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世界建筑典藏系列丛书

## 世界建筑典藏 4

### ORLD ARCHITECTURE COLLECTION 4

华怡建筑工作室 编译

诺曼·福斯特爵士及其合作者 德意志商业银行, 法兰克福  
Sir Norman Foster and Partners Commerzbank, Frankfurt am Main

斯特德尔+合伙人 沃克尔-豪斯, 慕尼黑  
Steidle+Partner Wacker-Haus, München

阿勒普事务所 香港站  
Arup Hong Kong Station

皮丘/阿赤特茨/斯库梅尔 慕尼黑剧院, 新剧场  
Gustav Peichl Münchner Kammerspiele, Neues Haus



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华怡建筑工作室 编译

### Texts/ 文字:

Volker Fischer  
Gottfried Knapp  
Greg pearce  
Heinrich Wefing

### Photographs/ 图片:

Ralph Richter  
Stefan Muller—Naumann  
Christian Richters  
Gisela Eelacher



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本丛书是一套介绍世界建筑精品的图书。其涵盖面极为宽广,收集了近几个世纪以来,在人类历史上非常有影响力的一些精品建筑。每一个建筑作品本身就是一个非常具有说服力的建筑设计的范本,再加上世界级摄影大师对建筑作品的逼真诠释以及建筑评论界的专业人的分析,无疑会引领读者进入新的意境,真切感受每一个建筑的魅力。

本书是该套丛书的第4本,包括以下几个建筑:

法兰克福的德意志商业银行(诺曼·福斯特爵士及其合作者)

慕尼黑的沃克尔-豪斯(斯特德尔+合伙人)

香港站(阿勒普事务所)

慕尼黑——新剧场(皮丘/阿赤特茨/斯库梅尔)

本书内容丰富、装帧精美,不仅可以为广大的建筑设计师提供非常有价值的参考,同时也能够为相关专业院校师生了解世界建筑提供信息来源,当然也能够成为建筑爱好者的珍藏。

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## 编者按

《世界建筑典藏》丛书收集了世界各地极具代表性的建筑，我们策划出版这套丛书，目的就在于开阔国内建筑设计师的眼界，为提高国内建筑设计水平提供一定的参考。同时也可以成为相关专业院校师生的辅导资料，对提高建筑的鉴赏水平有很大的帮助。希望我们的工作能够为广大的建筑设计专业人士、学生以及建筑爱好者提供一个认识世界建筑的窗口，也欢迎广大的读者给我们提出宝贵的意见。

参加本书翻译的有：吴春苑、郑竹、王晓梅、李学成、傅莉、田胜泉、孔德喜、吴伟伟、李旭、刘峰、胡泊、肖振鹏、张超等

在此特表示鸣谢。



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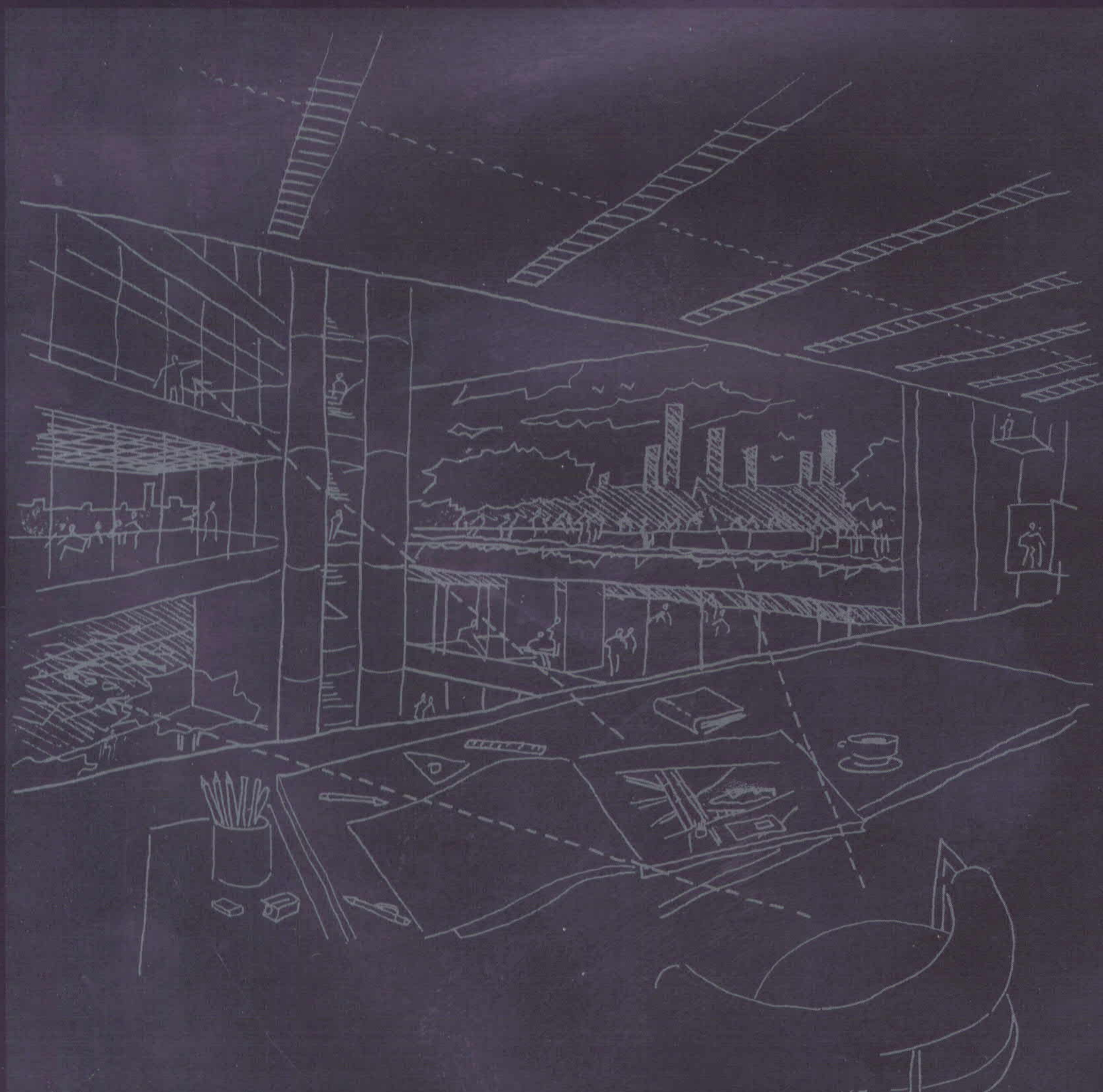
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## Sir Norman Foster and Partners Commerzbank, Frankfurt am Main

Norman Foster, who is one of the most consistent advocates of architecture based on modern technology, achieved a world-wide reputation with the headquarters for the Hongkong & Shanghai Banking Corporation in Hong Kong, Stansted Airport in London, Century Tower in Tokyo and his telecommunications tower in Barcelona. His most important projects in Germany are the conversion of the Reichstag building in Berlin and the new Commerzbank headquarters in Frankfurt am Main.

