

Function: Research and teaching  
 Design\Completion: 2003-2004  
 Location: Zhongguancun, Beijing  
 Building area: 29 996m<sup>2</sup>

用途: 科研教學  
 基地位置: 北京中關村  
 設計\建成: 2003年\2004年  
 建築面積: 29 996平方米

Birds View  
 鳥瞰圖

# Scientific Research Integrative Building of Institute of Computing Technology, Chinese Academy of Sciences

## 中國科學院計算技術研究所科研綜合樓

**Design company:** Institute of Architectural Design & Research, Chinese Academy of Sciences  
**設計單位:** 中國科學院北京建築設計研究院

Located within the Lenovo Park, the Scientific Research Building of Institute of Computing Technology of Chinese Academy of Sciences, as the pioneer of computer technology, should give a full play to its exceptional technical quality, while integrated into the park. With the scientific, technical and cultural building as the backdrop, the design expresses its dialogue and integration with the large science park of Zhongguancun, as well as the planned reason and order, so as to reflect on the unique character particular to the Institute of Computing Technology from a higher and broader angle.

Scientific Research Building of Institute of Computing Technology of Chinese Academy of Sciences coordinates with the buildings inside the Lenovo Park, but with no simple formal connection. It absorbs "flaky" attributes of formal language and east-west axis from the site, and then transforms to the merged but different architectural shape. The overall layout highlights extension of the east-west axis and connectivity of view line, while considering south-north orientation. In the atrium, the big steps, the eco compartment, the roof garden and the viewing gallery, you can overlook the whole science park of Zhongguancun, merging introversion with openness of buildings into a whole so as to conduct the dialogue and exchange with the surroundings from the bottom of heart.

The design unremittingly strives for underlying computer culture and architectural space, in combination with the functions of the Institute of Computing Technology, so as to form a unique scientific office building valuing both functionality and foresight. The design logic of the Institute of Computing Technology originates from the functional analysis of scientific research, teaching and office patterns of computer technology. The plane form and spatial order is a reflection of the function from inside to outside. The unit and module space functional layout originates from the functional module design. From 1.4m working level, to 1.4×3=4.2m researcher office

位于联想園區，作為計算技術先驅的中國科學院計算技術研究所融于園區的同時，應表現自身卓而不凡的科技品質，以科研文化建築為背景，在體現規劃理性和秩序的同時，與中關村大科學園區對話和整合，從更高更寬的視角中思考中科院計算所應具有的独特品質。

中國科學院計算技術研究所科研綜合樓與联想園區建築的協調并非簡單的形態關聯。它是從場所中吸取“片狀”的形式語言和東西軸線的屬性，繼而轉化為合而不同的建築形態。總體布局兼顧南北朝向的同時，強調東西軸線的延伸和景觀視線的貫通。在中庭、大臺階、生態館、屋頂花園和景觀通廊，都可以遠眺整個中關村科學園區，使建築的內向性和開放性結合為統一的有機體，實現內心深處與周圍環境的對話與交流。

結合計算所的使用功能，對計算機深層文化和建築空間進行不懈的追求，形成功能性與前瞻性并重的獨特的科研辦公建築。計算所設計邏輯源于對計算技術科研、教學、辦公模式的功能性解析，平面形態和空間秩序是使用功能自內而外的反映，單元化、模塊化的空間功能布局，源自使用功能的模數化設計，從1.4米的工位，到1.4×3=4.2米的研究員辦公空間，到4.2×2=8.4米的柱網，都是從工藝分析到技術實現的過程。南北兩側的6.6米進深的研究員辦公空間和實驗室用房，中間15米的開放計算機房和辦公空

間，分別對應于雙走廊設計，以及可靈活劃分的科研教學單元。為使得南北向采光通風資源的最大化，建築的交通核心和設備用房布置在建築的兩端，勻質和對位整齊的核心形成高效便捷的交通體系網絡。在確保內部可持續發展和自由劃分空間布局的同時，也為建築設備的集中經濟性布置創造了條件。樸素的建築形態是對建築功能和建築結構的反映，南北向整齊劃一的開窗為室內提供了一個穩定而均勻的光環境，豎向劃分源于結構本身并轉化為一種遮陽體系。東西向中庭、生態館、走廊和樓梯間的少量玻璃幕牆為公共空間贏得了良好的景觀資源。建築形態通過對功能、風向、日照、氣候、景觀的多種思考后形成節奏變化的數碼信息。建築造型從局部片斷到立面形式，再到形態構成，遵循一種“自相似性”的邏輯，構成關係是一個中庭聯系南北兩個體量，三個片狀形態，高低錯動變化疊合成為一個CPU式的整體建築。這種邏輯再次表現在北立面和南立面設計中，兩個入口的重點刻畫形成數碼般的視覺中心；東西界面的設計在解析中國算盤和珠算技術的邏輯后，依然遵循自相似性原則形成跳動的數碼信息圖案，充分揭蔽信息時代的網絡技術和計算文化，而實現這種可能的建築技術是隱框幕牆及條狀絲網玻璃形成的細部特征和創造的與眾不同的影像建築。



