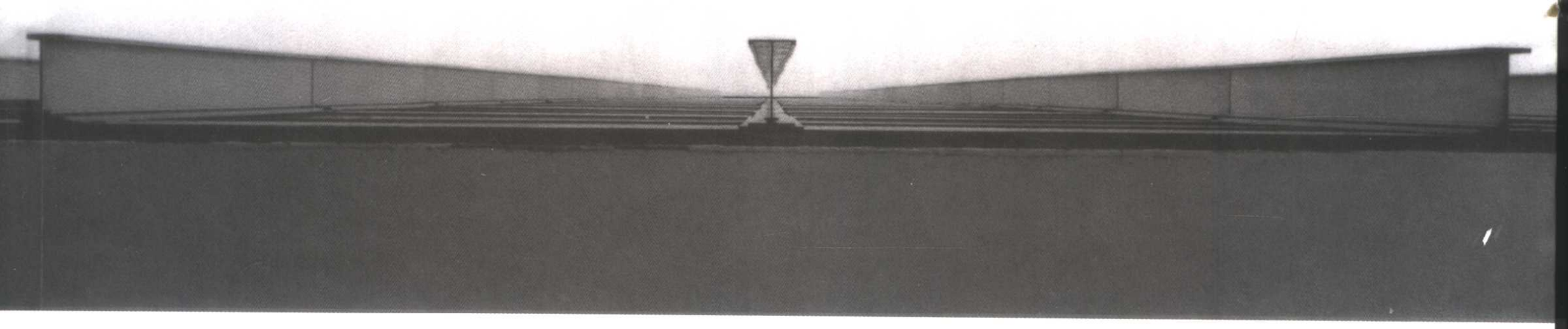
MIES VAN DER ROHE

LAKE SHORE DRIVE APARTMENTS

密斯·凡·德·罗导读系列

湖滨公寓



[瑞士] 维尔纳·布雷泽　编著
金秋野　王又佳　译

中国建筑工业出版社

Lake Shore Drive Apartments

Solitary Buildings –
The Classics by Mies van der Rohe
Presented in Individual Volumes
by Werner Blaser

The texts were written by a single person (complemented by a report from an inhabitant); the photographs, reproduced in duotone, all come from the same lens using an approach repeated again and again. Both attempt to show the objective state of affairs of Mies van der Rohe's solitary buildings with carefully collected and organized materials. An inner confrontation over decades opened up access to Mies' oeuvre for Werner Blaser, and thus, to this publication.

The legacy of Mies van der Rohe's most fruitful intentions is thus visually assessed with in part unpublished picture material. Those with a more critical attitude will also be creatively confronted with the roots of good architecture through the intensity of the presentation, which will hopefully provide new stimulus.

密斯·凡·德·罗导读系列
湖滨公寓

维尔纳·布雷泽

文字部分由作者撰写，并附带一篇曾在该建筑中生活过的居住者的文章。书中所配发的黑白照片，都是使用相同的相机，重复使用相同的方法拍摄。文字和图片都是为了客观地呈现密斯·凡·德·罗单体建筑的真实状态，因而对素材进行精挑细选，耐心组织。数十年的私人交往，让维尔纳·布雷泽有机会接触密斯·凡·德·罗的全部作品，也使这套丛书的出版成为可能。

通过这些尚未发表的照片，我们可以经由视觉手段回顾密斯·凡·德·罗的创作意图和卓越成就。对那些怀有批判态度的人来说，书中提供的大量的文字资料和图片资料，给他们提供了深入全面接触优秀建筑设计的机会。我希望这将成为新鲜刺激的来源。