The Commerzbank building, situated in the middle of the city centre, is an exceptional complex in many respects. The plan of the building, which, including the aerial, is 300 m high, is triangular in form with slightly concave sides. Within the transparent tower gardens totalling 4000 sqm are set aside in a spiral configuration, stepping up throughout the building as 15 m high climate buffers. The office floors are combined to create so-called >>villages <<; in conjunction with the gardens a central atrium, which is almost 160 m high, brings daylight even to the offices in the centre. The balance of energy use achieved through most advanced operating systems is much more environment-friendly than in other high-rise buildings. It can be stated that the new Commerzbank headquarters is a landmark of contemporary architecture, comparable in its historical significance only with the works of a Frank Lloyd Wright, Le Corbusier or Ludwig Mies van der Rohe.

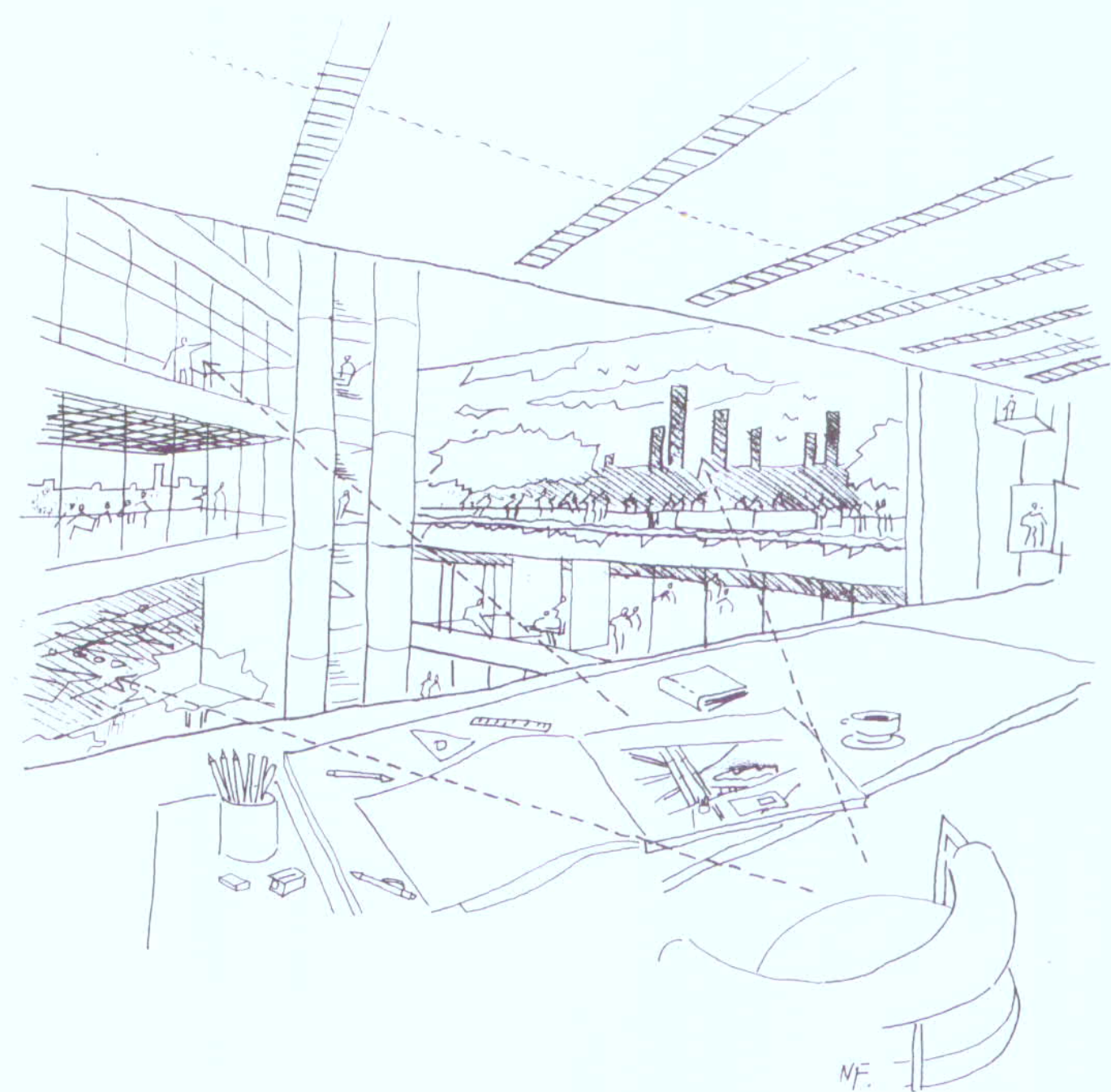
The internationally known architecture and design historian Volker Fischer was Vice Director of the Deutsches Architekturmuseum in Frankfurt for over 10 years. For some time now he has been building up a new design department in the Frankfurt Museum fur Kunsthandwerk. In addition to his museum work he teaches history of architecture and design at the Hochschule fur Gestaltung in Offenbach. After studying at the Fachhochschule in Dortmund, Ralph Richter rapidly made a name for himself as an architectural photographer. He has photographed buildings by Santiago Calatrava, Coop Himmelblau, Norman Foster, Volker Gienke, Uwe Kiessler and Alessandro Mendini.

## 诺曼·福斯特爵士及其合作者 德意志商业银行，法兰克福

诺曼·福斯特是最坚定的现代高技术建筑的倡导者，他的作品在世界范围内赢得了声誉，包括香港的香港 & 上海银行总部大楼、伦敦斯坦斯提德机场、东京的世纪塔楼以及巴塞罗那的电信大楼。他在德国最重要的项目就是在柏林的德国新议会大厦和在法兰克福的德意志商业银行总部。

德意志商业银行总部大楼位于城市中心，是一个功能很多的复合式建筑。建筑包括楼顶的天线一共高 300m，平面为三角形，但是各边均有些微外凸。在总面积 4000m<sup>2</sup> 的透明塔式花园中有一个螺旋形的构筑物，既是大楼内部气候的缓冲器，又是一个可以爬到 15m 高度的螺旋楼梯。办公楼部分和中庭结合就成为了一个“村落”，中庭高达 160m，保证了即使位于最中心的办公室都能获得日光。大楼还采用了最先进的操作系统来达到能源消耗的平衡，该系统与其他摩天大楼所采用的系统相比对环境更为友好。我们可以肯定新的德意志商业银行总部将是当代建筑的一个里程碑，其历史意义堪与福兰克·劳伊德·赖特、勒·柯布西耶和路德维格·密斯·凡·德罗的作品相媲美。

国际知名的建筑设计历史学家福克·费歇尔担任位于法兰克福的德国建筑艺术博物馆的执行董事已经超过 10 年了。这段时间他一直在为法兰克福的工艺美术博物馆筹建一个设计分展厅。费歇尔除了在博物馆工作以外，还兼任奥芬巴赫大学的建筑和设计历史教授。拉尔夫·里克特从多特蒙德的职业学校毕业以后很快就成为了一个著名的建筑摄影师。他为圣地亚哥·卡拉特拉瓦、库伯·希姆布劳、诺曼·福斯特、福克·金克、乌尔·凯斯勒和亚历山德罗·蒙蒂尼等建筑师的作品拍过照。





福克·费歇尔

高科技, 电讯科技, 环保科技, 位于法兰克福的德意志商业银行总部。

#### 设计与实现

诺曼·福斯特是基于现代科技的建筑的忠实倡导者。他的建筑作品在世界范围内赢得了广泛赞誉, 这些作品包括香港的香港 & 上海银行总部大楼、伦敦斯坦斯提德机场、东京的世纪塔楼以及巴塞罗那的电信大楼。他在德国最重要的项目就是在柏林的德国新议会大厦和在法兰克福的德意志商业银行总部。