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space, to  $4.2 \times 2 = 8.4\text{m}$  column network, all these reveal the process from processing analysis to technical realization. The researcher office space and lab room with the depth of 6.6m on both south and north sides, and the open computer room and office space with 15m in the middle, respectively match the two-aisle design and the flexibly-classified scientific teaching unit. To maximize the lighting and ventilation resources in the south and north direction, the traffic core and plant rooms are located at both ends of the building. The homogeneous and orderly core forms an efficient and convenient traffic network, enduring internal sustainable development and freely classified spatial layout, creating conditions for the concentrated economical layout of building equipments.

The plain building shape is a reflection of its function and structure. The fenestration orderly in the south-north direction provides a stable and even lighting environment. The vertical classification originates from the structure itself and transforms into a kind of shading system. Few glass curtain walls in the east-west atrium, eco compartment, corridor and staircase win an excellent landscaping resource for the public space. The architectural shape forms digital information with rhythmical changes after considering function, wind direction, lighting, climate and landscape. The architectural shape follows a kind of "self-similar" logic from local fragment to façade form and then to formal constitution. The formation relationship is a CPU overall building with an atrium connected to two volumes in north and south, three flaky bodies, overlapped by high, low and faulted changes. This kind of logic is again expressed in the design of north façade and south façade. Two entrances are accentuated to form a digital visual center; the design of east-west interface also abides by the self-similar principle to form a jumping digital information pattern after analyzing the logic of Chinese abacus techniques, fully displaying network technique and computer culture in the information age. And the architectural technique realizing this possibility is detailed features and distinct image building created by the concealed frame curtain wall and stripe silk-screen glass.



