



欧洲建筑照明设计 Light Spaces

Integral Solutions By Kress & Adams

Hannelore Kress

(德) 汉内洛蕾·克里斯 编

大连理工大学出版社

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By Hannelore Kress

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序

汉斯·霍莱恩

光。

区别于照明。这对于照明工程师来说是显而易见的。如果一个人不是照明工程师而是照明设计师，那么情况更是如此。

照明设计师规划光。

影子。

还有阳光下的黑夜。

起初就有了光。

光，对于这个地球的居住者来说，是大自然的馈赠。

数百万年，人类一直依赖于上帝创造的昼夜交替轮换。

当人类知道如何取火以后，人类才开始控制黑暗，人类也迈出了照明设计的第一步。

当人类离开了洞穴，他们开始建造。

以自然光和人造光照明的建筑物在白天和黑夜里都可以识别。

人造光的发展宣布了人类每天基本生活规律的改变。

建筑师愿意把建筑放在光下。

光成为建筑三维的一部分，空间氛围的一部分，并且易于使用。光，可计算的部分，例如亮度；不可计算的部分，例如氛围，都成为设计的参考因素。

照明技术的发展与用灯光创造性地设计我们建造的世界是密不可分的。同样，光和建筑也变得共生共融。

照明设计，最初仅仅是建筑设计的一个实际的部分，并且被认为是一个技术范畴，对于工程师也是如此，而现今已经逐步发展成为一个独立的领域。

照明工程师逐渐开始负责一些可以计数的方面。

不可计数的部分过去和现在一直是建筑师的领域。

不言而喻，为了利用自然光和人造光来进行全面的设计，从一个照明工程师转变成一个照明设计师是十分必要的。

对技术和建筑本质的深刻理解对于照明设计师来说也是必须的。

毋庸置疑，汉内洛蕾·克里斯和冈特·亚当斯拥有这样的背景。他们在一流的学院学习建筑，同样他们有着多年师从世界一流的照明设计师工作的经验。这种复合的训练使得他们成为充满创造力的照明设计师。他们能迎接挑战，使他们的学科和能力与复杂的设计过程相结合，用特殊的方式创造出有显著特征的建筑。他们和一流的建筑师合作设计的先锋建筑拥有国际一流的水准，给人以不可磨灭的印象。

本书所选的内容都源于他们事务所的主要项目，他们特别称他们的事务所为工作室，设计自然光和人造光的工作室。最初他们的主要项目在德国、奥地利、瑞士以及需要空间创造的地方。这些地方充满了光的幻影，同时也宣告着建筑和设计理念之间富含创造性的合作，并且证明了用灯光点亮黑暗是实用和经济的方法。

Preface

Hans Hollein

Light.

It is not to be confused with lighting. Particularly if one is a lighting technician. And very particularly if one is not a lighting technician but a lighting planner.

The lighting planner plans light.

And shadow.

Darkness at noon!

In the beginning there was light.

A gift to mankind, the inhabitant of our planet.

For millions of years, man was dependent of the alternation of day and night – the result of planning from above.

When he learnt how to make fire, man was in a position to control darkness – the first instance of lighting planning.

When man left the cave, he began to build.

Structures whose lighting, both that of daylight and that of artificial light, could be determined – day and night.

The development of artificial light heralded a fundamental change in the rhythm of daily life.

Architects deliberately put their buildings in the light.

Light was part of their three-dimensionality, of the mood of the space, its useability. Quantifiable aspects such as brightness and non-quantifiable ones such as atmosphere became planning parameters.

Technological development of lighting means was accompanied by a creative use of light to design our built world.

Light and architecture became symbiotic.

Light planning – initially only a pragmatic part of building planning and seen primarily as a technical area – has developed into an autonomous domain – initially that of technicians.

The lighting technician became the person responsible for quantifiable aspects.