在位于法兰克福的德意志商业银行总部建成之前, 几乎没有什么高耸的建筑会赢得如此高的赞誉。所有高水平的建筑类或综合性杂志都曾对福斯特的建筑进行过报道。这不仅仅是因为建筑师显赫的国际地位, 还和建筑本身的特点有关: 这座位于城市中心的塔状高耸建筑在建筑形式上、静力学和能量的使用上的特点都非常明显。与此同时, 这座建筑将不能组合的事物组合到了一起: 这座塔状建筑, 算上顶端的天线有 300m 高, 和这个有密集建筑的市区融合到一起——这个城区的许多建筑建于 19 世纪 70 年代早期——这些建筑位于银行区的中心; 另外, 它采用了大量大方的垂直的交错排列的花园设计, 这些花园最大限度地增加了工作空间的吸引力。

在很长一段时间里, 这座建筑是欧洲最高的办公楼, 它集中了原来 3500 个银行机构的大部分工作室, 而这些工作室原来位于卡瑟普拉特兹区。建造这样的建筑必须要考虑都市风景中两种完全不同的比例。商业银行大楼的塔尖成为法兰克福市动态的轮廓中又一个明显的标志: 它不仅吸引了处于城市中任何地方和道路入口的人的注意, 而且从 15km 或者 20km 外的地方看, 它进一步表明了银行与城市政府之间的合作关系; 但是, 在大楼的周围还是有明显的界限, 这也是福斯特设计的, 这个界限区包括一个玻璃顶棚的停车场, 一个多层的车库, 商店和居所, 它们位于这座塔状大楼的周围, 而它们已经融入到城市的总体结构中。

在经过初步的论证后, 研究者向市政当局提交了一份修建地点和当局可以容许的修建规模的研究报告, 最终, 在 1989 年决定集中在一个地点修建商业银行大楼, 在那里, 它与两座已建成的高 109m 的大楼毗邻, 这两座大楼建于 20 世纪 70 年代。然后, 在建筑规模研究的基础上, 决定给这座大楼分配 100000m<sup>2</sup> 的建筑面积, 在 1991 年 3 月宣布, 有 12 个区参加建造这座高大建筑的竞争。

这个银行的建造有许多非常精确的要求, 所谓的“简报”是一个很好的竞争工具。首先, 它明确了建筑计划的基础, 银行不同部门所要求的面积, 这些不同部门之间应当如何连接, 还有在工程计划实施过程中关于交流和组织方面的需要。“简报”要求建筑师能够为用户而设计并能满足计划中所提出的精确要求。建筑师需要按照一个复杂的标准目录进行设计, 这些标准包括技术, 经济和社会生态学方面的参数; 建筑设计只是众多因素中的一个方面。这里, 社会生态学是一个必须考虑的重要因素。在这篇文章中, 我们看到如下内容: “为了强调我公司经营理念上的严肃性和认真性, 确保实现我公司对于银行大楼周围环境保护的承诺, 我们在建造这座高楼

的时候必须始终如一的考虑对周围生态环境的影响。”在评审委员会做出决定之前, 这个“简报”也成为在初期调查中评价和定位的框架。

关于设计思想的决定是一个合作的过程, 最后于 1991 年 6 月做出决定。由罗兰·奥斯特纳格担任主席的评审委员会, 综合建造任务, 城市发展设计或者融合, 海拔的变化, 比例, 创造街道空间, 建筑群的分布和开阔空间的质量等因素, 依据全局概念做出了决定。通过向不同的专家咨询, 他们还对绿色计划和结构的力学特性, 防火和工作室的质量, 内部和外部入口的设计理念, 计划实施过程中有关财政方面的因素, 以及考虑这些方面的因素所需要的资金进行了评估。福斯特的第一设计严格依据给定的设计高度 185m——实际的建筑高度使得建筑显得更加轻巧, 而这在竞争后恰恰满足了当局政府所要表达的愿望。

福斯特事务所, 斯坦斯提德机场, 1987~1991 年。  
(摄影: 丹尼斯·吉尔伯特)

Foster Associates, Stansted Airport, 1987-91. (Photo: Dennis Gilbert.)



福斯特事务所, 香港 & 上海银行总部, 香港, 1979~1986 年。  
(摄影: 岚·兰博)

Foster Associates, Hongkong & Shanghai Banking Corporation headquarters, Hong Kong, 1979-86. (Photo: Ian Lambot.)





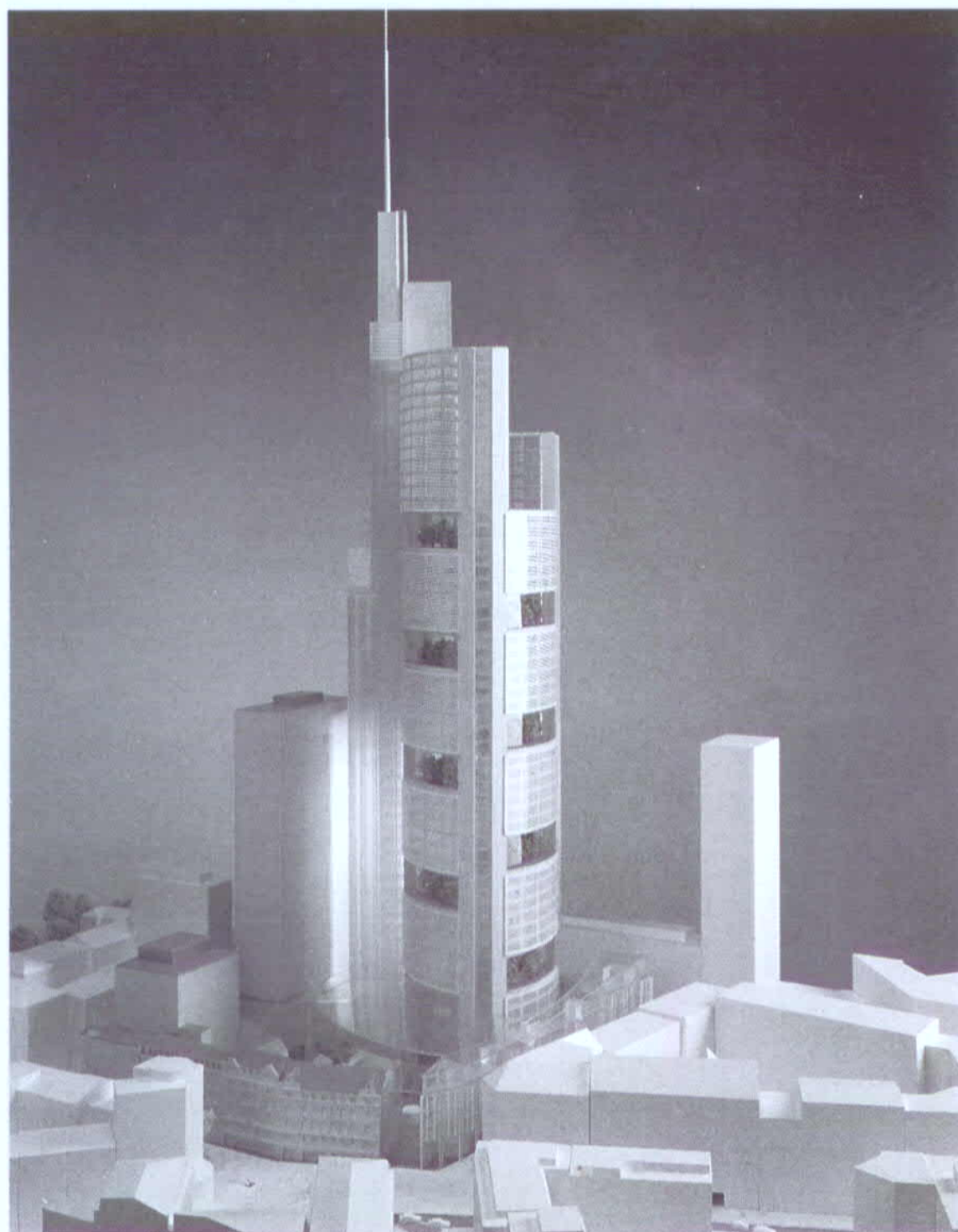


从陶纳斯广场看商业银行。

The building seen from Taunusanlage.