MIES VAN DER ROHE

LAKE SHORE DRIVE APARTMENTS

密斯·凡·德·罗导读系列

湖滨公寓

[瑞士] 维尔纳·布雷泽　编著
金秋野　王又佳　译

中国建筑工业出版社

著作权合同登记图字：01-2005-4054号

图书在版编目（CIP）数据

湖滨公寓／（瑞士）布雷泽编著；金秋野，王又佳译．
北京：中国建筑工业出版社，2005
（密斯·凡·德·罗导读系列）
ISBN 7-112-07770-2

Ⅰ．湖… Ⅱ．①布…②金…③王… Ⅲ．住宅-建筑设计-美国-图集 Ⅳ．TU241-64

中国版本图书馆CIP数据核字（2005）第109332号

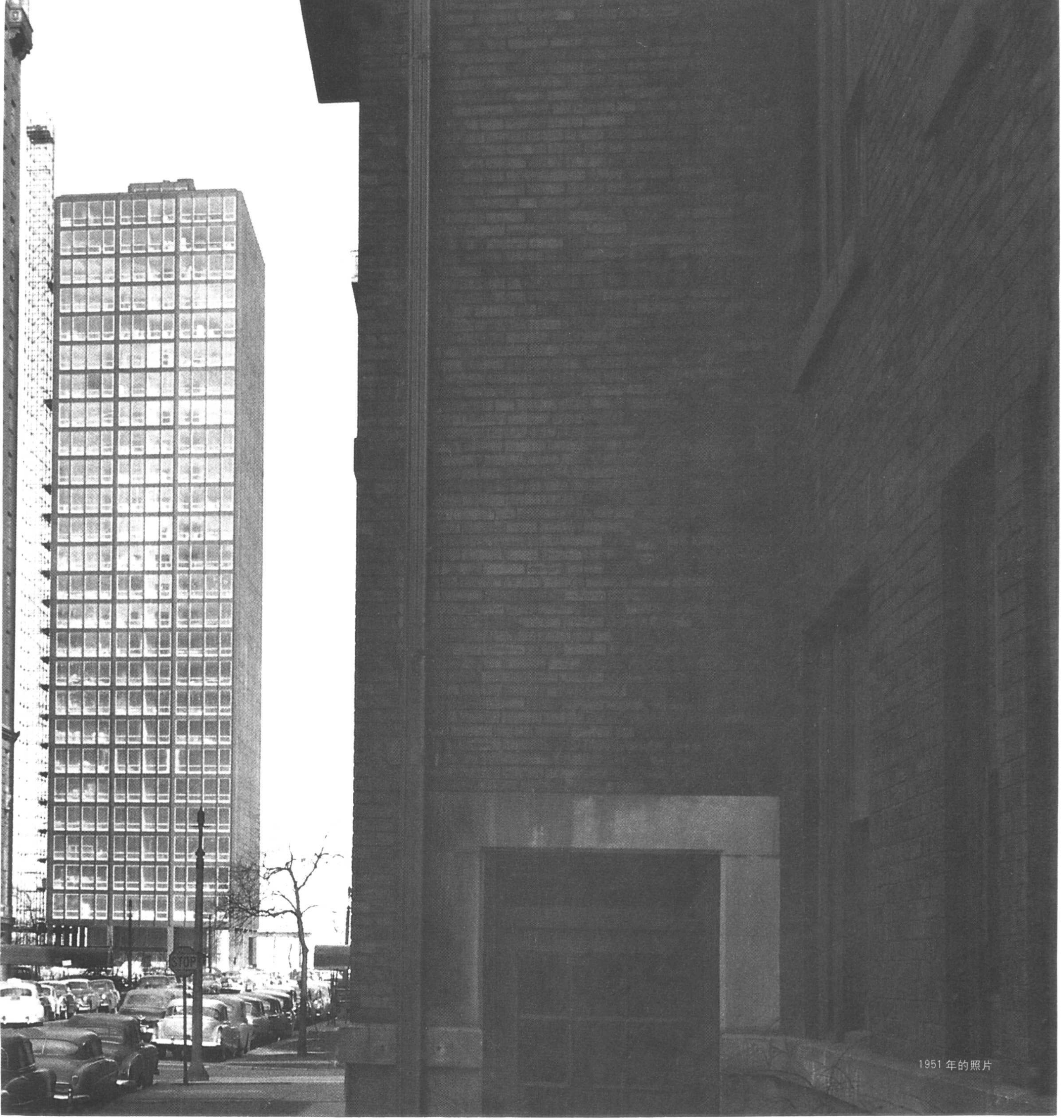
Mies van der Rohe, Lake shore drive apartments; high rise building/Werner Blaser
本书经Birkhäuser Verlag AG出版社授权翻译出版

责任编辑：孙 炼
责任设计：崔兰萍
责任校对：刘 梅 张 虹

密斯·凡·德·罗导读系列
湖滨公寓
[瑞士] 维尔纳·布雷泽 编著
金秋野 王又佳 译
*
中国建筑工业出版社出版、发行(北京西郊百万庄)
新 华 书 店 经 销
北京海通创为图文设计有限公司制版
北京建筑工业印刷厂印刷
*
开本：889×1194毫米 1/20 印张：4½ 字数：160千字
2006年1月第一版 2006年1月第一次印刷
定价：26.00元
ISBN 7-112-07770-2
(13724)

Contents

目录



1951 年的照片

Development of the Essential: Open Space

The basic concept of the high-rise apartment building was to translate the terrace in front of the country home into the floor level of the high-rise. A single space where various functions are united places the view from the villa into a new context. In the case of Chicago, it is Lake Michigan with Lake Shore Drive, on one hand, and the view of the City Center with the loop, on the other. The floor-to-ceiling glass surfaces are fit between the horizontal steel supports and frame the skyline of Chicago. This visual perception is guaranteed only through an advanced building technology that was sensibly realized. This inner platform releases a dramaturgy towards the exterior that enlivens and enriches the spatial content. Basically, the core of the high-rise building can be compared to a spine that refines and opens its crystalline organic structure towards the outside. As an absolute consequence of purist simplicity, the open space still remains a daring premonition of future design.

设计要素：开放空间

湖滨公寓的最初概念，是希望在高层建筑的楼层中表现乡村住宅中常见的露台。单一的空间集中了多种多样的功能，并将乡村别墅的远景移植到新的文脉中间。对于芝加哥来说，这一文脉就是密歇根湖：一边是湖滨大道，另一边是对岸的城市中心和“卢普”。[1]建筑从头到脚被玻璃覆盖，这层玻璃表皮固定在水平的钢铁框架之上，由此造就了芝加哥的天际线。这样的视觉效果得以巧妙实现，不能不说是卓越的建筑技术使然。内在的技术为外在的建筑提供了戏剧脚本，激活了空间并使之生气盎然。高层建筑的核心筒基本上可以看作是生物体的脊柱，它使水晶般的有机结构得到升华，并向外呈现出来。按照纯粹主义简洁原则的必然逻辑，开放空间仍旧保持着对未来设计的大胆警示的作用。

