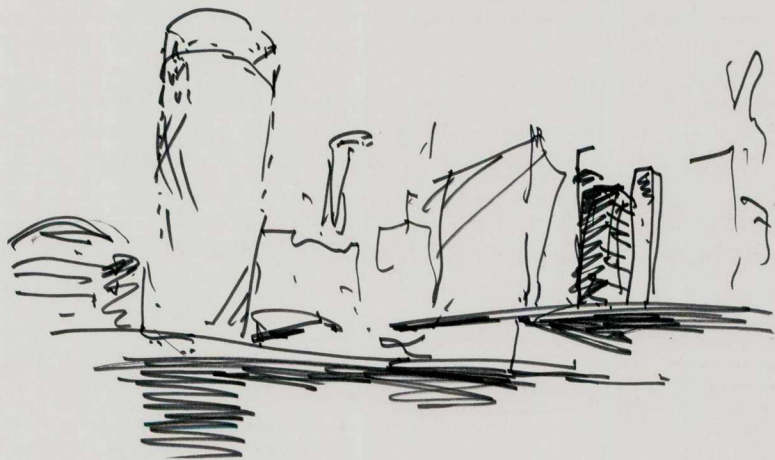


# CONSTRUCT BEAUTIFUL CITY SPACE STARTING FROM BUILDINGS — DESIGN OF WESTHAFEN

DIALOGUE BETWEEN CHIEF ARCHITECTS IN WESTHAFEN TILL SCHNEIDER  
+ MICHAEL SCHUMACHER, 2003-2004

从建筑出发构筑优美的城市空间——西港三部曲设计

西港三部曲主创设计师提尔·施耐德与迈克尔·舒马赫对话，2003—2004



**施耐德**：作为一个运营中的港口，西港的历史非常短暂。大约100年前，码头就开始为法兰克福供应货物，但很快人们发现海港太小，不够使用。20世纪60或70年代早期，当时港口的主管部门便开始将旧建筑废弃，后来就成为了货用仓库。随后港口被 Seehring 水泥租用，这是当时法兰克福及其周边地区主要的一家混凝土供应商。对他们而言，这个地方得天独厚，运载碎石的船只和运输成品的卡车出入都十分方便。

从城市的角度来看，这是一块无法被忽略的黄金宝地——离火车站近在咫尺，又是通向法兰克福繁荣区域的门户所在。于是这就引发了一场“此处还能有何可为”的讨论——办公楼、购物街、文体设施——哪样可行？在这样的背景下，一个公司成立——这是德国首家公私联营的企业：由公共部门出力，私人出资。对一个城市而言，做到这点实非易事，他们必须清楚自己头顶的这两顶帽子：一方面，作为市政部门，必须保证与建筑法规相关的一切，如基础设施以及土地的开发能够得到正确的管理；另一方面，城市也是这家投资公司的组成部分，是经济成功的利益相关方。从这个意义上来看，事情对投资者来说变得更加容易，尤其是他们与城市坐在同一条船上！

早期阶段的讨论主要围绕数字展开。土地容积率是多少？从中可以争取到多少100m<sup>2</sup>的建筑面积，住宅空间与办公空间的比率应控制在多少？

当时，我们的办公室正好位于距西港约100m的地方。我们认为人们只愿谈论数字，却很少关注其未来的影像实属憾事。它将呈现怎样的形象？就这样，天真的我们决定将设想的西港未来的景象展示给投资者，但很快发现这是多此一举。