诺曼·福斯特爵士及其合作者，德意志商业银行总部，法兰克福，1991~1997年。竞赛中标项目。

Sir Norman Foster and Partners, head office of Commerzbank AG, Frankfurt am Main, 1991-97. Competition project.



Volker Fischer

## High Tech, Sky Tech, Green Tech. The new Commerzbank headquarters in Frankfurt am Main

### Design and realization

Norman Foster is one of the most consistent advocates of architecture based on modern technology. He attracted world-wide fame with spectacular buildings like the headquarters of the Hong Kong & Shanghai Banking Corporation in Hong Kong, the third London airport at Stansted, the Century Tower in Tokyo and the telecommunications tower in Barcelona. His most important projects in Germany to date are the Reichstag conversion in Berlin and the new Commerzbank headquarters in Frankfurt am Main.

It is rare in the history of high-rise buildings for a project to meet with so much approval even before being built as the new Commerzbank headquarters in Frankfurt am Main. Literally all the top-ranking architectural and general magazines have carried reports on Foster's project. This is not just because of the architect's international eminence, but also because of the characteristics of the building itself: this high-rise tower in the city centre is extraordinary in architectural terms, but also in terms of statics and energy use. At the same time it actually seems to combine things that cannot be combined: this tower, 300 m high with its aerial, is perfectly integrated into a densely built-up urban area — some of the buildings dating from the early 1870s — in the centre of the banking quarter; in addition, it uses generous, vertically staggered gardens to create extremely attractive workplaces.

This is the tallest office building in Europe by a long way; it brings together a large proportion of the bank's departments from all over the city in 3500 workplaces in the Kaiserplatz block. A building of this kind has to take two entirely different scales in the cityscape into account. The Commerzbank tower is firstly another visual landmark on Frankfurt's dynamic skyline, attracting attention not just from practically everywhere in the city and all the access roads, but also from 15 or 20 kilometers away, thus contributing to and focusing the corporate identity of both the municipality and the bank; but there is also a block-edge development, designed by Foster as well, including a plaza with a glazed roof, a multi-storey garage, shops and dwellings, surrounding the tower and thus integrating it into the urban structure.

After preliminary organizational enquiries, a site study and a proof of building mass tolerability for the municipality, the Commerzbank decided in 1989 to concentrate on one site, immediately adjacent to its existing 109 m tall two-block skyscraper, dating from the 70s, in Neue Mainzer Strabe. Then, on the basis of a building mass study, allotting just under 100 000 m<sup>2</sup> for the high-rise building, a competition for twelve invited participants was announced in May 1991, for the area between Kaiserplatz and the Grobe

Gallusstrabe, Neue Mainzer Strabe and Kirchnerstrabe.

The bank's extremely precise set of requirements, the so-called >>briefing<< was a helpful control instrument for this competition. It defined in advance the bases for the planning, the area required for the bank's different departments, how they should be interlinked and also the projected requirements for communications and organization. This >>briefing<< meant that the architect could design in for the users and with an eye to precise needs. He could work to a sophisticated catalogue of criteria consisting of technical, economic and ecological parameters; architectural design was only one element among many. Ecology was a crucial factor here. On this subject we read: >>To underline the seriousness of our company philosophy and the credibility of our environmental commitment as part of the Commerzbank philosophy, it is consistently and continuously required that an ecologically directed high rise building should be erected <<. This briefing paper was then also used as a framework for assessment and orientation in the preliminary examination, before the jury reached its decision.

A decision about the ideas competition as a co-operative process was made in late June 1991. The jury, chaired by Prof. Roland Ostertag (Stuttgart/Braunschweig), reached its decision by addressing the overall concept in terms of the task set, urban development design or integration, height development, proportions, the street space created, the distribution of mass and the quality of the open spaces. They also assessed, in consultation with various experts, green planning and structural physics, support-structure planning and services, fire protection and workplace quality, the interior and exterior access concept, financial aspects of the realization process and the resulting costs. Foster's first design kept fairly precisely to the given guideline height of about 185 m — the actual built height made the building more slender and thus met the wishes expressed by the municipal authorities after the competition.



在进行评估和比较了所有这些评估标准之后，评审委员会推荐采用来自伦敦的福斯特和帕特纳的设计方案，而克里斯托夫建筑事务所的设计方案需要进一步改进。在 1991 年的 9 月底，银行的董事会对前两个推荐者的设计方案进行了讨论，并决定采纳评审委员会对起初的竞争方案的表决结果，由英国的建筑事务所进行设计。实际上，福斯特的设计方案不仅是一个一流的设计，它的设计新颖，由广阔的发展空间；而且与其他的竞争者相比，在设计中，它更多的从环境论的角度进行了考虑。后来，这个设计方案进行了最优化，计划的完善阶段持续了几个月，完善的内容包括经济学，技术，法律和城市发展。在这个阶段，福斯特和他的同事们重点考虑了这座高楼与它周围的城区在空间上的关系，防火技术和防火设施，这座独立而又与周围现存的较早的高楼相关的办公大楼的高度和基础的设计理念。

负责这座建筑的建筑师没有采用广为流行的设计方案，但这位设计师绝不是将新商业银行大楼设计成现有尺寸的唯一一位建筑师。无论是总体，还是细节方面，在这座建筑的设计中，建筑师采用了独特的建筑语言来表达自己的设计思想，使得这座建筑有自己非常明显的特点，在每个工程中，即使是建筑师的办公室也随着合作组成员不断迁移而迁移，这些福斯特的合作组成员在工作上有很大独立性。在伦敦的建筑事务所的合作组成员是斯宾塞（工程的合作者之一）和约翰·斯奥沃。在建筑美感背后，有先进的支撑结构，这些由合作者奥乌·阿如普负责，世界上最先进的办公楼之一，也位于伦敦，福斯特已经在那里做过一些项目。

在实现本项目工程上还有其他一些部门和个人与建筑师和工程师一样重要，他们是——霍斯特·格朗吉斯领导的商业银行本身的建设部门；杜塞尔多夫的 NERVUS 股份有限公司；福莱德里克·赖奇领导的霍克提夫建筑股份有限公司法兰克福分部。该公司在建造摩天大楼方面经验丰富，作为总承包公司，他们赢得了建造地基到结构转换层的合约，并为技术装备、电力工程和电梯提供技术专家，还负责大楼的静力和测量测试、防火设施和景观设计。