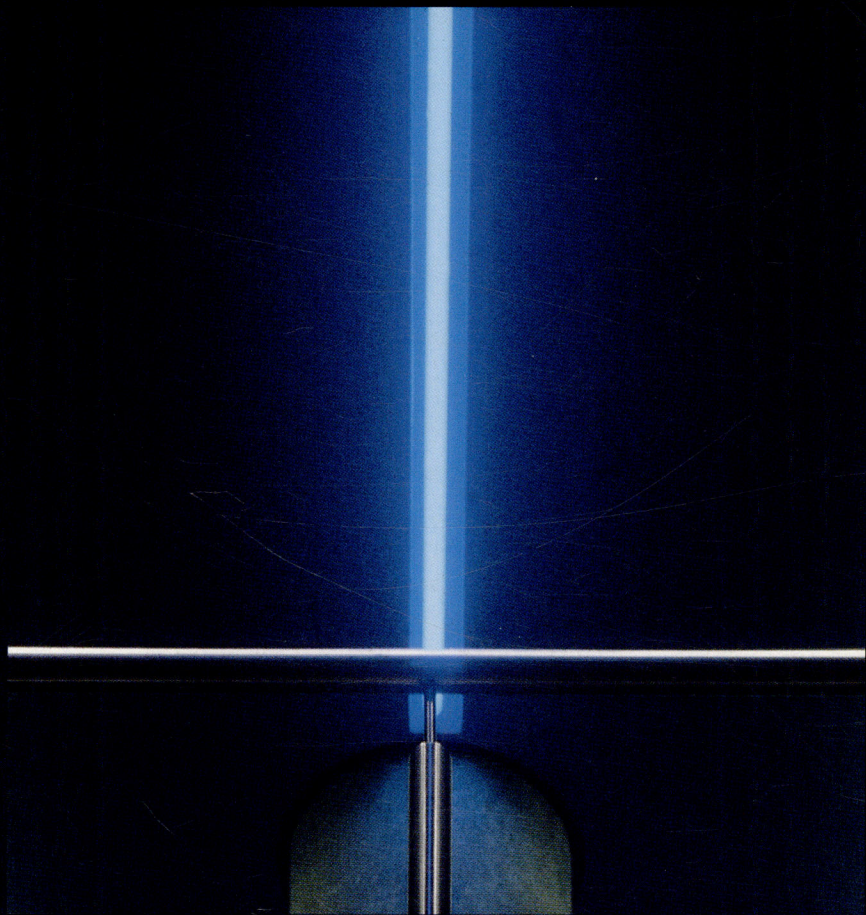
The non-quantifiable were and still are the domain of architects.

It goes without saying that there was great interest in progressing from a lighting technician to a lighting planner in order to cover the broad spectrum of design using daylight and artificial light.

A profound understanding of both the technology and the nature of architecture is necessary here.

It is not a coincidence that Hannelore Kress and Günter Adams have this background. They have their studies of architecture at leading universities in common as well as their many years of work with one of the world's leading lighting planners. This symbiotic training has enabled them to develop into creative lighting planners who are able to meet the challenge of integrating their field and their abilities into the complex process of planning and creating architecture in a way that is outstanding. The list of their collaboration with leading architects of pioneering buildings at international level is impressive.

The committed contribution of their office – which they typically call a studio for planning of daylight and artificial light – to major projects primarily in the Federal Republic of Germany as well as in Austria, Switzerland, and elsewhere has led to spatial creations that were crowned by the integration of light and are testimony to creative co-operation with the architects and their visions. It is also witness to practical and economical ways of using light to illuminate darkness.



