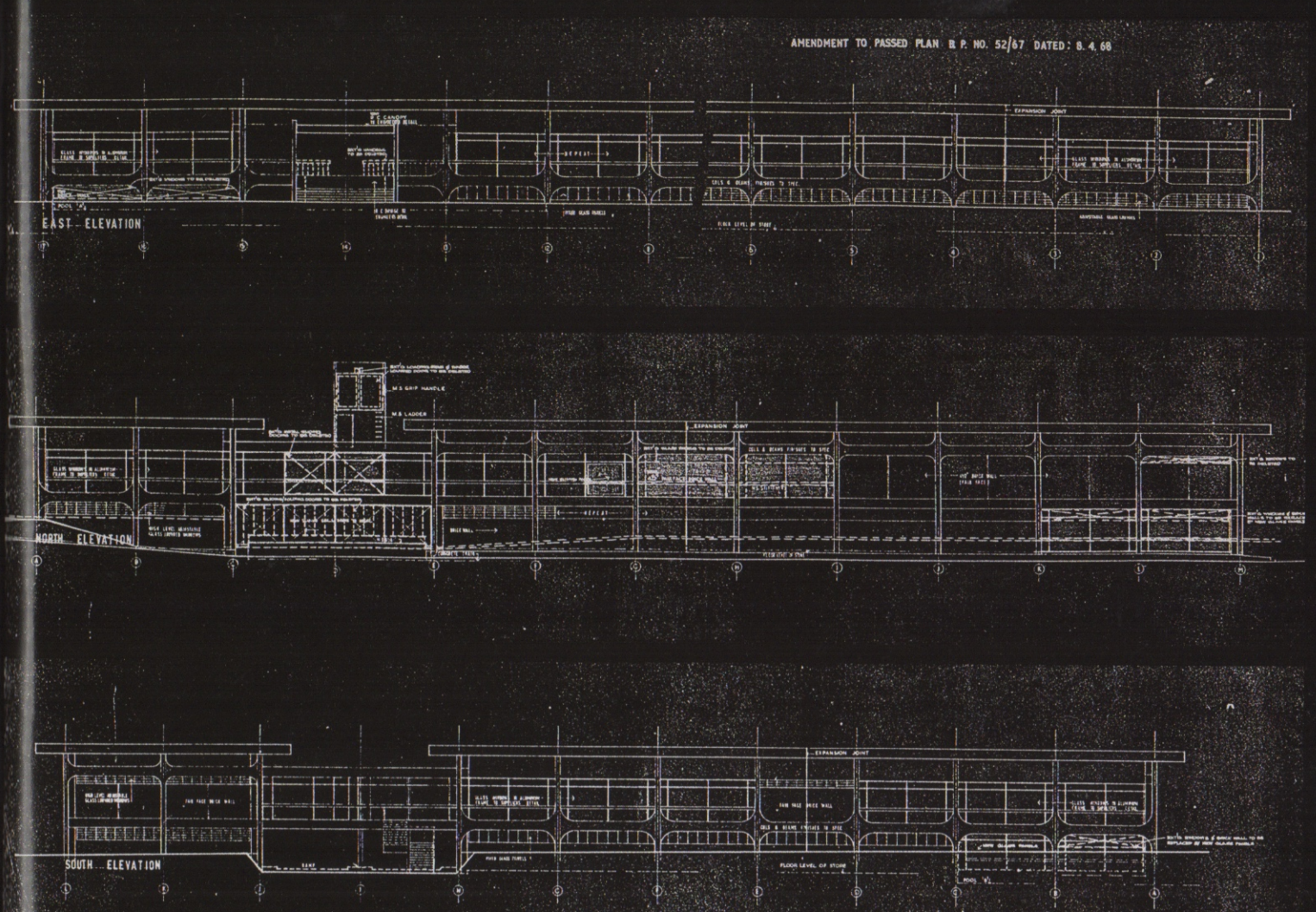


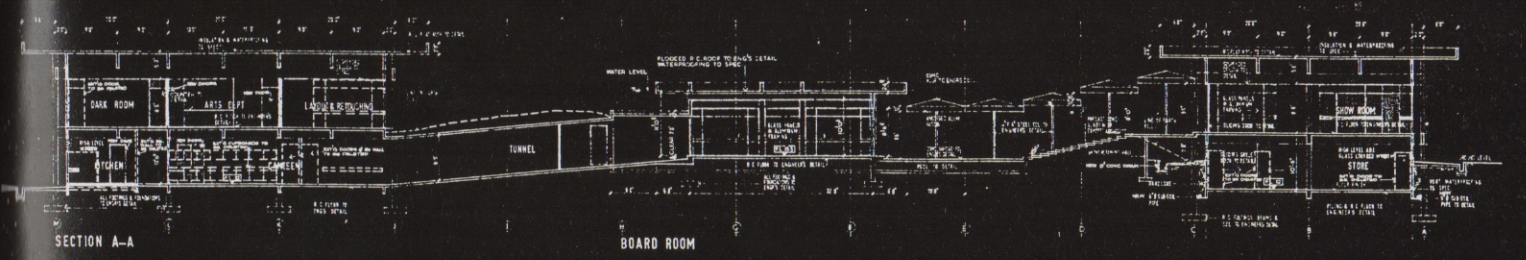
Site Plan of the FEP factory  
远东印刷厂配置图



Elevations of the FEP factory administrative block  
远东印刷厂行政大楼前视立面图

# 前麦格罗-希尔 远东出版公司 兼印刷厂

# BEP Akitek Former McGraw-Hill Far Eastern Publishing Factory



Cross-Section across courtyard  
庭院剖面图

林佩玲译

档案库 DOCUMENT

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by Dinesh Naidu photography by Ho Weng Hin

The former McGraw-Hill Far Eastern Publishing (FEP) factory was among the first generation of factories built in Jurong Industrial Estate. Jurong's iconic status as the birthplace of the 'Singapore miracle' automatically lends its early factories a certain pedigree. However, upon closer inspection, this factory is of greater interest for the ways it transcended, rather than embodied the norms of its place and time.

## Jurong, circa 1960s

Developed from the 1960s, Jurong was one of the largest estates of its kind in Asia and the centrepiece of Singapore's great industrialisation drive. Here, the government acquired rural lands, resettled farmers, levelled hills, drained swamps and laid out infrastructure. Property tracts were amalgamated and re-parcelled along new street grids into seemingly endless rows of neat, flat rectilinear plots, which were sold to industrialists on 30-year leaseholds.

Based on the planning and technology standards of the day, Jurong was zoned as a series of strips radiating away from its coast, beginning with heavy or 'obnoxious' industries, and followed by mixed and light ones. These were separated from a residential New Town by a series of parks and green buffer spaces. Beyond the township lay the jungles of the water catchments and army training grounds.