值得注意的一点是，一个竞赛方案要最终实现，在建造的过程中必须不断地满足业主提出的各种要求。从这方面来说有些建筑师比较开明而其他的就做不到。福斯特不仅具有合作精神——这是他不容忽视的一个工作特点，而且他还积极地与银行的建设部门交流，尽量满足他们的愿望和要求。这种开明的态度表明建筑师理解项目建造过程，并具有强的工作能力。

诺曼·福斯特事务所的第一轮方案，就是还没有经过几次修订以前，就已经有很多迷人之处。大楼充满活力，平面为等边三角形，三角形的边微微凸出，每边长 60 米。有一个螺旋楼梯盘旋在位于大楼三角形平面的顶点处的三个核心筒之间，围绕着边长约 17m 的中庭。这个中庭使得大楼本来有可能无法采光的中心部位也变得明亮起来。塔楼的顶端收头部分并不规则，也不对称，与立面的上升螺旋相呼应。盘旋的感觉是由九个错落分布的玻璃花园造成的，这些花园错落分布在三个立面上，每转过一个面，下一个花园就抬高几层。这些空中花园不

仅增加了立面上的节奏感、提高了建筑的透明度，而且它们与大楼内部 160m、43 层高的中庭一起使得商业中心总部办公楼不仅仅是一个单纯的办公楼。大楼的评判委员会在评估报告中说“这个竞赛方案强调了转角的结构元素，朝向皇帝广场立面的处理，形成了空间发展的特点。正是有了转角的筒形楼梯的支撑，大楼的绿色空间层次很明显。设计的生态学出发点很清晰，采用了分层的绿色空间。方案还有一个特点就是大楼的生态概念只有离远了才看得比较清晰，太近了就不识庐山真面目了。就是因为这几点福斯特的方案在评估中得到了特别的肯定。其中整个大楼都采用轻质透明材料的概念特别受欢迎，因为这样一来大楼内部的办公空间都能以某种方式与外部的城市空间发生联系。”

从贝斯曼街看商业银行。  
The building seen from Bethmannstrabe.







处于城市环境中的商业银行。  
The building in its urban context.

After assessing and comparing all these evaluation criteria the jury recommended that designs by Foster and Partners, London, and Christoph Ingenhoven Architekten, Dusseldorf, should be developed further. In late September 1991 the bank board discussed the projects of the two first prizewinners and decided to follow the jury vote on the original ideas competition and to build the design by the British office. In fact Foster's project was not just a solution that was as elegant as it was novel and open to development; it was also more innovative from the environmental point of view than those of his fellow competitors. The design was then optimized, in a revision phase lasting several months, in terms of economics, technology, law, ecology and urban development. At this stage Foster and his colleagues were most concerned with the spatial relationship between the high-rise shaft and the base zones surrounding it, the technological fire protection facilities, the height of the individual offices and the foundation concept for the new

building in relation to the existing older high-rise structure.

Contrary to widely held popular opinion the architect in charge is by no means the only designer for a building of the size of the new Commerzbank. But he probably does put his stamp on the architectural language in general and on many details, even though in the architect's office itself each project is kept moving by a group of collaborators, who in Foster's case themselves work largely independently. In the London office these were above all Spencer de Grey, one of the partners, and John Silver. The advanced support structure, the principal aspect behind this building's dominant aesthetic, is by the Ove Arup Partnership, one of the world's leading engineering offices, also based in London, with whom Foster had already worked on several projects.

But others were just as important in realizing the project as the team of architects and of engineers: the bank's in-house building department under the direction of Horst Gruneis, NERVUS Generalübernehmer GmbH of Dusseldorf, and

the Frankfurt branch of Hochtief AG with its director Friedrich Racky, who has a great deal of experience with highrise buildings, as general contractor—they had won the contract for completion to the handover stage and, not least, the specialist engineers for technical equipment, electrical, facade and lift technology, for test statics and surveying, for landscaping, fire protection etc.

Something else to be taken into account is that between a competition design and the building as finally realized the client makes many requests for optimization, which do not become concrete until building is under way. In this respect there are architects that are open and those that are not so open. Foster—and this too is a characteristic of his work that should not be underestimated—was not only prepared to co-operate, but, in relation to the bank's in-house building department's wishes and requirements, positively eager to co-operate. Openness of this kind shows not least an understanding of architectural realization processes, linking a high degree of ability to integrate with the architect's own horizon of understanding.

Even in the first version, long before all the revisions, the design of the Foster office had a number of captivating features. A dynamic building is placed on a ground plan consisting of an equilateral triangle with rounded points and slightly convex, support-free side facades about 60 m long. The staggered sections of the facade rise in a spiral between the three service cores at the corners of the building and around a triangular atrium whose sides are about 17 m long. This atrium makes the potentially dark centre of the building light and bright. The head of the tower ends irregularly and asymmetrically, in response to the spiral figure of the shaft. The spiral impression is created by nine glazed gardens, each staggered in terms of the next. These not only give the building increased external rhythm and transparency, but together with the atrium, 160 m high and rising through 43 storeys, they mean that the character of a mere office tower is avoided inside as well. The jury said this in their appraisal: >>>The characteristic feature of the competition entry relating to the spatial development on the Kaiserplatz side is supported by the corner-emphasized structural elements. The suggested green levels are directly linked with this vertical effect, as they work strongly against it. The fact that this articulation is achieved using green terraces makes the design's ecological approach particularly clear. Another characteristic is that the ecologically oriented conception of the building is planned to be visible from a distance. It was in terms of these basic principles that the particular contribution of this design was assessed in the competition, ... The idea of the internal light shaft rising through the whole building is expressly welcomed because it means that most of the inside workplaces relate to the urban space in some way.<<<



时至今日建造技术已经有了长足的发展，取得了辉煌的成就，但是要想巧妙地利用这些技术建造出形态优美的建筑则需要多年丰富的设计经验，并且对材料的运用非常地得心应手。福斯特一开始以设计大型的中性空间闻名，例如1969~1970年于伦敦建造的弗瑞德·奥森·赖斯手术中心、1971~1975年建造的位于伊普斯威奇的威利斯·费伯&大仲马保险公司的行政办公大楼、以及1974~1978年在诺威奇建造的赛恩斯伯里视觉艺术中心。但是真正标志着福斯特成为优雅的高技派大师的是1979~1986年在香港建造的香港&上海银行总部。福斯特常常超越建筑的功能和计划用途，设计出优美的纪念碑式建筑。所以评论家们把他的作品称为“资本主义大教堂”并非偶然。福斯特作品中的美感就像哥特式建筑中的一样，是源自于工程师对美的考量和计算。福斯特的建筑语言属于典雅的功利主义，既精致又注重实效，就像一个飞行器的机舱一样精巧而实用。福斯特的设计不像圣地亚哥·卡拉特拉瓦那样富于表现力；不像他之前的同伴理查德·罗杰斯那样强健；也不像让·努维尔那样透明灵巧。福斯特比他的同行们都更冷静而注重实效，但是这并不意味着他的作品缺乏诗意，他的诗意是建立在理性的思考和计算的基础之上的。福斯特的建筑语言可以说是后工业的，总是不断地尝试各种可能性，特别是在电脑合成技术的帮助下。福斯特的设计有着一种统领全局的

从霍夫法兰克福特看商业银行。

View of the building from the Frankfurter Hof.