我们对此费尽心思，如何才能做到迎合城市对休闲空间的迥然各异的需求，又能实现对码头地块的重新诠释。如何提出一个紧凑清晰的概念，使人能够非常明确地从一块地块迈入另一块地块。这个过渡或门槛，以空间性的语言表达自身——一个地区在理论上仍属于美茵河的泄洪区，另一部分则成为开发区。我们发挥全力将此过渡清晰地定义，自此港口建筑次第浮现。我们决定不再尝试在单个的建筑中完成这样的过渡，而是通过一个更加开放的设计方案来完成。当时我们用三枚卵石来进行展示——如同在一座日本庭园里。如果你先将三个结构体都搭建出来，则预示着将有其他事物随之出现，即一个区域和下一个区域的过渡空间。这就是为什么一开始我们就致力于设计这三座结构体——西海港、桥楼和大房子的原因所在。在其背后，我们构建了独立的公寓楼体，这是一件非常自然的事情。你在栈桥上将楼体建好，然后设计出一些朝向它们的事物，以一种梳状的处理方式，朝西港的低地形成展开，凭借地块的深度，成为一个合理的方案。它将富有吸引力，引得大量人群移居此地，更不用说每个人都喜欢与河流发生亲密接触。所以经过尝试我们得出这样的城市结构，沿街闭合，却面南敞开，朝向港口低地和美茵河，这是一个富有逻辑性的安排。

**施耐德**：通常，将建筑抬高地面是惯用的良策。我们不会在所有项目里都套用这招，而抬高并不意味着建筑被赋予特殊的意义。有时是因为你不想对场地造成太大的冲击。在栈桥上我们这样做，是因为地基的地面条件非常差，只有很少的地点能够承载任何负荷。

**等德拉**：桥楼是独一无二的，塔楼也唯此才是塔楼。我也非常喜欢这个地方以及它的城市品质。喜欢从上层进入塔楼的方式，并继续向下进入底层。还有第三座构筑物——西港大楼。我理解这座建筑在城市中的作用，但如我问我从哪能进入这座建筑，我只能大胆一猜，因为实际上我还不能完全肯定！

**施耐德**：从总体设计的角度来看，它确实是“第三个”建筑。塔楼相对一维，是一个不断向上升高的圆圈或圆点。桥楼则是二维的，它逐渐上升却又悬挂在两座楼梯之间。

有趣的是，西港大楼矗立在那里，却与1、2、3的序列完全无关：点明它的是城市的文脉。从空间上说，它要大于平面图上的规划。从城市规划的角度来说，它有三个角，而这正是港口的起点。锐角如船头一般指向城市的方向，两个钝角则限定出紧随建筑出现的街区的深度。一开始我们就一直认为，广场周围的整个区域应该成为西港开发项目的序曲。塔楼与桥楼都是卓尔不群的建筑物，提醒人们水闸是这块区域的前身。其他的建筑主要提出了一个问题：怎样从这些个体性的宣言过渡到别的风格，这就有了一个斟酌形式的游戏。在设计桥楼和塔楼的同时，我们很快意识到，在三角形内放入一个几何形体，也许能够帮助我们解决即将出现的问题。对于塔楼，如何在不使用一块曲面玻璃的前提下完成一个圆形建筑，我们在开窗和工程上都存在问题。桥楼则是建造的结构框架，建造过桥梁的人都知道三角形桁架网是大跨度上支撑高负荷的有效方法。西港大楼则有所不同。由于其位置，我们认为这座建筑与另两座之间应该存在某种联系。这就是我们为什么一直坚持三角形的概念，但用法却不同于另外两座建筑。从立面上不太容易看出来，更多呈现的是鱼鳞的图形。怎样做才能从普通的窗格过渡到通风的构件，同时又解决好楼板梁端的问题？最终的解决办法就是设计一个相似而非等同的物体。

建筑的立面也有三角形。鱼鳞效应与布劳恩建筑相同，那也是通过鱼鳞状的结构来完成建筑的通风，但在这里，它更为静态。从两个侧面看过来的建筑具有截然不同的惊人效果。我们认为这个方案在两个场合合适。我们仍然想从前立面上一个窗格开始，环绕下去，与鱼鳞非常相似——每一侧都指着相同的方向。但此处情况不同，它们朝着同一个方向不断环绕，使人们所得到的感受不同。看向它时，能看到光滑而又突出的一面。有一次我们与彼得·库克一起参观了西港。他说他最喜欢这座西港大楼，而他最为着迷之处就在于西港大楼的设计没有清晰的主线。这个评判似乎只是比武断好一点。我们在城市规划方面所得到的收获，是从三个个体的建筑出发，将衔接它们的外部空间提升。对有些人来说，这可能是个糟糕的方案，因为它违背了城市规划的主要法则和参数。在城市规划里，必须有限定好的边界条件，中间的感受也是限定好的！在这里没有明确勾勒出来的空间体量，也没有被保护的感受，但这却是一个寻求跨越自身之外的联系，邀你步入璀璨星系的空间——与威尼斯的圣马可广场相比，它更像比萨斜塔。