The idea of Jurong was premised on a radical social, as well as spatial, transformation. At its core was the quintessentially Modern disjuncture between Thinking and Doing, Living and Working, Culture and Nature. It was a world away from the old shophouse city of Singapore, with its chaotic juxtaposition of industrial, commercial and residential functions.

Another feature of this period was the emphasis on attracting foreign Multi National Corporation (MNC) investments. While these firms were high profile names, their Singapore plants - located on remote estates like Jurong - were low profile, export oriented facilities. While their home market factories may have had to convey their corporate image and branding to powerful labour, shareholder and consumer groups, their factories here were freed from this communicative burden, especially as Singapore was a relatively insignificant consumer or capital market. Although they met minimum government mandated health and safety standards, early MNC factories tended to be architecturally inexpressive.

Against this backdrop, the FEP factory, designed in the late 1960s by BEP Akitek, stands out for a variety of architectural gestures that raised the bar of factory design in its day.

裕廊工业区可称为新加坡独立后奇迹般经济增长的发源地,其早期的工厂自然因此享有盛名。前麦格罗·希尔·远东出版公司兼印刷厂便是裕廊工业区内建造的第一代工厂。虽然作为该时代的成品,但这座工厂引人入胜之处,恰恰在于其超越了当时、当地的规范。

## 裕廊,1960年代

于1960年代开拓的裕廊工业园是当时全亚洲规模最大的一个,更是新加坡庞大的工业化运动中重要的一环。发展过程中,政府征用乡村土地,迁移农民,夷平山丘,排空沼泽,建立基础设施。大片的庄园被合并,并且按照新的街道网格重新划分,成为一排排整整齐齐,看似无止无尽的平坦直线地段,分别以30年租赁权出售给工业家。

裕廊区被划分为一条条呈辐射状的狭长地带,从海岸线向陆地延伸。以当时的规划标准和科技水平为基准,由重工业领头,而后是混合工业和轻工业,这些地段和新镇住宅之间,隔着一系列的公园和绿色缓冲区。在工业区之外是森林汇水区和军训场地。

裕廊工业区的构思基础是一场从社会乃至空间上的彻底变革。其核心是现代主义的典范思维,将思想和行为、生活和工作、文化和自然等,视为不相兼容,必须分裂开来。新加坡以往的“店屋城市”内工业、商业、住宅功能纷杂并列,比较起来,裕廊简直是另一番天地。

在那个时代,本地的经济发展政策着重于吸引海外的跨国企业来新投资。虽然这都是一些有名气的公司,他们设在新加坡的厂房却坐落在如裕廊这样的偏僻地区,专攻出口,相当低调。这些公司在自家市场的工厂,必须面对当地有影响力的劳工、股东和消费者组织,而极力推广企业形象和促销品牌。然而,他们在新加坡却没有类似的促销需求和负担,毕竟相对来说,新加坡是个微不足道的消费者和资金市场。因此,纵然这些早期的跨国企业工厂,都达到了政府规定的最低卫生和安全标准,他们的建筑设计却毫不起眼。