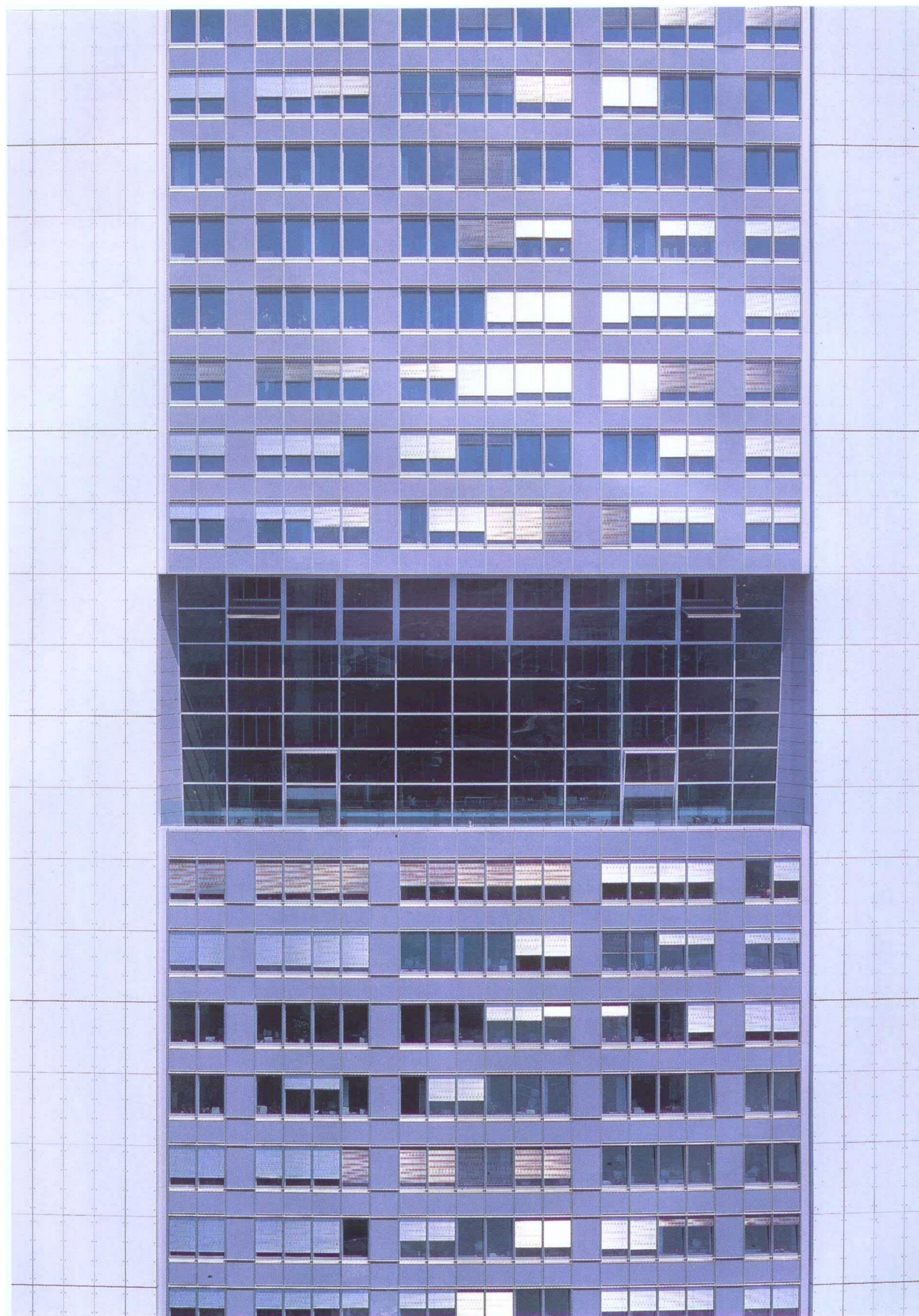




商业银行塔楼的外立面，上面有独立的可操控遮阳板。  
Exterior facade of the tower with individually controllable  
sun protection.

气质，这种气质使他的作品看上去是理所当然的，独具一格而安全可靠的，而不是一种受到诸多限制、缩手缩脚的风格。不管功能上和使用者的要求有多复杂、多难以处理，对于福斯特来说这都是他设计的出发点而不是最后才考虑的因素，造型、形式和灵魂都是从业主的要求中产生并发展的。他就是用这种设计方式在帕克斯顿的水晶宫的方案中创造了一种令人印象深刻的效果，这绝非偶然的，而是福斯特一贯的态度。也许建筑师一直在一个很大的建筑工作室工作，有这样的心理基础也是原因之一。在这个工作室中很多项目同时进行，这些项目由独立的小组来完成，但是互相之间又有关联，形成了竞争。这里面的工作顺序，计划过程和磋商都和时间的精确安排有关。这样在方案构思的过程中，经济节约和满足后勤要求两方面都清楚了各自的职责范围，但是在有

Such technically advanced, indeed brilliant exploitation of today's possible building techniques and the way in which they are manipulated to produce a building configuration that is highly successful aesthetically requires years of experience in using such materials and in planning buildings of this kind. Foster first made his name with large, neutral containers for space like the operational centre of Fred Olsen Lines in London, 1969/70, the administration building of Willis, Faber & Dumas insurance company in Ipswich, 1971-75, and the Sainsbury Centre for Visual Arts in Norwich, 1974 to 1978. But it was above all the Hongkong and Shanghai Banking Corporation headquarters in Hong Kong, 1979-86, that showed him to be a master of minimalizing elegantly all that is technically necessary. Foster transcends functionality and a building's intended use with a paradoxically graceful monumentality: it is no coincidence that critics have called his buildings >>cathedrals of capitalism,<< whose beauty, as in Gothic architecture, derives from an engineer's calculation of aesthetic consideration. Foster's architectural language, in its utilitarian elegance and pragmatic refinement, is like the





塔楼内部中庭立面。

Atrium facade of the tower.