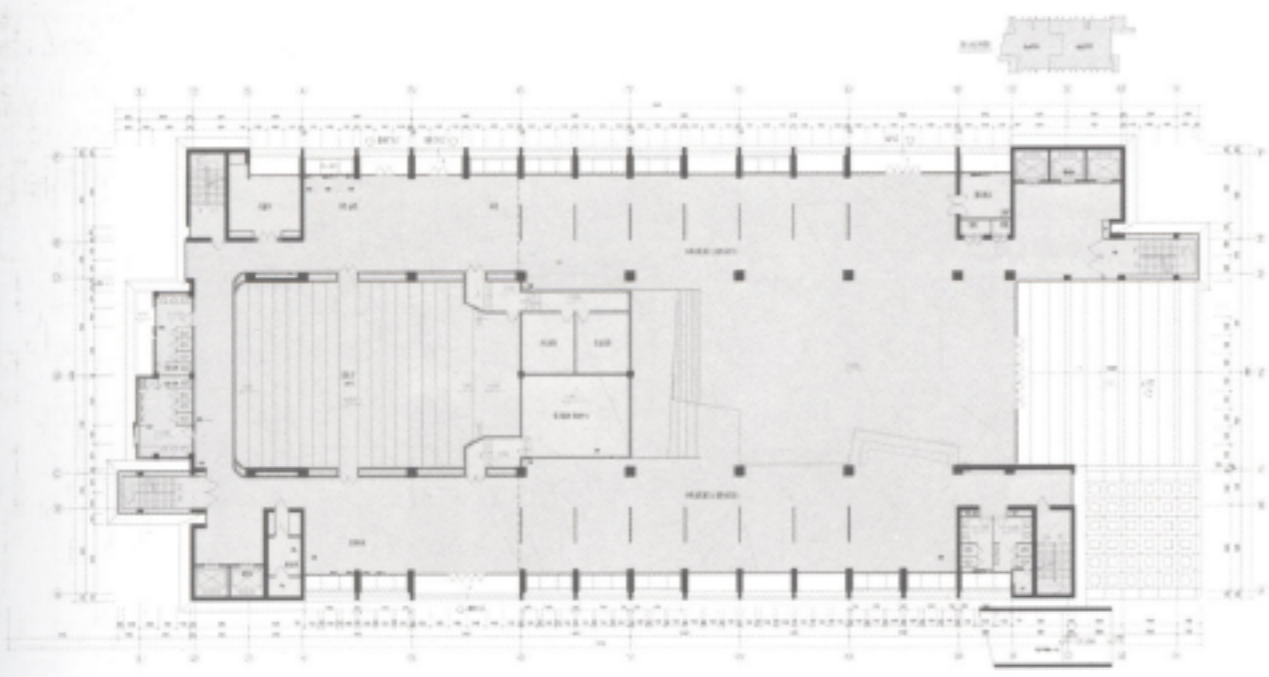
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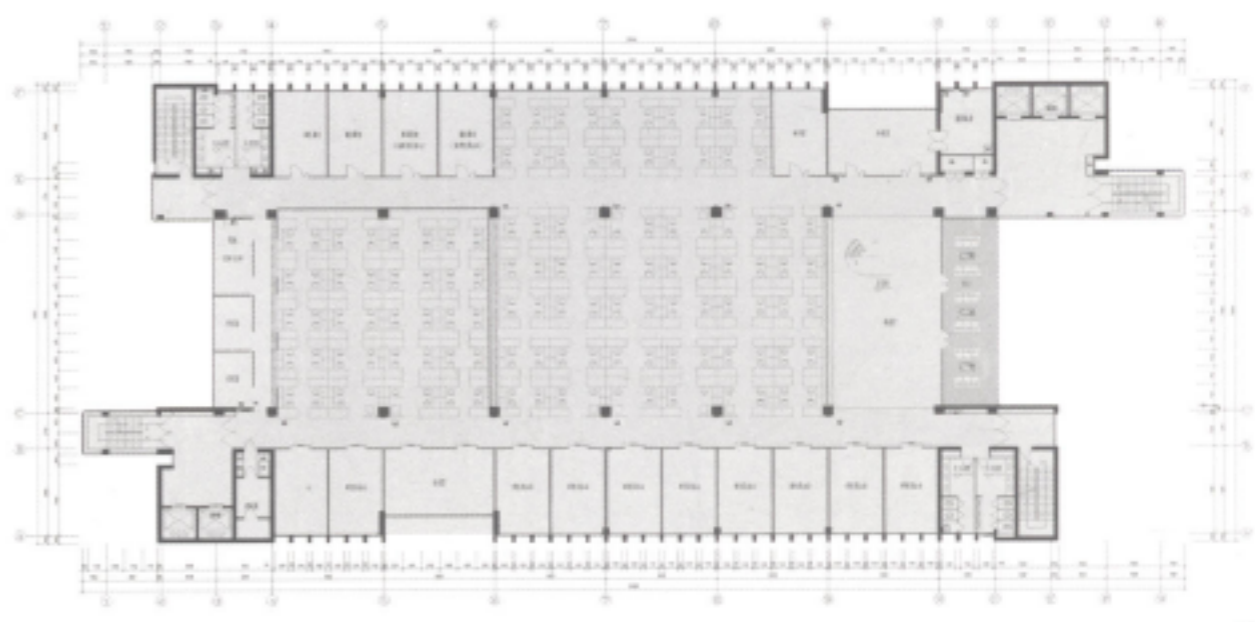