掠影 • Reduction

Simmering 煤气厂

维也纳

Gasometer Simmering, Wien

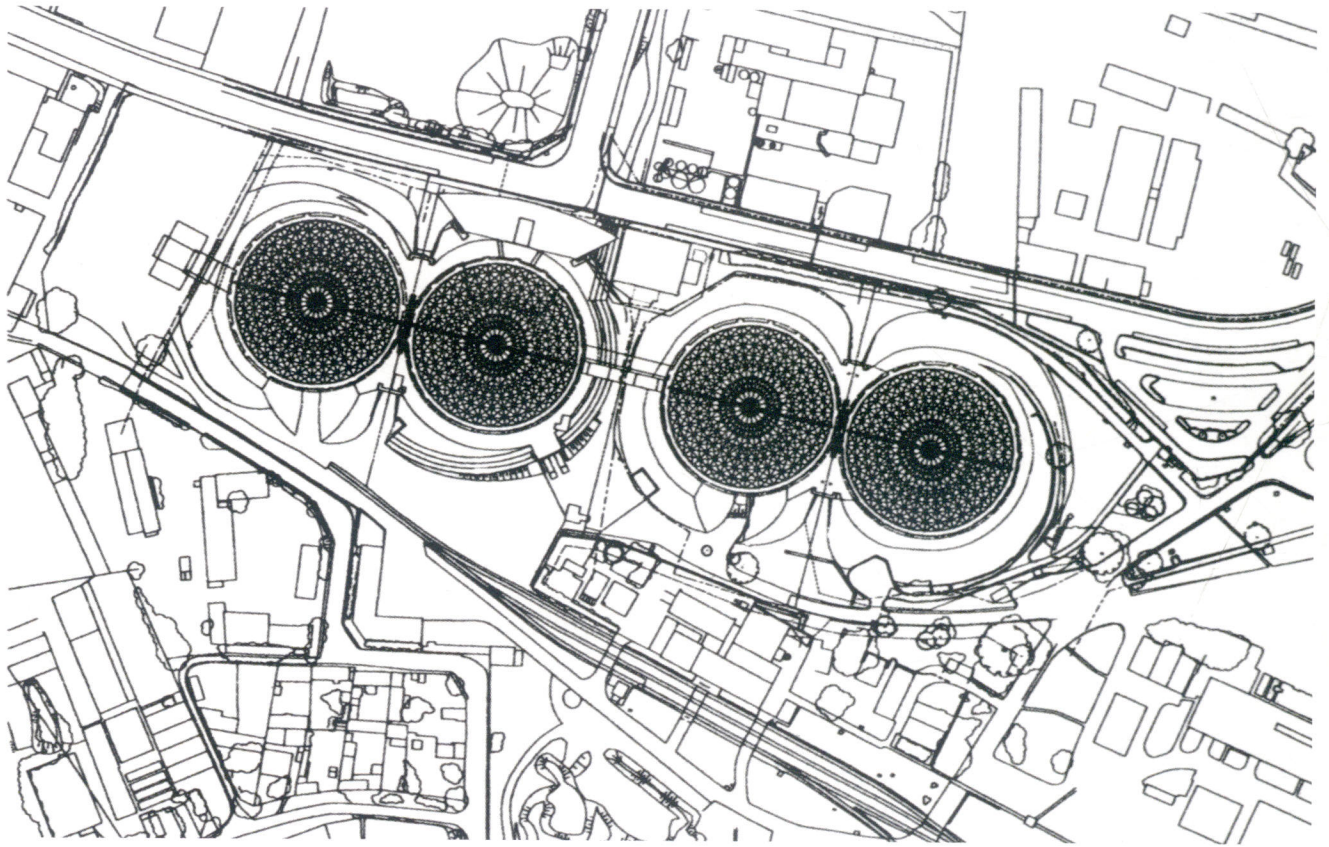
Jean Nouvel, Paris · Coop Himmelblau, Wien · Manfred Wehdorn, Wien