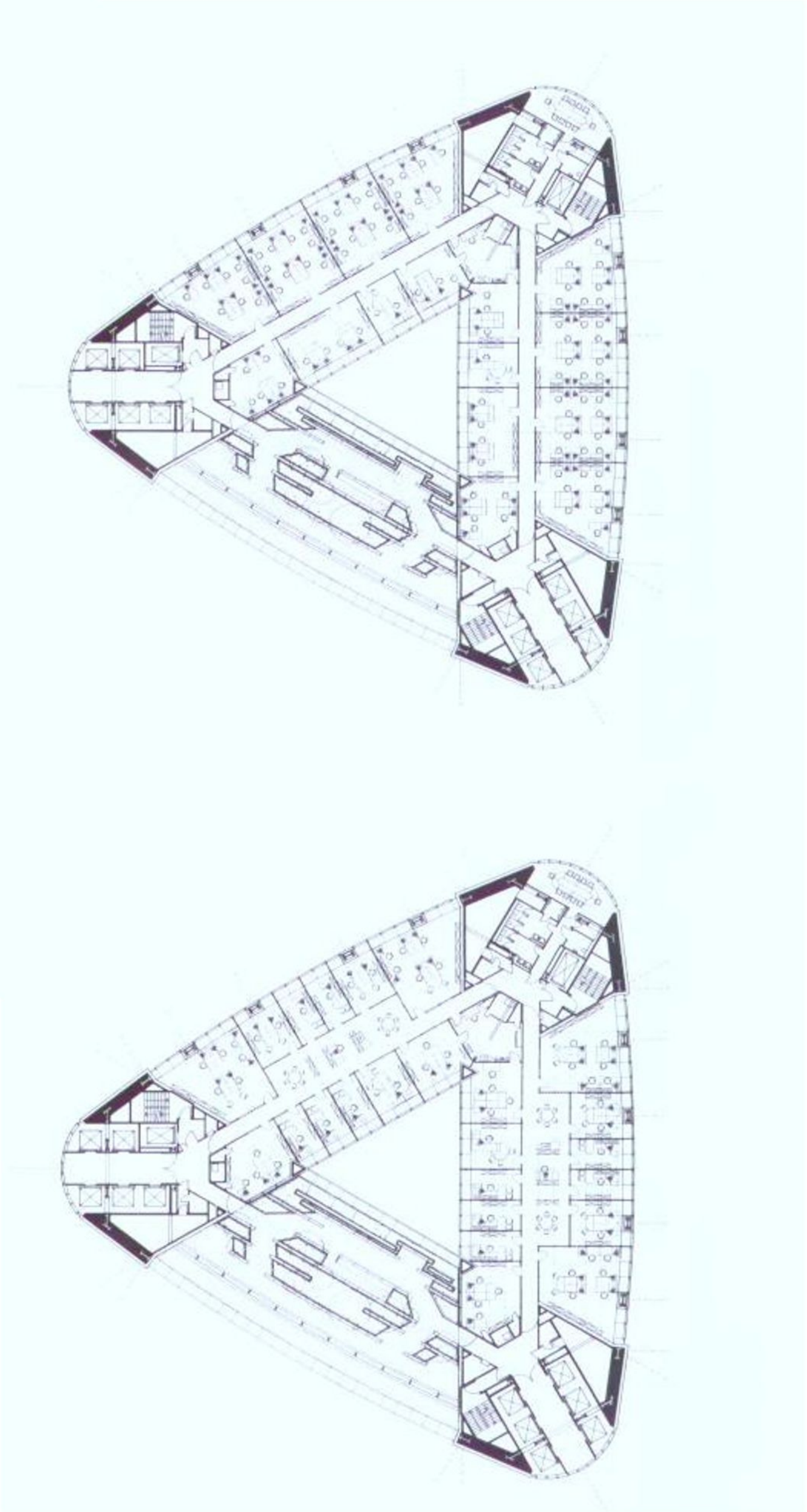
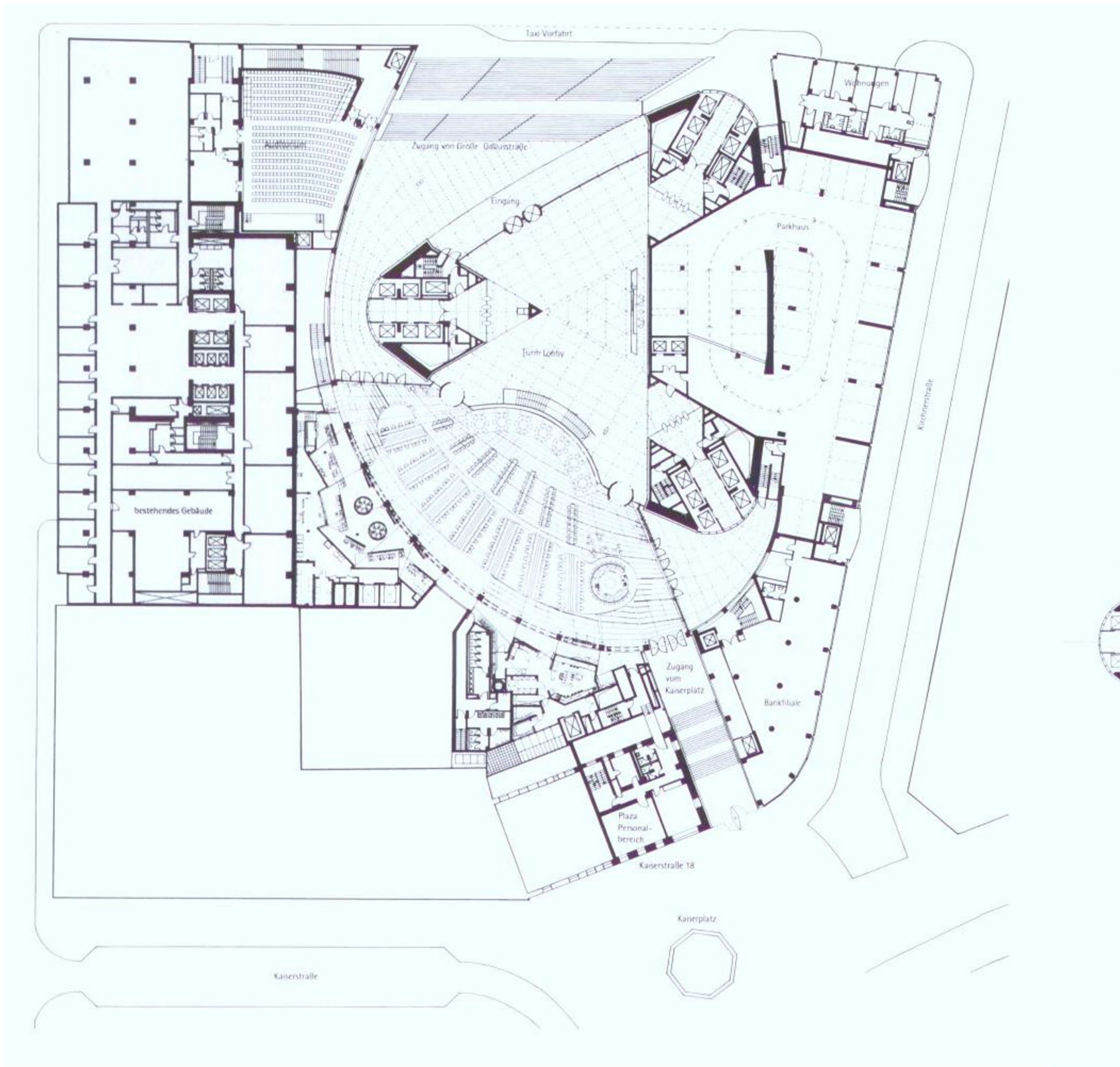


些设计里能量平衡和经济节约同等重要，而不是一方必须服从另一方，所以它们之间的界线也就不是那么清楚了。福斯特自己在做德意志商业银行的设计时也遇到了这样的问题，他将事情陈述得更精确。对节能的考虑极大地影响了这个办公楼的形式。紧凑简洁的平面布局、对自然通风的利用还有高性能的建筑外墙这些因素共同作用，使商业银行总部大楼达到了能量平衡。在一个繁荣城市的中心地区，空间总是非常珍贵的。这反映在昂贵的地价上。因此建筑师总是面临一个压力，就是要充分地利用一块宝贵的土地，所以常常造出占地面积很小但是很高的建筑。福斯特不是有意要建一个欧洲最高的建筑——老实说，这一点我们也是后来才知道的。

fuselage and frame ergonomics of an aircraft. It is not as expressive as that of Santiago Calatrava, nor as muscular as that of his former partner Richard Rogers, nor as glassy and insectoid as that of Jean Nouvel. Foster is more sober and more pragmatic than all these colleagues, but this does not mean that his creations dispense with poetic power, which in his case is always underpinned by a sense of rational and aesthetic calculation. His language is to a certain extent post-industrial, always exploited to the bounds of the possible with the aid of computer-generated calculations. It has a quality of command that seems to be taken for granted, style-forming and secure in taste, without being a style in the restricted sense. Functional requirements, users' requests, however complex and complicated these may be, are the beginning rather than the end of a design idea for Foster—a beginning from which shape, form and spirit can then develop. It is certainly no coincidence that such an approach has achieved such commanding refinement in the land of Paxton's Crystal Palace. And perhaps the psychological infrastructure of a large architect's office is also a contributing factor. Here numerous projects that have to be handled simultaneously are developed in independent teams, interlinked but still producing friction and competing with