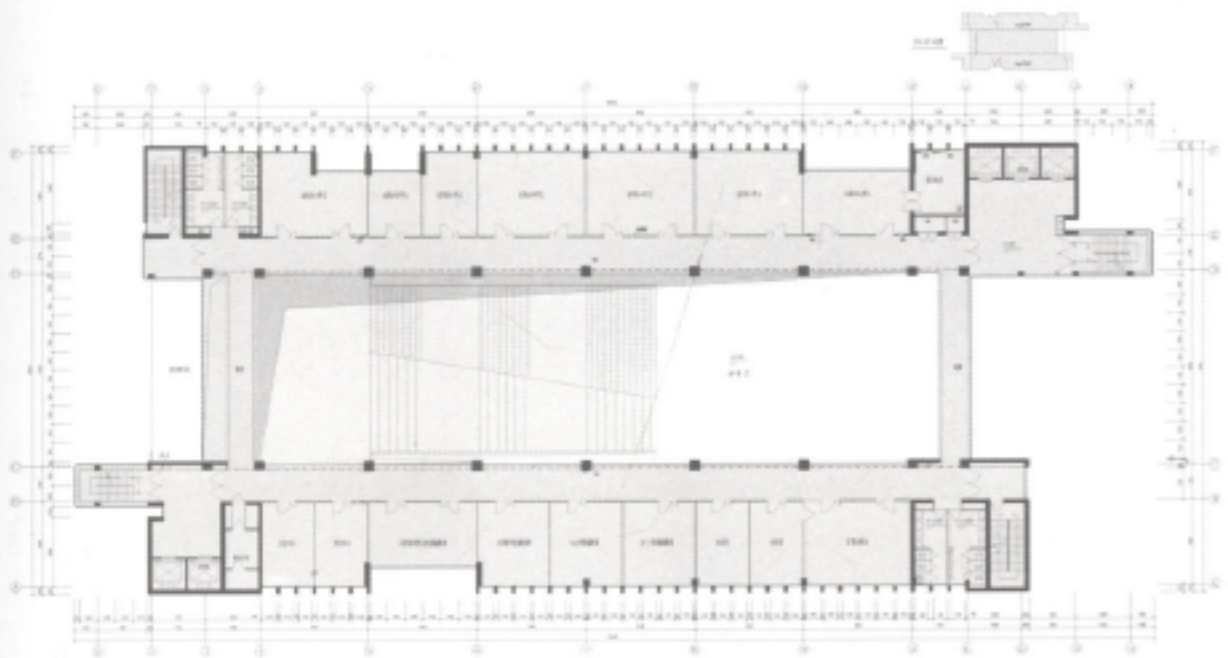




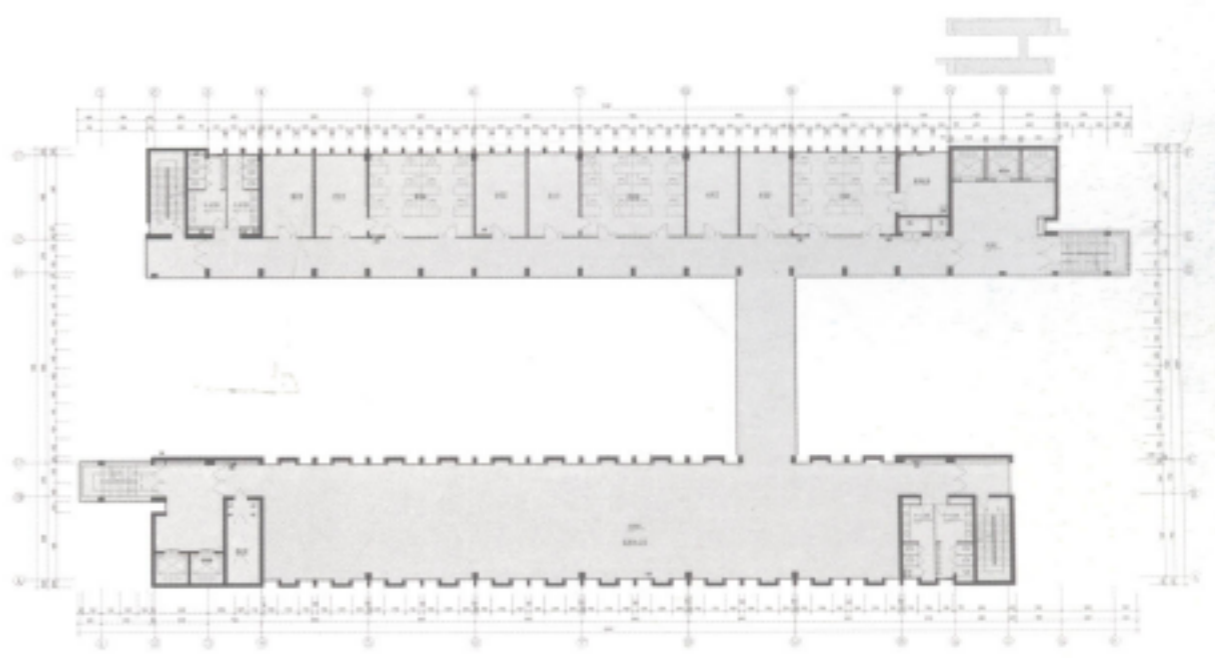
Plan  
平面图



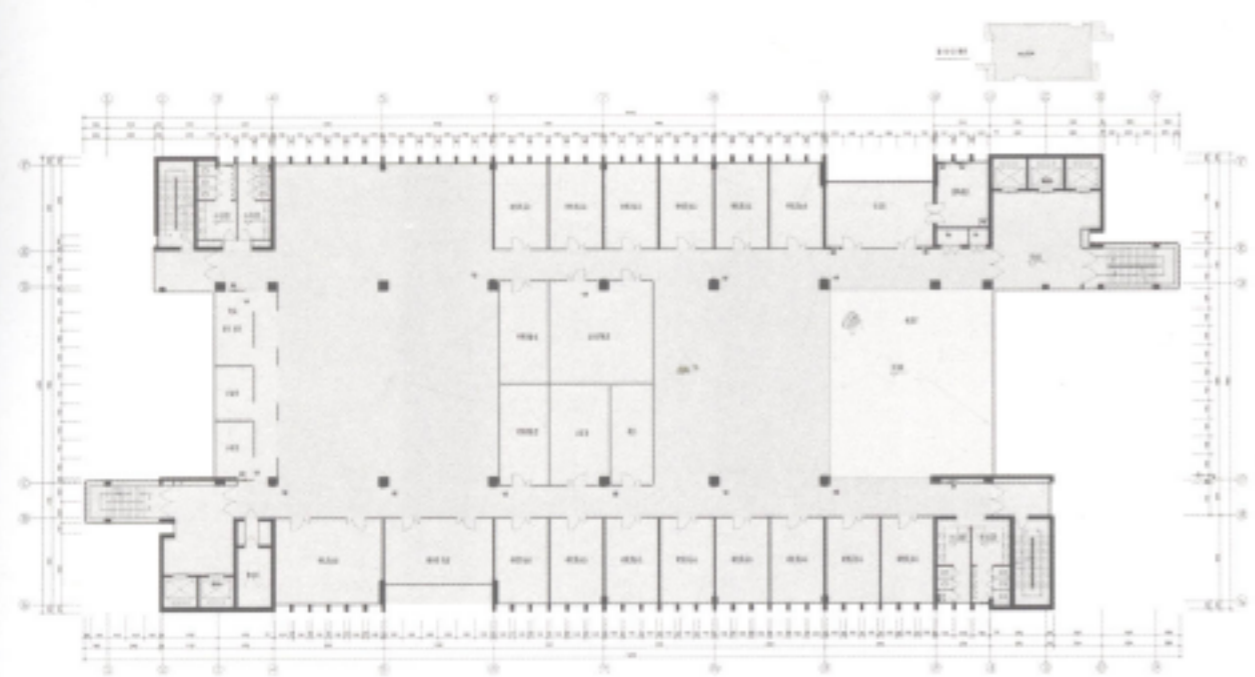