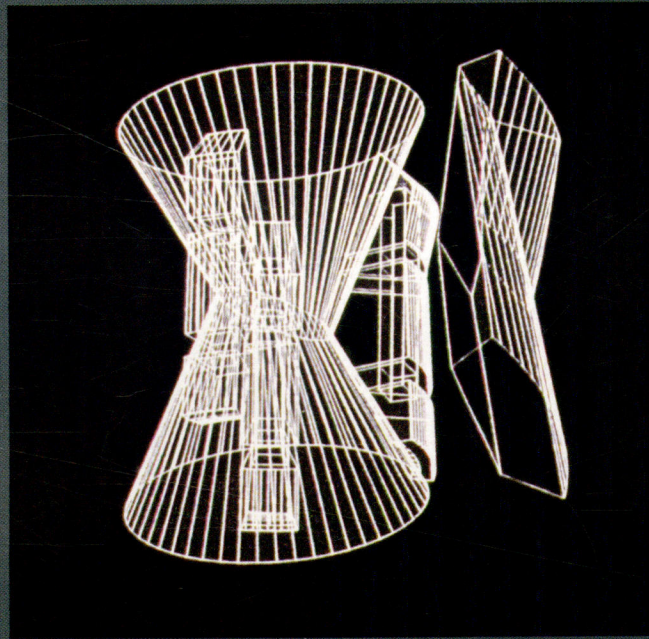
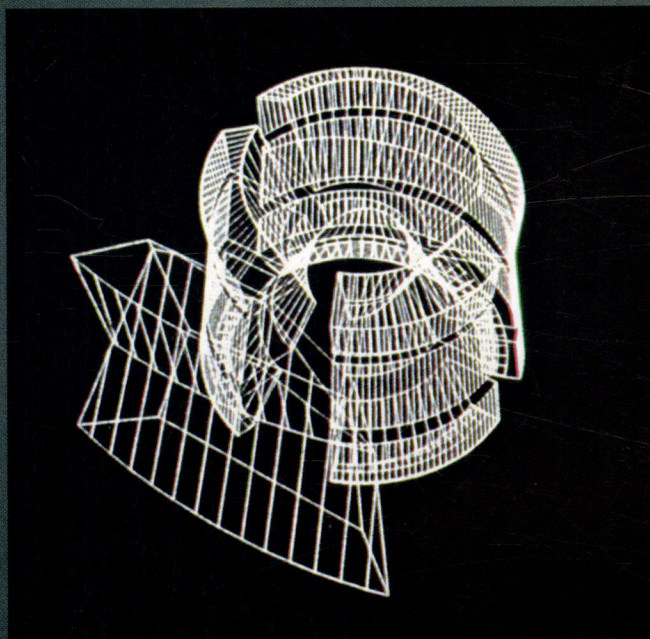
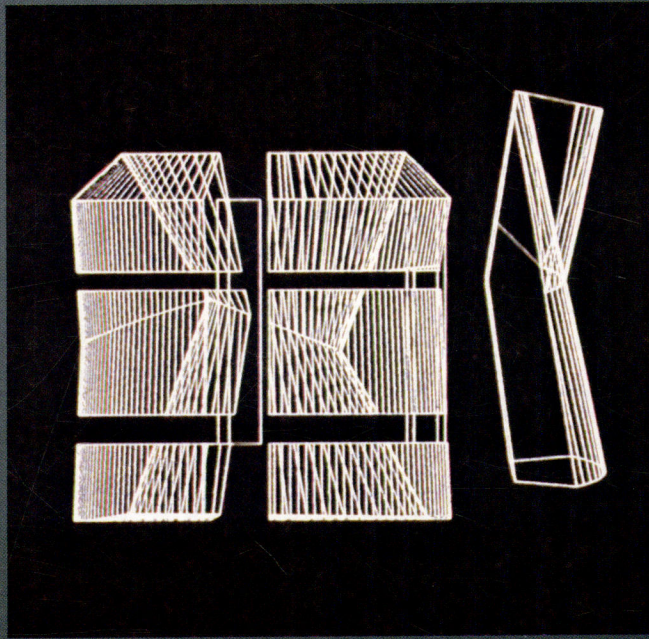
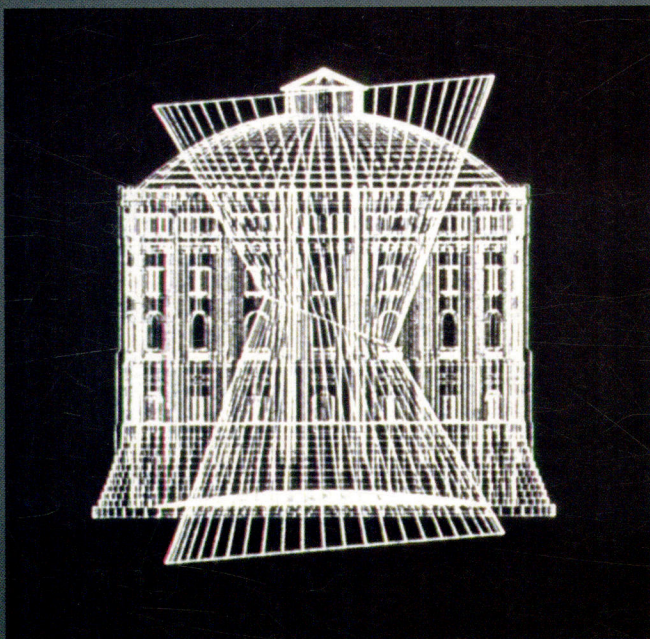