**舒马赫**：整个西港的理念，作为1987年法兰克福申办2004年奥运会的一部分被提出，这将会是一场灾难。随后这个想法烟消云散。几场竞标随之进行，一个理念脱颖而出——通过填补洼地从而创造出新的开发空间。这一理念吸引了一些投资者，但没得到有效的结果，我们也被要求参与其中。我们提出了一个非常打动人心的方案。对于前面的地块——西港最有价值的土地，我们的方案比其他人同一基地上所规划的建筑总面积少三分之一。

所以我们的方案——建立一座100m高的圆形塔楼即桥楼和西港大楼被选中。它们彼此不同却又有着千丝万缕的联系，它们将组合成一个家庭。接着我们把这个方案给 OFB 的二三十人看，其中包括政治团体，第一次所有的人都觉得这个方案是可行的。然而据我所知，这个理念被搁浅了。我们方案唯一的不足就在于建筑的平方米数有所减少。但后来，他们在这一点上达成了共识——“要质量，不是数量。”

**夸德拉：**能够认识到城市空间质量的重要性，这是非常了不起的开始！

**舒马赫：**的确如此，作为一个城市规划项目，西港规划是非常令人满意的。

**夸德拉：**您最初是不是只得到了设计塔楼的委托？

**舒马赫：**我们得到的是一套完整的委托任务，首先是这个重量级的塔楼。必须找到买家。谁将建造它？如果有个投资者出现，并要求我们把塔楼做成方形，会出现怎样的情况呢？所以在完成西港的设计时，我们也为他们准备了一个开发方案。这不符合常规的做法，通常这个任务是由城市规划师来完成的。

不过在这里出现了相反的情况。我们展示了这个方案，并得到了官方的签字批准。那时，我们还没签合同，其他人仍旧可以完成它的建造。后来他们为投资者的塔楼建造又组织了一场竞赛，我们依旧只能赢得竞赛。但是，也邀请了四个建筑师一同参与。这个节点标志着整个西港工程的诞生。但直到4年以后，我们才接到塔楼的设计委托！投资者的出现令我们从受益。曼恩家族刚刚将其家生意出售，并正在寻找新的投资方向。他们把三个地产都买进，于是顺理成章的，三座建筑都由我们设计。我们觉得三角形立面使得塔楼更加动人，并赋予其一种抽象的品质。

三角形来自于塔楼，桥楼则出自其建造框架。桥楼的形状不寻常，但凭借成功的空间衔接，它在西港得到了很好的评价。“那到底是什么建筑？”穿过和平桥（Friedensbrücke）时人们会问自己。你所看到的建筑就是由一堆三角形组成的！