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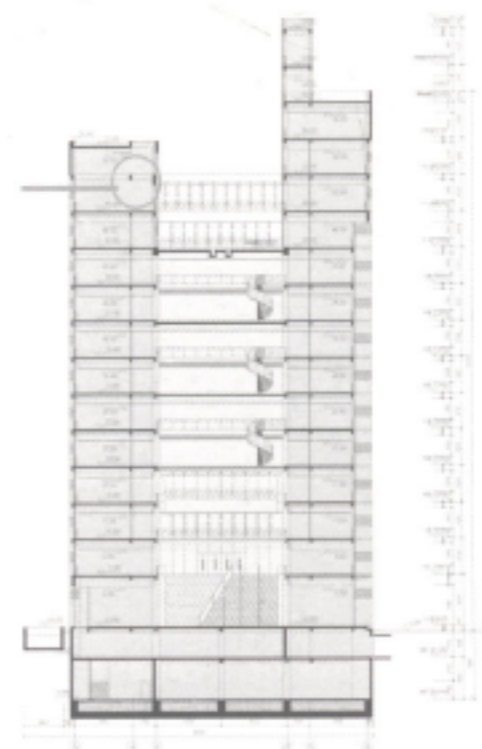
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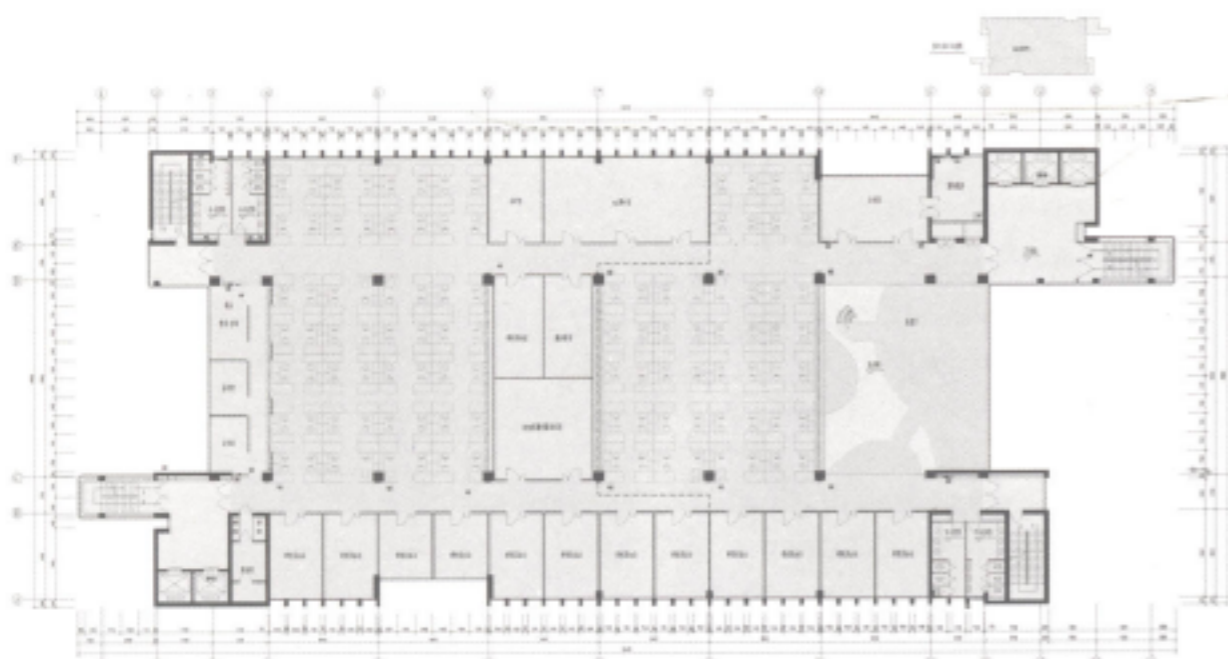