于 1899 年建成的 4 个维也纳市煤气厂，不仅外观显著，而且完全支配了 Simmering 的城市轮廓。由于体量迷人，煤气厂成为了该城区的标志。它们见证了过去的岁月，同时也是一个具有显著的后 Gründerzeit 时代（高速工业膨胀时期）特点的建筑工程的美学范例。结构的效果，尤其是内部结构的效果，决定了它们具有纪念碑的特性并且是一个“巨大的空间”。寻找一种在没有公共基金支持的条件下持续可行的形式的过程是漫长的。最终的方案定为津贴住宅，这个方法之前在维也纳某地为了完成城市设计方案已经被使用过。由住宅、办公室、商场和娱乐设施共同组成的综合体，不仅为建筑构造改建提供了商业条件，而且提升了居住环境的吸引力。该项目最具挑战的地方就在于如何为这些居住单元提供自然采光。伴随着整个过程中专家的介入，我们被委任对 A、B、C 三个煤气厂进行日光分析。这种工作方法给我们留下了特别的印象，与建筑设计相结合使照明设计也在提高，这完全超出了纯科学的领域。

The four gasometers of the first Vienna Municipal Gas Works, completed in 1899, are not merely conspicuous, they completely dominate the silhouette of Simmering. Fascinating on account of their size, they have become the district's landmark. The gasometers are witness to a past time and are an outstanding example of the aesthetic effect of the architectural engineering of the late Gründerzeit (period of rapid industrial expansion). The effect of the structures, in particular of that of their interior, is determined by monumentality and "vast emptiness". The search for a form of use that would continue to be viable without public subsidies was a long one. Finally, the means chosen was the construction of subsidized housing, an approach that had already been used elsewhere in Vienna to accomplish urban design goals. A mix consisting of housing, offices, shops and entertainment not only promised the chance to put the costs of renew-ing the building structures on a commercial basis, but also increased the attractiveness of the residential location. One of the most challenging problems proved to be providing the apartments with daylight. Following proceedings involving experts, we were commissioned to carry out daylight studies for gasometers A, B and C. We were particularly impressed by the way that working with light was enhanced when working in combination with architecture – outside the realm of pure science.







对于煤气厂的正面，只允许作极少的调整，因为煤气厂属于历史保护性建筑。这种做法更适合建筑本身。这个先决条件就形成了设计的前提。这就意味着建筑现有的开窗形式不能人为地以任何一种方法加以改变。房屋的窗户提供了采光，这仅能部分地解释为住户在生理上的需要，这是出于他们本身某种占支配地位的本能的生理需要。所以，建筑师 Coop Himmelblau 把锅炉房的内部圆筒打开，同时在建筑正面的前部建造了一个盾状物。