平面（广场平面和小组工作室、联合办公室的典型平面）  
Floor plans (plaza level and typical floor as team office  
and as 'combi office)



each other. Here work sequences, planning processes and consultations have to engage with the precision of clockwork. In this way for merely fantastic mental meanderings, the l'art pour l'art of >>style works<< economical and logistical boundaries are set, whose internal laws probably rub off on the design characteristics in which the energy balance of the building and also economic optimization strategies have equal value, rather than being subordinated. Foster himself, asked about this in the context of the Commerzbank, states things more precisely: >>The form of the building is strongly influenced by energy considerations. Its compact plan form and use of natural ventilation, together with high performance external wall creates a very favourable energy equation for the Bank. . . .Space in the heart of a prosperous city is always at a premium. This is reflected in high land values. So there is always the pressure to maximise a precious site. With a small footprint this pushes you high. It was not the intention to create the highest building in Europe—to be honest, we only realized afterwards.<<







法兰克福市银行区景观。越过美因河可以看到德意志商业银行的新办公楼。

View of the banking quarter of the town with the new Commerzbankbuilding across the River Main.

商业银行的项目已开始，福斯特事务所自然就在法兰克福设立了分所。福斯特事务所的项目工程师乌尔·尼森斯泰负责监督这个工程的建筑部分。指定一名项目负责人是很基本的，这样才能解决在与NERVUS和霍克蒂夫公司按照既定时间表合作建造的过程中出现的各种各样的问题。毕竟这是一个总面积约12万m<sup>2</sup>，总容积54万m<sup>3</sup>的大型建筑，而建造工期只有36个月——正是因为如此，在高峰期有超过1000人同时在工地上工作。

很多情况下，比如视觉效果或者照明体制，只有在用1:1的模型模拟推敲以后才能作出恰当和令人满意的决定。同样的，很多细部施工的效果也只有在按照实际的尺寸造出来之后才能进行观察和评估。技术性节点和办公家具的情况也是如此。因为这个原因，1995年春原联邦德国商业银行项目小组在法兰克福郊外的一座废弃厂房进行了一次模拟展示，他们在那儿建造了标准层的剖面，包括邻近的电梯，大约300m<sup>2</sup>——实际上他们只建造了整个区域的一半然后镜像，以便做出总长60m的效果。在这里面办公室的隔断，室内材料的细节，各种类型的照明设备，还有丹麦设计师帕·阿莫迪设计的标志系统都做出了样品进行展示。还建造了卫生间、小厨房和部分紧急疏散楼梯。



Of course Foster's office set up a branch in Frankfurt shortly after the project started. Here Uwe Nienstedt, Foster's project architect, supervised the architectural side of the building project. This was essential for clearing the thousands of questions that arose in the course of the project together with NERVUS and Hochtief within the fixed schedule. After all this was a building with a gross floor area of about 120000 m<sup>2</sup> and a gross cubage of 540 000 m<sup>3</sup>, which was to be completed in only 36 months—with the result that at the peak of activity there were over 1000 people working on the site at the same time.

Many decisions, for example about the visual quality of certain surfaces or lighting systems, can only be made competently and satisfactorily by 1:1 simulation. Also, the effect of many working details can only be assessed when they are observed in dimensions corresponding to the future built reality. This is also true of general and technical structural details and the office furniture. For this reason, in spring 1995 the Commerzbank took an empty factory in a suburb of Frankfurt and built a section of a standard floor with adjacent lift area on area of 300 m<sup>2</sup>—in fact they built only half a full floor area, but a mirror doubled it, giving a clear sense of the full length, a good 60 m. Here the office dividers, materials for interior detailing, various lighting variants and Danish designer Per Arnoldi's signing system were simulated. Lavatory areas, a small kitchen and parts of the emergency staircase were also set up.



## 完成的大楼

从整体看这个建筑最显眼的是塔楼，但是对于一个使用者、一个靠近建筑的人来说，他体验到的是空间的质量，是相对建筑周围的城市环境来说尺度很小也更为敏感的部分。商业银行临街的开发区把街道作为一个整体进行了重新组织，而且高度与邻近的19世纪晚期的房子的屋檐协调一致。整个开发区包括27栋住宅，总面积4500m<sup>2</sup>，还有一个银行、一些商店、办公楼和一个能停放300辆汽车和200辆自行车的多层车库。这个街区的沿街立面由于历史文脉的关系，必须保持端庄优雅、不引人注目的风格。凸面玻璃砖围合的楼梯间给建筑立面带来了韵律感，并且有意识地暗示了20世纪20年代芝加哥风格的窗户样式将要向现代风格的看上去就像计算机辅助设计随机产生的立面形式过渡。但是总的来看这个古老的街区的沿街立面是和谐的，属于经典的现代主义。

这么一来，从皇帝广场通向商业银行塔楼的入口就显得十分突出了。就是一个宽大的台阶，导向一片宽敞的空地，这是一个带玻璃顶的公众广场，面向南边的街区开放。公共广场是一个典范，证明了把空间让给公众仍然能够取得经济效益，从某种程度上说这是一个当代的市民广场。这个有顶的开放式广场与美国摩天大楼内的“室内购物广场”相似，但是仍然有自己独特的气氛，这归功于它感情丰富的设计者——巴塞罗那建筑师阿尔弗莱德·阿里巴斯，这位建筑师近年来为西班牙建筑文化的复兴做出了不小的贡献。在这个广场中你可以吃东西、欣赏艺术品或者只是单纯的四处闲逛。1800m<sup>2</sup>的面积内设有足够的餐饮店，能在午餐时间为1200人提供饮食，这里面有意的把职员餐厅和对公众开放的饭店混合在了一起。客人们可以选择四种不同的座位：酒吧、椅子、固定长椅和沙发椅。还有一个自助区和常规的饭店。在商业银行塔楼下部的柱廊的柱子之间设有微微弯曲的穿孔金属板，这些穿孔板可以根据需要拉出来，还可以绕着柱子旋转，以此来隐蔽或者敞开那些餐饮服务区。椅子和玻璃桌因为太轻巧，看上去都不像是真实的，静静的停留在福斯特的设计空间中。广场中还有一个木质的平台，是由流线形的木板制成的，平台像阿米巴虫一样弯曲着，给广场带来了雕塑效果。平台上的透明桌椅造型优雅而结构独特，十分引人注目，这是为过多的顾客设置的，可以移动、也可以收起来。当上面的家具都清除后，这个平台看上去就像一个极简抽象主义的艺术作品，正好符合开放式广场也可以作为艺术展览场地的功能要求。

塔楼立面细部，空中花园部分有大面积的透明玻璃。

Detail of the tower facade with ample glazing in the garden area.