[1] 卢普，Loop，美国伊利诺伊州芝加哥市的商业中心。其名称源于高架铁轨的一个环线。——译者注

Mies in his apartment on
East Pearson Street in Chicago,
1964

密斯在芝加哥东皮尔森大街公寓中。
摄于 1964 年

860–880 Lake Shore Drive Apartments in Chicago, 1948–1951

The two 26 story glass and steel apartment towers are located in the most beautiful area of Chicago, right on Lake Michigan near the city center. The steel construction stands out in contrasting black against the continuous glass surface of the façades with their background of uniformly gray curtains and aluminum window frames. During the construction of the façade four-window units were assembled on the roof and fastened from above from column to column.The same vertical standard T-profile that the window units were made of was fastened to the columns and corner pillars, which are covered with steel plates and surrounded by a fire-resistant concrete shell. Mies van der Rohe opposes Sullivan's famous axiom "form follows function" with the term "structure." The functions of a building can change, but its form remains. The structure consisting of filling and framework is a principle capable of meeting changing needs.

Mies van der Rohe has always been interested in high-rise buildings. In 1920 he was already occupying himself with skyscraper projects that followed the skeleton principle, with full floors that are influenced by the structural conditions of the building as little as possible and can be used freely. They allow as much light to enter as possible, but the light can be subdued with shutters; this kind of glazing treatment creates a rich play of coincidence on the exterior through reflection and transparency.

In Chicago, the city where skyscrapers were born, Mies recognized the advantages of the steel skeleton for the inner character. His aesthetic goal was to make the skeleton visible despite all fire department regulations. These are the first completely glazed, freestanding high-rise buildings based on the exclusive use of a skeleton structure. The two buildings are offset in a way that offers most of the apartments a view of the lake.

芝加哥湖滨大道 860–880 号公寓，1948–1951 年

这两栋26层高的公寓大厦完全由玻璃和钢建成，位于芝加哥城最美丽的区域，毗邻密歇根湖，离城市中心区不远。黑色的钢结构框架突出于立面上连续的灰色玻璃幕墙和铝制窗框之外，前后恰成对比。建造过程中，每4扇窗户组成一个单元，从上层楼板倒吊下来，固定在左右相邻的两根柱子上。窗户都采用相同的标准T字截面垂直钢材制造，固定在柱和角柱上。这些柱子附有耐火混凝土防护层，其外包覆以钢板。密斯·凡·德·罗不赞成沙利文（Sullivan）的著名论断"形式追随功能"（form follows function），并将之修正为："形式追随结构"（structure）。建筑的功能并非一成不变，但其形式可保持恒久。由承重部分和围护部分组成的结构体系成为一套普适原则，可以适应各种各样的功能需要。

密斯·凡·德·罗一直对高层建筑兴趣浓厚。早在1920年他就已经从事高层建筑设计，并采用了框架结构的设计原则。楼层自由开敞，可以任意分割布置，受到结构的影响少之又少。这种结构容许最大限度的光线进入建筑内部，而光线的量可以通过百叶窗进行控制；这种建筑外表皮做法通过透明与反射的交替变化，使建筑外立面形象丰富，变化万千。

正是在芝加哥这座诞生了摩天楼的城市，密斯·凡·德·罗意识到使用钢框架对于完善建筑内在品质的深刻意义。他的美学目标是不受防火规范的限制，让钢骨架保持可见。湖滨公寓是第一座完全由玻璃覆盖的、严格贯彻了框架结构的独立高层建筑。两栋塔楼的相对位置保证了绝大多数居住单元都能分享湖面景观。

Vision in Omission

In the third period of his life, after Aachen and Berlin, Mies van der Rohe found his true architectural home in Chicago. There, he was able to realize his skeleton architecture in steel and glass. Due to the clear distinction between primary and secondary construction layers – between skeleton and filling, or bones and skin – he achieved a characteristic contrast. The daring steel and glass high-rise apartment buildings on the shores of Lake Michigan, an emphatically open structure, express verticality and force with their rising steel profiles.

In Chicago, with the two visionary apartment towers, Mies van der Rohe set a milestone in the history of architecture and laid the spiritual foundations of our building and living. The purity of the vertical steel skeleton, which so effectively expresses itself towards the outside, creates fully glazed living spaces on a horizontal level.

The flow of forces in the continuous steel supports has something ingenious, a constructive intelligence and a technical aesthetic. It challenges the coming generations *to continue to think about and expand the worldview* with their means and aesthetics. Contemplating these principles can therefore provide positive impulses for the purity of the design of modern architecture.

The first high-rise apartment buildings of Modernism were created fifty years ago on Lake Michigan. Back then it was a risky undertaking to plea for living space with floor-to-ceiling windows offering a view of the Lake, Drive and Loop. The two apartment towers, arranged in their longitudinal and cross axis towards one another, are still among the most progressive buildings erected with prefabricated parts. With their apartment functions, they represent a true milestone in the history of architecture.