**夸德拉：**利用三角形支撑立面？

**舒马赫：**是的，在这个个案里，内立面是结构性的，就是那些混凝土肋板。桥楼的结构是半闭合的。闭合的剖面由混凝土构成，实际上这些三角形也将横梁包含其中。

**主持人：**在摩天楼里，三角形隐藏在立面中；在桥楼里，三角形隐藏在结构与立面中。在西港大楼中，你会在平面上发现三角形元素。

**舒马赫：**一定程度上，也可以说立面上同样也有三角形元素。西港大楼的通风只沿其边缘进行。鳞状的表皮，一路沿建筑盘旋而下，当楼层平面与立面交错时，就生成了三角形。所以总有相似的形状闪烁在那些微妙的变化中！

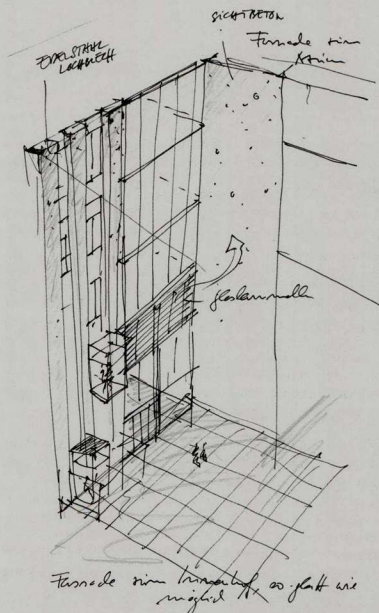
**施耐德：**在西港栈桥上的这座建筑，由5个支撑在一个基座上。这座建筑的来由是这块基地只有B级和C级，并且与西港其他地方不同。这座

建筑被认为是不可实现的，或是建造一个地下停车场的造价太高。所以第一步，我们有了这个限定好的可容纳停车场的基座；然后在它顶部上放置了5个体块。当然，我们能够简单地将这些体块设计成平面、立面彼此断续的功能性盒子。但投资者坚持认为场地条件不好，又靠近难看的电厂将导致无法吸引任何租户，我们觉得这个解决方案显而易见。而最后它却是首个完全出租的建筑，这一切归功于非比寻常的建筑师设计。但典型的租户呢？谁会想到，各种各样的租户会搬进这座建筑，或者说，搬到这个地块？显而易见，这样的建筑的确能够吸引人并激发人的灵感。

**夸德拉：**这是一个曼哈顿般的位置！

**施耐德：**非常正确。当然这正是它出奇的动人之处。不过，如果你不仅仅想吸引那些欣赏它的人，还有那些具有购买能力的人，就得费一番心思了。

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**Schneider:** As a working harbour, the Westhafen had a very brief history. Over a period of roughly one hundred years, the dock supplied Frankfurt with goods but it soon became evident that the harbour district was undersized and inadequate. I think it was in the early 60s or 70s that the original harbour operations started to abandon the buildings, and these then became storage warehouses. After that, the harbour was used by Sehring Beton, then a main supplier of concrete to Frankfurt and the surrounding region. It was a great location for them, with optimal access to the quayside for the boats carrying gravel and the transport lorries.

From the city's point of view, it was clear that they could no longer afford to neglect such a valuable plot of land, located so close to the main station, and a gateway to Frankfurt on the desirable side of town. This then initiated a discussion about what else might work there – offices, shops, cultural activities – what was feasible? In this context a corporation was set up – I think it was the first Public Private Partnership in Germany in which a public authority joined forces with private investors. It isn't an easy thing for a city to do and they have to be very clear about the two hats they are wearing. As a municipal authority on the one hand, they have to ensure that everything concerning the building regulations, the infrastructure and how the land is developed is properly managed. On the other hand the city is also part of this investment company and a stakeholder in any economic success. In that sense things were also easier for the investors, not least because they and the city were in the same boat!

Discussions at the early stages essentially revolved around numbers. To what extent should the land be built on? How many 100 m<sup>2</sup> can one squeeze out of it and how should the ratio of residential accommodation to office space be handled?

At the time, our office was located approximately 100 m from the Westhafen. We thought it a crying shame that people only ever talked about numbers, but never about images. How was it then going to look? So, being incredibly naive, we decided to present them with our vision of how it might be and soon realized that with both the investors and the city, we were knocking at an open door.

We wondered how one could ever reconcile the very disparate urban demands of leisure space on the one hand, and a reinterpretation of the docklands on the other. How do you come up with a coherent and intelligible concept that makes it clear that you are leaving one area and entering the next? This transition, or threshold, expresses itself in spatial terms – one section is theoretically still part of the flood zone for the main, the other is development area. We endeavored to define this transition very clearly. The park along the embankment finishes, and then you arrive at another level where these harbour buildings start to emerge. We decided not to try and resolve this within a single building but through a more open plan. At the time we pictured it in terms of three pebbles – just like in a Japanese garden. If you first build all three structures, it hints that something else will follow. It's a transient space between one area and the next. That's why, at the beginning, we put all our effort into designing these three structures, the Westhafen Tower, the Bridge Building and the House. Behind this we envisaged individual blocks of apartments. That was a fairly natural thing to do. You build blocks on the pier and then design something that is orientated towards them, a comb-like