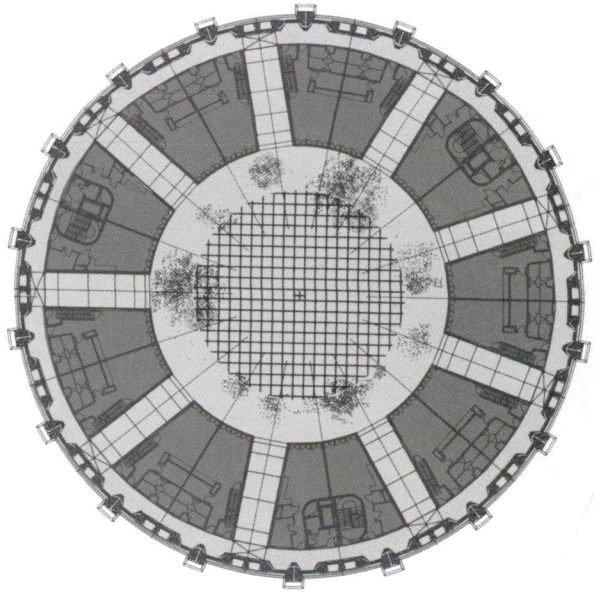
< 煤气厂 A、B、C、D 的总平面图

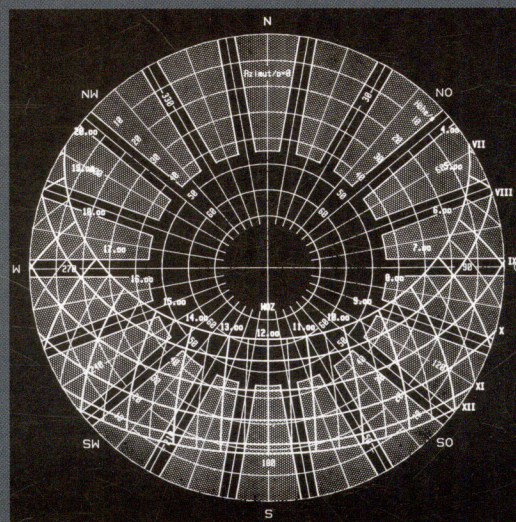
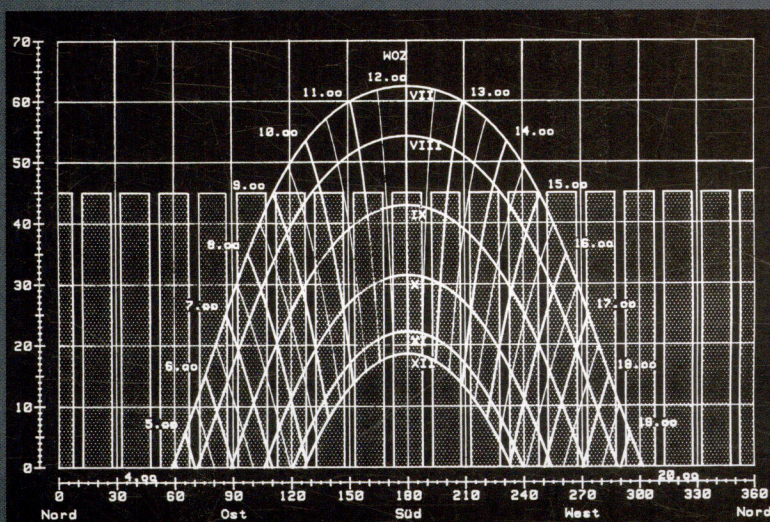
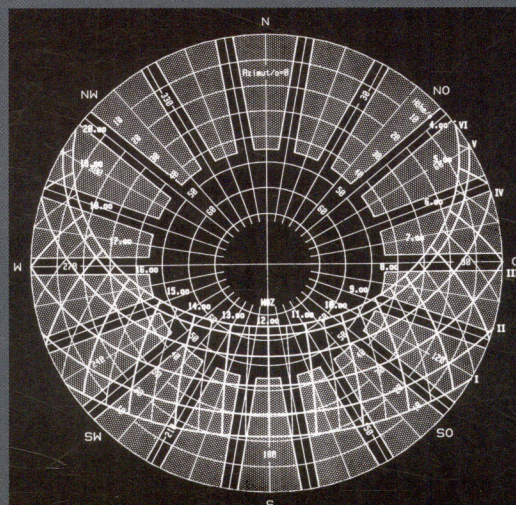
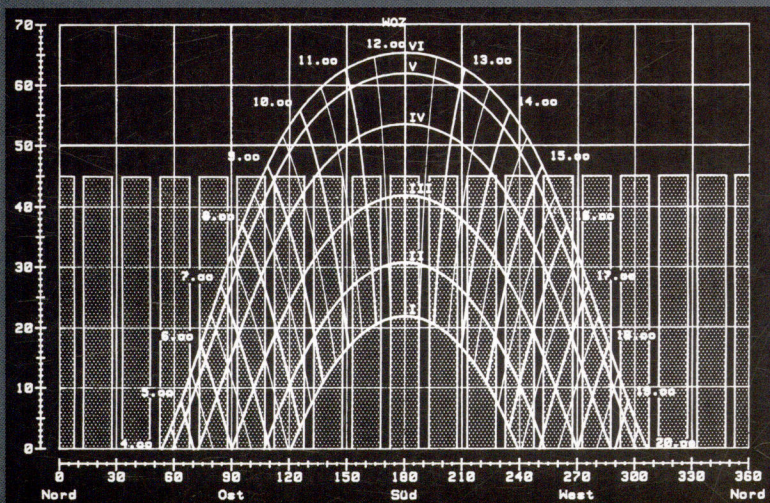
< 煤气厂 A 和煤气厂 B

Only few interventions were permitted in the façade area of the gasometers, which are listed buildings. This precondition shaped the premises. It meant that the existing window openings could not be altered in any way. Windows in houses essentially serve optical-visual purposes that can only partly be explained in terms of the physiological needs of the occupants—they are with certainty predominantly psychological in nature. The architects Coop Himmelblau opened up the inner cylinder of the boiler room and implanted it as a shield in front of the façade.