删繁就简的洞察力

在离开了亚琛（Aachen）和柏林之后，密斯·凡·德·罗在他人生的第三个阶段，发现他真正的建筑学乐土乃是芝加哥。只有在这个地方，他才能实现他的钢和玻璃的框架建筑学之梦。基于主结构层和次结构层（即框架和填充物，或骨架和皮肉）之间的明显区别，他实现了一种极具个性的强烈对比。密歇根湖畔这两栋大胆的、钢和玻璃造就的高层公寓大厦明确无误地显露结构，通过笔直上升的钢铁外表昭示着垂直与力量。

在芝加哥，密斯·凡·德·罗通过这两栋如梦似幻的高层公寓塔楼在建筑史上树立了新的丰碑，为我们的建筑与生活打下了精神基础。垂直钢结构框架的纯粹性如此有效地向外界表达自我，创造了水平方向上完全通透的生活空间。

力在连续不断的钢铁框架中传递，这样的结构惟有天才方能创造，这是结构智慧和技术美学的凝结。湖滨公寓的现实意义和美学原则启迪后代建筑师继续思考，使他们的世界观从而得到拓展。深入思考这些原则问题，对于现代建筑设计的纯化具有积极的推动作用。

50年前，在密歇根湖边，现代主义的第一栋高层公寓建筑拔地而起。通过贯穿上下楼层的落地玻璃窗引入湖泊、湖滨大道和城市中心区的景观，并由此获得与众不同的生活空间，这在那个时代无疑是一个暗藏风险的承诺。沿着长向轴线直角正交布置的这两栋公寓大楼，即便放在今天，放在那些由预制构件建造的、最有时代意义的建筑中间，仍然有其一席之地。作为公寓建筑，它们不啻为建筑历史上的真正里程碑。

860–880 Lake Shore Drive Apartments –
Archetype of Modern Architecture
by Masami Takayama.

I began my study of architecture at Waseda University in Tokyo in 1952. Our heroes then were Le Corbusier and sometimes Niemeyer and even Gaudi, but not Mies. Our focus was on the architecture of form. It was a field trip to Katsura Rikyu (Villa) in Kyoto that opened my eyes to structural architecture. By structural architecture I mean architecture based on construction rather than form.
The trip was in spring, and the fresh green moss in the garden was utterly beautiful as it contrasted the soft white band of shoji screens divided by wood columns. I felt, for the first time, a spiritual exultation from seeing structural architecture and experiencing its space.
Buildings of Katsura were built in "wagoya," a typical Japanese wood frame construction. They used standard elements such as tatami, shoji, wood ceiling, etc., all familiar to ordinary Japanese houses. What distinguishes Katsura from the ordinary, however, is the selection of materials and their arrangement. Elements were carefully proportioned and joined with exquisite details.
In 1956, I visited Richard Neutra in Los Angeles. After hours of lecture, Neutra took me to a house he just completed in Bel-Air. While I was overwhelmed by his kindness, I still felt that he was not my master. Later, however, I saw Neutra's article on 860 in Architectural Record. He wrote, *"The Lake Shore Drive Towers appeared like the wonderful conclusion of a lifelong aspiring formation of ideas."* This, or more precisely the photos accompanying the article, inspired me to attend IIT in Chicago.
At IIT I had the great fortune to study with Mies in his last year of teaching. In reality, Mies did not teach; rather, he threw out big questions for us to ponder on our own. One afternoon he started to talk about his collection of books. Of 3000 books, he found only 30 worth keeping. We were all ready to take notes, expecting Mies to tell us the titles of those 30 books. Mies, instead, with a big smile on his face told us they were important only to him and we must find our own 30 by ourselves. Mies never discussed 860. The following analysis of 860, therefore, is based on my own search.

The Architecture of 860

The physicist Schroedinger said of general principles, 'the creative vigor of a general principle depends precisely on its generality,' and that is exactly what I mean

芝加哥湖滨大道 860–880 号公寓：现代建筑原型
Masami Takayama

1952年，我在东京早稻田大学开始学习建筑学。当时我们心目中的偶像是勒·柯布西耶 (Le Corbusier)、尼迈耶 (Niemeyer) 乃至高迪 (Gaudi)，但是不包括密斯。我们只关心建筑形式问题。某日到位于京都的桂离宫 (Katsura Rikyu) 去参观，正是那一次的见闻让我开始对结构建筑学 (Structural Architecture) 发生兴趣。我所说的结构建筑学，指的是那种基于建造过程而不是形式考虑的建筑设计。

那次旅行是在春天。在障子[1]的白色背景之下，花园里鲜绿色的苔藓看上去美丽无比。平生第一次，我目睹了结构建筑学，并在它的空间中徜徉，感受到精神上难以名状的快乐。

桂离宫的建筑采用日本常见的木框架结构——吴屋 (wagoya)。这种风格的房屋使用很多标准化的建筑元素，如榻榻米、障子、木屋顶等等。所有的一切同普通的日本房屋并无本质区别。桂离宫与普通建筑的最大区别，在于材料的选择和组织方式。每一个部件都被精心地推敲，所有的细节都准确地接合在一起。

1956年，我到洛杉矶拜访了理查德·纽特拉 (Richard Neutra)。几个小时的晤谈之后，纽特拉带着我前往由他设计的、刚刚竣工的贝沙湾 (Bel–Air) 住宅。尽管他的亲切和蔼让我如沐春风，我还是觉得这个人并非我的导师的合适人选。可是，后来，我在《建筑实录》(*Architecture Record*) 杂志上面读到纽特拉评价湖滨公寓的文章，他写道："毕生的热望、概念的凝固，湖滨公寓塔楼是这些事物的完美结晶。"这句评价、加上文章所配发的照片，激励我前往芝加哥，进入伊利诺伊理工学院 (IIT) 学习。