arrangement, opening up towards the Westhafen basin. Given the depth of the plots, this is a reasonable approach. It'll be attractive so a lot of people will move there, and of course everyone would like some sense of being in contact with the river. So you try and come up with an urban structure that is closed on the street side but opens up to the south, towards the harbour basin and the river Main. It was a logical arrangement.

**Schneider:** It's evidently often better to raise some buildings off the ground. We wouldn't do this with all our projects, and raising it doesn't necessarily imply it's a building of particular significance. Sometimes it's because you don't want to impinge too much on the site. There are all sorts of reasons. With the Bridge Building we did this because the ground conditions for the foundations were so bad. There were only very few places that could take any load.

**Cuadra:** The Bridge Building is the Bridge Building, the Tower is the Tower. I also really like the place, its urban quality. The way the Tower is accessed from the upper level, while also continuing down to the lower level. And the third structure, the Westhafen House. I understand this building in terms of its urban role, but if you were to ask me where you enter it, I could hazard a guess, but actually I'm not entirely sure!

**Schneider:** From the point of view of the overall design this is indeed the "third" building. The Tower is relatively one-dimensional, a circle or dot continuing upwards. The Bridge Building is two-dimensional. It rises, but is suspended between two staircases.

Funnily enough, as it stands, this third building has nothing to do with the sequence one, two, three, but is informed by its urban context. Spatially speaking, it was more something that developed from the plan. It has three corners since, from an urban planning point of view, this is where the harbour starts. The sharp corner points towards the city like the prow of a boat and the other two corners define the depth of the ensuing blocks that follow on from this building. At the beginning, we always said the whole area around this plaza should act as a prologue to the rest of the Westhafen development. The Tower and the Bridge Building are both prominent structures, reminiscent of the area's former use as a lock. The other building basically poses the question of how you start to make the transition from these individual statements to something else. Then there's also a formal game. While designing the Bridge Building and the Tower we soon realized that in a triangle you have a geometrical shape that might help us to resolve some of the impending issues. With the Tower, we had both the problem of the windows openings and the issue of how to make a building appear round without using curved panes of glass. In the Bridge Building it was the construction framework, and one knows from building bridges that triangles or lattice trusses are quite an efficient way of supporting heavy loads over long spans. The Westhafen House was different. Due to its location, we felt this third building needed a formal relationship to the other two buildings. That's why it simply plays around with the idea of a triangle, but not in the same way the other buildings do. You don't see it so clearly in the elevation, but more as a fish-scale motif. How does one make the transition from a normal windowpane to a ventilating element and at the same time solve the floor beam edge condition? In the end the solution was to design something that was similar, without being the same.

There are also triangles on the building facade. The fish-scale effect is similar to that at Braun, which also has a scaly appearance when the building is being ventilated, but here it's more static. There you have the fascinating effect of how very different it looks from either side. We thought this would be a very appropriate solution here. We were still thinking of starting off with one pane at the front, and continuing on round, rather like fish scales – all pointing in the same direction on each side. But that isn't the case here, they continue in the same direction all the way round. You perceive it in a different way. When you look at it you can see both the smooth and the projecting side of the scales. We were once there with Peter Cook, visiting the Westhafen. He told us he liked the Westhafen House best. For him, the appeal lay in the fact that it had no easily explicable rationale. It is simply making a less dogmatic statement. What we achieved here in terms of urban planning was to start with three individual buildings and enhance the quality of the external space that links them. To some this might seem a terrible approach because it contradicts the basic laws and parameters of urban planning where you always have to have a defined edge condition and a defined space in the middle! Here there is no clearly delineated spatial volume and you don't feel protected, but it's a space that is looking for connections beyond itself and one that invites you to step into the constellation – more like Pisa than St. Mark's Square in Venice.