< Site plan of gasometers A, B, C, D

< Gasometer A and Gasometer B





砌石凹处的巨大厚重的体量由于白色抹灰斜角切口的存在而有所缩小。建筑内部庭院的立面折射、反射和漫射了日光。Jean Nouvel 成功地制造了一种不同的张力。他运用了一种简易的方法，把圆柱、光和功能完美融合，创造出一个展示艺术的内部空间。他变化圆柱的主题使之分割成片断。在封闭的地方，Jean Nouvel 用抛光金属板覆盖，即使在太阳高度很低的情况下，也能由于光线和折射自然光而发生变化。内部空间狭长还是延伸取决于旁观者的观察，所有断面互相分离并且在外表的反射下掩映生辉。

< 煤气厂 A 的一层平面图

< 煤气厂 A 的内庭景观

The volume of the deep, thick masonry recesses was reduced by white-plastered angled incisions. Light façade elements in the inner courtyard form areas of reflection transporting and diffusing daylight. Jean Nouvel succeeded in creating tension of a different kind. He uses a simple repertoire of circle, light, and function to produce a virtuoso staging of the inside space. He varies the motif of the circle by dividing it into segments. He covers closed sides with polished metal panels that change according to light and transport daylight even when the sun is low in the sky. The interior space narrows or expands depending on the vantage point of the beholder, the segments detach themselves and are reflected by the outer skin.

< Ground plan of gasometer A

< Inner courtyard; gasometer A

Ernsting's family 纺织品分配中心 科隆

Ernsting's family, Köln

Johannes Schilling



在商业建筑方面，作为当地文化标志的建筑不仅面临着全球化的挑战，也面临着市场多样性的挑战。在这个变化中蕴藏着巨大的潜力从而释放具体的空间影像，这在商业建筑领域内尤为特殊。这种潜力需要更深入的理解和培养。一个建筑的建造过程包含了全球性的人造产品的地域性分类，因此可以被认为遵守了规范性的品质标准。新建的 Ernsting's family 纺织品分配中心位于 Coesfeld-Lette 的乡村地区。建筑在功能和空间上接近于由 Reichlin, Reinhard 和 Calatrava 在 1984 年设计的一个建筑。远远望去，坐落在可达到的屋顶花园上，每个直径为 5m，高约 7m，向北倾斜的一组光塔显得十分奇特。类似于一群巨大尺寸的雕塑，倾斜的圆柱体将会给穿行于其间的人们带来一种不同寻常的空间感受。当夜幕降临时，灯光由内向外扩散到整个夜空和周围的一切。建筑和景观的空间对话是 Schilling 建筑风格的重要方面；这种风格在工业区被遗憾地忽略了。室外灯光和建筑内部的灯光，在理论上和实际上都服从于实际的功能，同时也具有与建筑哲学相同的感受。

In terms of commercial buildings, architecture as a local "cultural achievement" is not in any way challenged by the global networking and mobility of markets. It is particularly in this area in the process of change that there is great potential to release concrete spatial phenomena and images. This potential needs to be further understood and cultivated. Constructing a building whose programme consists of regional distribution of products manufactured globally may well be seen as having exemplary qualities in this respect. The new distribution center of the Ernsting's family textile manufacturer is located in the rural setting of Coesfeld-Lette. It is both functionally and spatially connected to a building dating from 1984, designed by Reichlin, Reinhard and Calatrava. The effect of the group of light tubes inclined to the north, each with a diameter of 5 metres and a height of around 7 metres, placed on the green, accessible roof is – also from afar – both characteristic and exotic. Resembling an ensemble of large-scale sculptures, the effect of the slanted cylinders on those who pass among them is that of an unusual spatial experience. In the evening, they let the interior lighting flow to the skies and the surroundings. The spatial dialogue between architecture and landscape is a central aspect of Schilling's architecture; a feature that is otherwise sadly ignored in industrial estates. Outside lighting and lighting of the buildings – in theory and also in fact subject to pragmatic functions – has the same sensuousness as the architectural philosophy.