我非常幸运。在伊利诺伊理工学院，我有幸师从于即将结束教授生涯的密斯·凡·德·罗。事实上，密斯并不讲解什么，他只是不断地抛出宏观的问题，让我们自己思考。有一个下午，他谈到了他的藏书。在超过 3000 册书籍中，他认为只有 30 册值得保留。我们都拿起笔，准备等着密斯将这 30 册好书的名字逐一告诉我们。可密斯，他脸上洋溢着微笑，告诉我们这 30 册书只是对他来讲才算重要，而我们每个人都必须找到属于我们自己的 30 册书。密斯从来没有谈到过湖滨公寓。所以，下面针对湖滨公寓的分析，是根据我自己的研究所得到的结论。

[1] 障子：shoji screen

when I talk about structure in architecture. It is not a special solution. It is a general idea. And, although each building is a single solution, it is not motivated as such.

– Mies van der Rohe

If a general idea could be made visible, it would take the form of 860. The principles which governed Modern Architecture were all condensed into this single work.
860 is the archetype of Modern Architecture.
The three distinct visual characteristics of 860 are: (1) two identical towers; (2) its steel frame structure expressed on the exterior; and (3) wide-flange mullions attached to the structure.

Two Identical Towers

860 consists of two identical towers, free-standing on a triangular site along the shore of Lake Michigan. According to Joseph Fujikawa, Mies' longtime collaborator, the two tower scheme was developed as a solution to a requirement made in the land swapping deal. Originally, part of the 860 site was owned by Northwestern University. At the developer's request, Northwestern agreed to swap its land with a parcel immediately west of the site with a stipulation that the new development would not block the lake view. This explanation may be interpreted as what Mies called a "good reason" for the scheme.
Mies thought architecture must have both a good reason and a real reason. Good reasons are practical while real reasons are philosophical. Although the motivation for architecture remains in real reasons, explanations are given with good reasons.
The "real" reason for the 860 scheme was Mies' concept of architecture that it should be independent of the site. Comparing 860 to the Borg Warner building in Chicago clarifies this concept. The Borg Warner Building, standing in front of the Art Institute on Michigan Avenue, was designed by William Lescaze in 1955. Lescaze was known for his design of the Philadelphia Saving Fund Society building, and historians consider him one of the pioneers of modern architecture. With its blue aluminum curtain wall, Borg Warner appears as modern as 860 at first sight. Close examination, however, reveals that the building followed the skewed property lines, and the regular mullion spacing was compromised at the corners.
While the design of Borg Warner is subordinated to the site, 860 is completely independent of the site. 860 was developed following its own laws. It was the first step towards the industrialization of architecture.

860 号（湖滨公寓）的建筑设计

物理学家席洛丁格（Schroedinger）：曾如此描述普适原则[1]"普适原则的创造性活力，完全有赖于它的普适性"，当我谈到建筑结构问题的时候，这正是我想表达的东西。那不是针对某一个具体方案的特定解决方式，而是一种普适的概念。而且，尽管每个方案都有一个个别的解决方式，那却并非是这个方案成立的原始动机。

——密斯·凡·德·罗

如果想通过建筑设计表达普适概念，那么湖滨公寓就是一个极好的例子。主宰着现代主义建筑的诸原则都浓缩体现在这单一的作品里。

湖滨公寓是现代主义建筑的原型。

它有3个杰出的视觉特征，分别是：

1. 两栋相同的塔楼；
2. 向外暴露钢骨架结构；
3. 附加于结构之上的宽翼工字钢竖梃。

两栋相同的塔楼

湖滨公寓由两栋一模一样的塔楼组成，坐落在密歇根湖畔一块三角形的基地上。根据密斯的长期合作者约瑟夫·藤川（Joseph Fujikawa）的回忆，双塔方案的提出本来是为了解决一个土地交换协议的要求。起先，湖滨公寓基地的一部分隶属于西北大学（Northwestern University）。开发商提出要求，希望用紧邻基地西侧的一块地来作交换。西北大学校方同意了这一交换请求，但提出条件，那就是新的建筑不能阻塞交换校产后的湖面景观。按照密斯的说法，这可以算是建筑设计方案的"善理由"（good reason）。

而湖滨公寓设计的"真理由"（real reason），乃是出自密斯的设计理念，那就是建筑务必独立于它的基地而自由存在。将湖滨公寓同芝加哥布格华纳大厦（Borg Warner Building）进行比较，可以证实这一说法。布格华纳大厦由威廉·勒斯卡锡于1955年设计完成[2]，位于密歇根区艺术学院前方。勒斯卡锡由于设计了费城储蓄基金会大楼（Philadelphia Saving Fund Society building）而声名鹊起，

[1] 埃尔文·席洛丁格（1887–1961年），奥地利物理学家，因发现原子理论的新模式而获1933年诺贝尔奖。

[2] 威廉·勒斯卡锡（William Lescaze，1896–1969年）生于瑞士，1923年在纽约成立自己的事务所，将欧洲国际式风格引入美国，主要设计作品有1932年的费城储蓄基金会大楼等。

Mies' concept of independent architecture is further reinforced by the recess on the ground floor. The towers appear to be floating above the ground.
Post modernists later attacked Mies' freestanding buildings and promoted contextualism. But our studies, at the Chicago Institute, on current changes in the American workplace support Mies. We find, with the advancement of computers and other electronic technologies, that our civilization is increasingly becoming non-land based, non-territorial. Architecture alone will not be an exception.