**Schumacher:** The whole Westhafen idea came about as part of Frankfurt's bid for the 2004 Olympics in 1987. It was going to be a rowing course. Then that idea evaporated. Several competitions followed and one idea, among others, was to fill in the entire harbour basin to create space for new development. There were investors, but nothing legally binding, and then we were asked to. We came up with a touchingly name proposal. For the front plots – the most valuable land in the Westhafen – we planned something that comprised a third less floor area than everyone else was suggesting for the same site.

So we went in with our proposal to erect a circular tower, 100 meters high, the Bridge Building and the Westhafen House. They are all very different projects but there's a relationship between them, they create a family. We then presented this proposal to a group of 20 or 30 people at the OFB. The political parties were also there and that was the first time anyone said they thought it could be done, that it made sense. Then, as far as I can see, the idea just stuck. The only trouble about our scheme was that there were now fewer square meters than before. But then indeed at some point they reached a decision to go for "quality, not quantity".

**Cuadra:** What a great starting point, recognizing that it was all about the quality of the urban space.

**Schumacher:** Exactly. As an urban planning project, the Westhafen was very gratifying.

**Cuadra:** Were you initially commissioned to design only the Tower?

**Schumacher:** We had come up with this ensemble and first there was this heavyweight object, the Tower. Purchasers had to be found. Who was going to build it? What happens if an investor comes along and says he wants us to make it square? So in designing the Westhafen we had already provided them with a development plan. That was unconventional. Normally that task falls to the city planners.

Here, however, it was the other way round. We presented this thing and then it was officially endorsed. At that point we hadn't even signed a contract and someone else could still have come along and built it. Then they organized another competition and in order to build this tower for the investor, we still had to win it. But four or five architects were also invited to participate. That pointed marked the birth of the whole Westhafen project, but it was still another four years until we were commissioned to design the Tower! We benefited from the fact that an investor had been found. The Mann family had just sold their furniture business and were looking to invest their money elsewhere. They bought into all three properties and it was only logical that we should then design all three buildings. We think the triangle facade makes it more attractive. It lends the Tower an abstract quality.

The triangle came from the Tower, the Bridge Building emerged from its construction framework. The Bridge Building has a peculiar shape, but in terms of spatial articulation it works well in the Westhafen. "What on earth is that building?", you ask yourself as you cross the Friedensbrücke. All you see is a building composed of triangles!

**Cuadra:** Supporting the facade?

**Schumacher:** Yes, in this case it's the inner facade that is structural, the concrete panels. The Bridge Building elevation is semi-closed. The closed section is made of concrete and in fact these triangles incorporate the beams.

**Cuadra:** In the skyscraper the triangle is hidden in the facade, and in the Bridge Building it's lurking in the structure and the facade. At the Westhafen House you discover the triangular element in the floor plan.

**Schumacher:** And also on the facade to some extent. The Westhafen House is ventilated only along the edges. It has a scaly skin that runs the whole way around the building and where the floor levels intersect the facade you have triangles. So there are analogous shapes always shimmering through in subtle variations!

**Schneider:** At the Westhafen Pier the building consists of five blocks supported on a plinth. The plinth resulted from the fact that this site only had a B or C rating and, unlike the rest of the Westhafen, it was thought impossible, or too expensive to build an underground car park. So first we have this defined base plinth that accommodates parking, on top of which we placed five blocks. Of course we could simply have designed these blocks as functional boxes with a flat, unarticulated elevation. But since the investors kept insisting it was such a terrible site and that being so close to an ugly power station we would never be able to attract any tenants, we thought that solution was too obvious. It was one of the first properties that filled up completely, thanks to its unusual architecture. But what about the typical tenant? Who would ever have thought that tenants of all shades would move in there, on that site? Apparently such projects can indeed attract and inspire people.

**Cuadra:** It's a Manhattan location!

**Schneider:** Exactly, and of course that's what makes it so incredibly charming and attractive. However, if you say you not only want to attract people who appreciate it but also those who can pay for it, that's where things start to get difficult.