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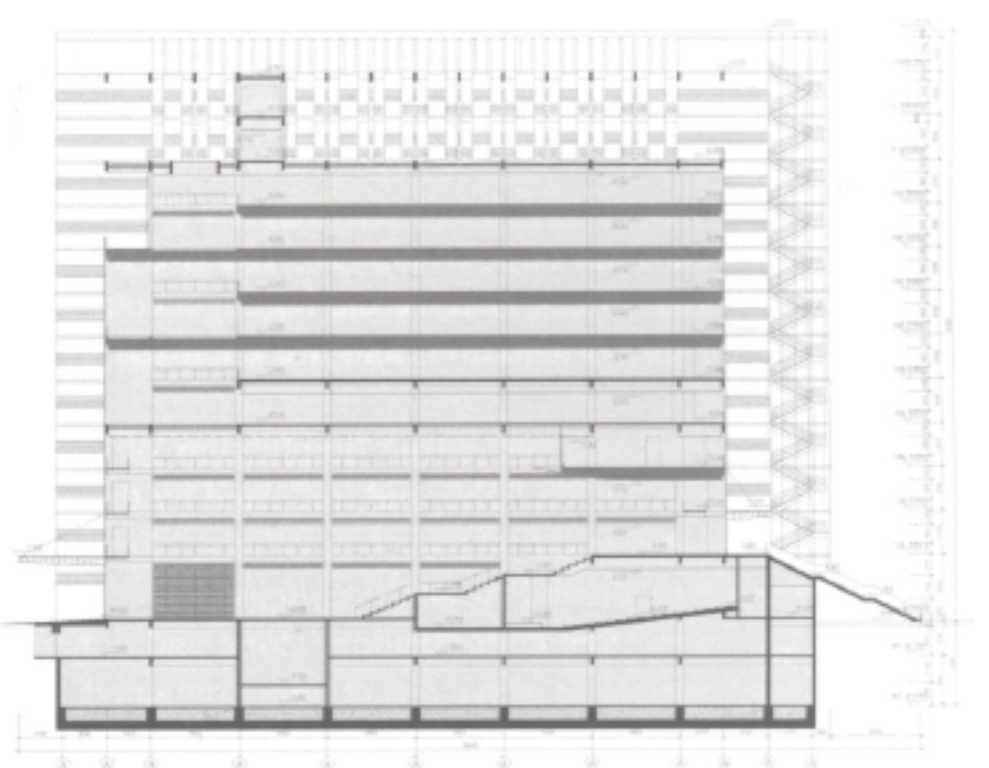
Plan  
平面图



Section  
剖面图



Plan  
平面图



Section  
剖面图