建筑史学家称其为现代主义建筑的先锋之一。布格华纳大厦有着蓝色铝制框架玻璃幕墙，乍看跟湖滨公寓一样充满时代感。但是，如果细心观察，会发现建筑的控制线存在偏斜，而有规律的竖向线条在建筑角部进行了妥协。

布格华纳大厦的设计无法摆脱基地条件的限制，而湖滨公寓则完全独立于基地而存在。湖滨公寓的构思只是遵循自身的法则。这是通往建筑工业化历程的第一步。

密斯的"独立建筑"（independent architecture）概念通过湖滨公寓的底层退进得到进一步的加强。塔楼看起来仿佛是脱离了地面，飘浮在空中。

后现代主义者后来发展出一套文脉主义，并由此来攻击密斯的独立建筑概念。但是，我们芝加哥建筑与技术研究所针对美国当代工作环境的研究表明，密斯的选择是正确的。我们发现，随着个人电脑和其他电子技术的发展，我们的城市化过程正在越来越倾向于非土地依赖性、非地域性。建筑学本身亦无例外。

Steel Frame Structure

The plan for 860 was determined by a grid which is, like an axis, an invisible space-ordering concept/device. In traditional Western architecture, buildings were planned along an axis. Intersection of the primary and secondary axis, or the center, creates a hierarchical spatial order that corresponds with an old hierarchical social structure. The axes and center were expressed by the symmetrical arrangement of parts, and strategic placement of significant objects such as a statue, fountain, or obelisk.
Without a center, the grid by nature has no boundary and is non-hierarchical. It corresponds with the modern value of individual equality. In 860, the 21 foot grid was made visible by the steel columns placed at the intersections of the grid.
The steel frame structure was not invented by Mies. It was a technological innovation of our time. Mies gave steel frame structure esthetic significance by simplifying it to its intrinsic form to express the grid.

钢骨架结构

湖滨公寓的方案中存在一套网格体系，像轴线一样，虽然不可见，但决定着建筑的基本概念。在传统西方建筑学中间，建筑依确定的轴线进行规划。主次轴线的交点或建筑的几何中心决定了一套空间差序体系，用以呼应古老的社会等级结构。轴线和中心的感觉通过建筑部件的对称安排得到加强，有时也通过如雕像、喷泉、方尖碑等重要物体的有计划的放置来加以突出表达。

如果没有中心，自然的网格体系是无边界的和非等级性的。这同现代时期人人平等的价值观念两相呼应。就湖滨公寓来说，21英尺的网格结构由于在节点上放置钢柱而成为可见。

钢骨架结构并非密斯所发明，这是我们时代的伟大技术革新。密斯所做的是，通过将其纯化为最基本的内在形式并表达网格体系，为钢骨架结构赋予美学价值。

Wide-Flange Mullions

The mullions of 860 are placed 5′–3″ on center at each module line, one fourth of the structural grid. Vertical mullions support the aluminum window frames and terminate interior partitions perpendicular to the windows.
The mullions at 860 are made of commercially available standard 8″ wide-flange steel. The standard steel sections were simply attached to the exterior frame. They are not customized for any special condition imposed by the overall design, but rather manufactured as independent elements for general use.
In traditional apartment building, the design of the façade, such as composition, window type, material, etc., was the priority. In 860, the construction was the design priority: first structure, then mullions and windows, and finally, interior partitions. From outside to inside, from permanent

宽翼工字钢竖梃

在湖滨公寓的模数控制线之间，每隔5英尺3英寸的地方放置一根宽翼工字钢竖梃，这个距离是结构网格宽度的1/4。竖向的钢梃支撑着铝制窗框，并且作为室内分隔板的终了，这些分隔板跟窗户是垂直的关系。

湖滨公寓的竖梃采用市面上常见的标准8英寸宽翼工字钢。它们只是简单地贴附在外框架的表面。这些部件并非为

to temporary, the architecture evolved in the sequence of construction.

Purists who saw anything devoid of practical purpose as criminal, however, had difficulty accepting non-functional mullions attached to columns. Since windows were placed between columns in 860, mullions on columns served no practical function. Their function was nothing but esthetic, visually creating a pleasant rhythm and uniform skin over the structure. Mies called this mullion-on-column scheme an "architectural solution". Mies used this solution only for his low-rise buildings.

For taller and larger buildings, Mies placed windows outside the columns, creating a continuous skin over the structure. Columns were no longer exposed on the exterior. It was called a "technological solution". Although most logical, it was also criticized for going beyond Architecture and becoming shelter.

Living in 860

Mies seriously considered moving to 860 when the building was completed in 1951. But he abandoned the idea, horrified by the thought that he might have to listen everyday to complaints about the building. I think he made the right decision.

For several years, my wife and I have lived in one of the apartments on the 24th floor of 860. From a resident's perspective, there are several shortcomings, as Mies expected.

Our first unpleasant experience came on moving day. We found the freight elevator was too small, and had to abandon the idea of bringing up our 2′–8″ × 8′–0″ dining table. We also noticed how long we waited for the elevator (to arrive).

Waiting for the elevator is almost always too long. If an elevator comes within one minute, we call it a miracle. This situation, of course, can be improved by increasing the elevator speed and replacing the control system.

I have noticed, however, the elevator cab is where people meet. The occasional inconvenience gives people the opportunity to talk to each other. Some common problems even help unify the community!

Our next experience came on a windy day. The building was swaying, water in the toilet was dancing, and the vertical blinds were swinging in pendulum motion together like a chorus line. I felt like we were on a cruise ship. A fellow resident told me (in the elevator, of course) that on windy days he makes it a habit to go to office earlier and return home later, spending more hours at his workplace which, I imagine, makes his boss happier.

了适应由总体设计带来的某种特殊情况而专门定制；它们只是为了满足一般的用途而生产的独立构件。

在传统的公寓方案的推敲过程中，建筑立面（例如构图、开窗形式、材料等等）的设计是需要优先考虑的部分。然而在湖滨公寓方案中，建造本身是设计优先考虑的部分：首先是结构，然后是竖梃和窗，最后是内部分隔。从外到内，从永久部件到临时部件，建筑在建造的过程中逐步进化。

可是，那些把毫无实际功用的部件视作犯罪行为的纯粹主义者认为，那些贴附在柱子上的毫无功能属性的宽翼工字钢竖梃实在难以接受。由于湖滨公寓的窗户实际安装在柱子上，竖梃的确没有什么使用功能。它们的功能无非是在美学方面，制造一种视觉上令人愉悦的节奏感和整齐划一的立面效果。密斯称这种"柱间梃"的想法为一种"建筑学的解决方案"。早先，密斯仅将这种做法应用于他的低层建筑上。

在更高和更大规模的建筑上，密斯将窗置于柱外，在结构之外造成了连续表面的效果。柱子不再暴露于外。这种做法被称之为"技术的解决方案"。尽管与前一种方案相比逻辑上更加清楚，但仍被批评为超越了建筑学的范畴而采用掩盖手段。

湖滨公寓中的生活

1951 年建筑竣工的时候，密斯曾认真地考虑是否搬迁到湖滨公寓中去。最后他放弃了这个念头，害怕每天都听到很多关于这栋建筑的抱怨。我觉得他的选择是正确的。

有好几年，我和我妻子住在湖滨公寓二十四层的某个单元中。从一个住户的角度看这栋建筑，如密斯所预料的，缺点还真是不少。搬家那天的经历就让我们相当不快。我们发现，电梯实在是太局促了，因此不得不放弃了一张 2 英尺 8 英寸宽、8 英尺长的餐桌。而且我们每次都要等好久，电梯才能到。

等待电梯的时间总是长得不堪忍受。如果一部电梯在一分钟之内到达则堪称奇迹，我们就要谢天谢地了。这个问题，当然可以通过提高电梯速度、更换控制系统而得到改善。

我却意外地发现，电梯厅成了人们会面的地方。偶尔的不方便，给大家带来相互交流的机会。一些小小的问题竟然有益于建立一个更团结的社区！

一个大风天带给我们另一次不快的经历。大厦竟然摇晃起来了，马桶里的水跳起舞来，垂直百叶窗像钟摆一样做起了简谐振动，又像合唱团一样蜂鸣不止。我感觉如同身在巡洋舰上。一个邻居告诉我（当然是在电梯里），每到大风天

The sway of 860 was considered to be maximum limit for occupant's comfort. Dr. Fazlur Khan once studied it to verify his assumptions for design criteria for tall buildings based on occupant's comfort level. 1)

Today, the building sway can be minimized by the installation of active control devices. The new technology, using high-tech sensors and computers, has been successfully applied in many tall buildings in Japan.

The 860 buildings are equipped with a hot water heating system at the perimeter and in the ceiling plenum. The plenum heating keeps the floor warm and very comfortable. The perimeter heating, however, is not adequate for many apartments. Here, I make good use of my "byobu", a Japanese paper screen to prevent negative radiant heat from the glass windows. Heating inadequacy is more perceptible in the fall and spring when the system is not operating at full capacity. I hear (in the elevator, again) someone complaining about his apartment being too hot, while my apartment could use more heat. The problem obviously comes from inadequate balancing.

Again, this can be improved by the use of technology which enables precise temperature control in each apartment. We know such systems have already been successfully applied to retrofit older buildings in Chicago, such as the neighboring John Hancock Center.

As you can see, these shortcomings are all related to the performance of the buildings. 50 years ago when technologies were yet to be developed, buildings were perceived as static objects and these shortcomings were acceptable standards.

With new technologies, such as high-tech sensors and computers, more of today's buildings are becoming dynamic machines where performance is the goal. This will no doubt bring fundamental changes to architecture.

Despite its shortcomings, a testament to 860 is that this architectural masterpiece is not a dead monument. While many famous buildings in the architecture history books are no longer functioning in their original capacity or receiving public subsidies, 860 is still competing in Chicago's residential market by its own strength.

860 is a cooperative apartment. Residents buy a proportionate share of stock for a specific apartment, which in turn earns them the right to reside in that apartment. The cost of an apartment in 860 today is about $100 per square foot plus about $20,000 for a parking stall in the basement. The actual price is decided between the seller and the buyer, depending on market, interior finishes etc. In addition, residents must pay monthly assessment fee of about $1/sf which covers operating and maintenance

他就很早上班，很晚回家，把更多的时间消磨在办公室。我猜想，这一定让他的老板很是满意。

湖滨公寓出于居住者的舒适考虑，最大程度地避免了摆动。法扎鲁尔·汗博士曾经对这栋大厦进行研究，根据居住者的舒适程度，作为确定他的设计规范的数据。[1]

今天，建筑物的摆动可以通过安装动态控制装置而消减。新的技术措施诸如高科技探测器和计算机，已经应用在日本很多的高层建筑当中。

湖滨公寓在建筑四周和屋顶通风系统中安装了水暖系统。安装在屋顶通风系统中的部分让地面保持温暖，非常舒适。可是四周的供热系统，对很多单元来说都很不充分。在家里，我充分利用我的"屏风"[2]，一种日本的纸制挡板来遮挡从玻璃窗射进来的令人讨厌的光线。往往是在春秋两季，供热不足的问题尤为明显，这时候供热系统并未以最大功率运转。我听到（还是在电梯里）有人抱怨他的单元热不可耐，而我的单元却有点寒冷。问题显然出在供热不均。这当然也可以通过技术手段来加以改进，比如为每一户加装精确温度控制装置。我们都知道，这一类装置已经成功地应用在芝加哥一些古老房屋的改造工程中，例如附近的约翰·汉考克大厦。

正如你所见，所有的缺点都关系到湖滨公寓的使用性能。50年前技术尚未成熟，建筑被考虑成静态的物件，这些缺点都在可以接受的范围内。

随着新的技术手段例如高科技探测器和计算机的应用，如今更多的建筑已经成为动态的机器，在此，使用性能成为设计的目标之一。这种转变毫无疑问对建筑学造成了直接的影响。

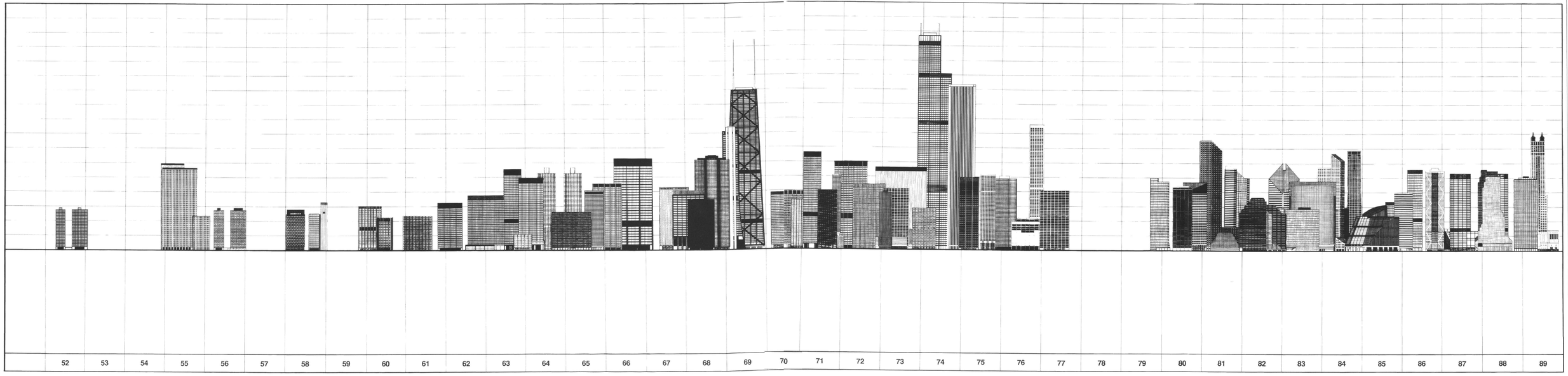
撇开这些缺点不谈，时间已经证明湖滨公寓并非是垂垂老矣的过时建筑。当建筑史书中的很多著名案例已经不再能胜任原有的使用功能或开始接受公共维护援助之时，湖滨公寓由于自身的优异表现，在芝加哥的房屋市场中仍具竞争实力。

湖滨公寓是一座合作式的居住大楼。业主买入特定单元的股份，并因此获得在相应住宅中的居住权。湖滨公寓居住单元如今的价格是大概每平方英尺100美元，加上地下停车位的2万美元。实际价格由买主和卖主协商，受市场规律和装修状况等因素决定。除此之外，业主须每月支付每平方英尺1美元的物业费，用以维持基础设施、地产税和支付维护费用等。

---

[1] 《高层建筑风荷载实用标准》，作者是法扎鲁尔·汗（Fazlur R Khan）和Richard A. Parmelee，第三次"风荷载对建筑和结构的影响"国际研讨会资料，日本东京，1971年9月。——原注

[2] byobu：日本的一种折叠式彩色屏风，通常有6扇屏板。——译者注



Chicago Time-Skyline by Masami Takayama (from Process Architecture 1992)
随时间变化的芝加哥地平线
Masami Takayama，引自1992年的《过程建筑学》