相形比较之下,由BEP Akitek在1960年代末期所设计的远东印刷厂更显得分外超群出众。其多样化的建筑表现手法,大大提升了当时工业建筑设计的基准。



Public face of the FEP building, with an extended porch over the driveway. Visitors enter the complex via a raised sloped bridge over a reflecting pool. 远东印刷厂建筑正面的门廊横跨于车行道之上。来访者登上横跨倒映水池的坡道桥进入该建筑群。

View of the stately and elegant "classical" colonnade from the entrance bridge, which greets users, visitors and passers-by. 从入口处小桥,望向最先呈现在建筑使用者、来访者和过路人面前的,壮观典雅的“古典”列柱。



## Finely Crafted Façade

The first thing to strike a visitor to the factory is its thoughtfully designed façade. This comprises a stately row of freestanding columns set slightly in front of the external wall, suggestive of a classical composition. The slender columns prop up a cantilevered flat roof. Setting the wall slightly behind the columns allows a continuous full-length ribbon window to wrap around the block, admitting maximum light into the interior. It also lends transparency to the façade and draws attention to the heft of the roof slab, which seems to hover above. This casts a generous shadow over the recessed wall plane, providing effective shading for the air-conditioned building.

A series of beams connects the external columns, about 1.5 meters above the ground, or a third the way up each column. The entire column and beam frame is rendered in granolithic finish. Its sober grey textured surface presented a pleasing contrast to the dark glass and pale plaster wall behind it. The junctions between the deep beams and slender columns are articulated with generous curves to give the frame rounded corners - a satisfying counterpoint to an otherwise strictly rectilinear façade.

The concern for details extends to the shallow moulded curves used to negotiate the transition from the square section columns to the slightly narrower beams, creating gently graded shadows on the façade. This is complemented by a vertical groove in the centre of each column face. Three rows of gold mosaic tiles are set in each groove, in delightful contrast to the concrete. The shiny tiles catch the sunlight to add unexpected colour and sparkle to the façade.

## Working with the Land

One of the more interesting aspects of this design was the architects' decision to exploit a feature that might ordinarily have been considered sterile - the landform itself. As mentioned earlier, the original hilly and swampy landscape was transformed into relatively firm, flat and dry terrain comprising roughly rectangular building plots.

However, first impressions can be deceiving. Apparently, the FEP factory ground slopes very gently from the front (near Jalan Boon Lay) to the rear of the site, where a drainage canal was located. Rather than treat this as an essentially flat site, the architects chose to play up the small gradient to great effect.

While the main factory blocks are all two-stories high and built at the same absolute level and height, the block facing Jalan Boon Lay is half-sunken into the slightly higher ground there, visually rising only one and a half storeys from ground level. Moreover, the beams connecting the external columns are positioned and articulated to suggest the illusion of a single storey building.

The decision to sink the building has several benefits. Firstly, given the relative length of the block, it creates a very long, low and flat massing, i.e. a 'ground-hugging' form for the building. This immediately conveys modesty without sacrificing a sense of presence. In addition, being a 'ground-hugging' building

## 精雕细琢的建筑立面

到访该厂,最先留下印象是建筑立面的精心设计。一排庄严的柱子隔空矗立在建筑外墙前方,让人联想起西方的古典建筑格局。纤细的柱子撑起悬臂式的平屋顶。独立式的柱子,使大楼外墙得以通体镶嵌落地带状窗,充分允许光线流入室内。这个处理为建筑立面添加透明感与层次感,突显平板屋檐的厚重线条,使其仿佛悬浮在建筑之上。而屋檐的投影也有效地为该冷气建筑提供遮荫。

离地约1.5公尺或柱高三分之一处,一排横梁把独立式的外围柱子连接起来,与之纵横交叉。整个梁柱框架以人造铺地石为饰。其素净、粗面的灰色表层,与背后的深色玻璃和苍白的石灰墙,形成反差,十分悦目。宽阔的横梁和纤细的柱子在交叉处呈弧形,框架的圆角和建筑正面的直线设计相反相成。

柱子的剖面呈正方形,横梁的剖面则较为狭长。建筑师处理柱子和横梁的交叉处时注重细节,将其塑造成浅弧度的弯角,这样一来,投在建筑正面上的影子就有各种层次的变化。而在每根柱子的表面,中央都有一条直槽作为衬托。每一条直槽内嵌着三排金色马赛克砖,和钢筋水泥形成有趣的对比。这些闪闪发亮的砖块反射着阳光,为建筑的立面增添意想不到的色彩和生气。

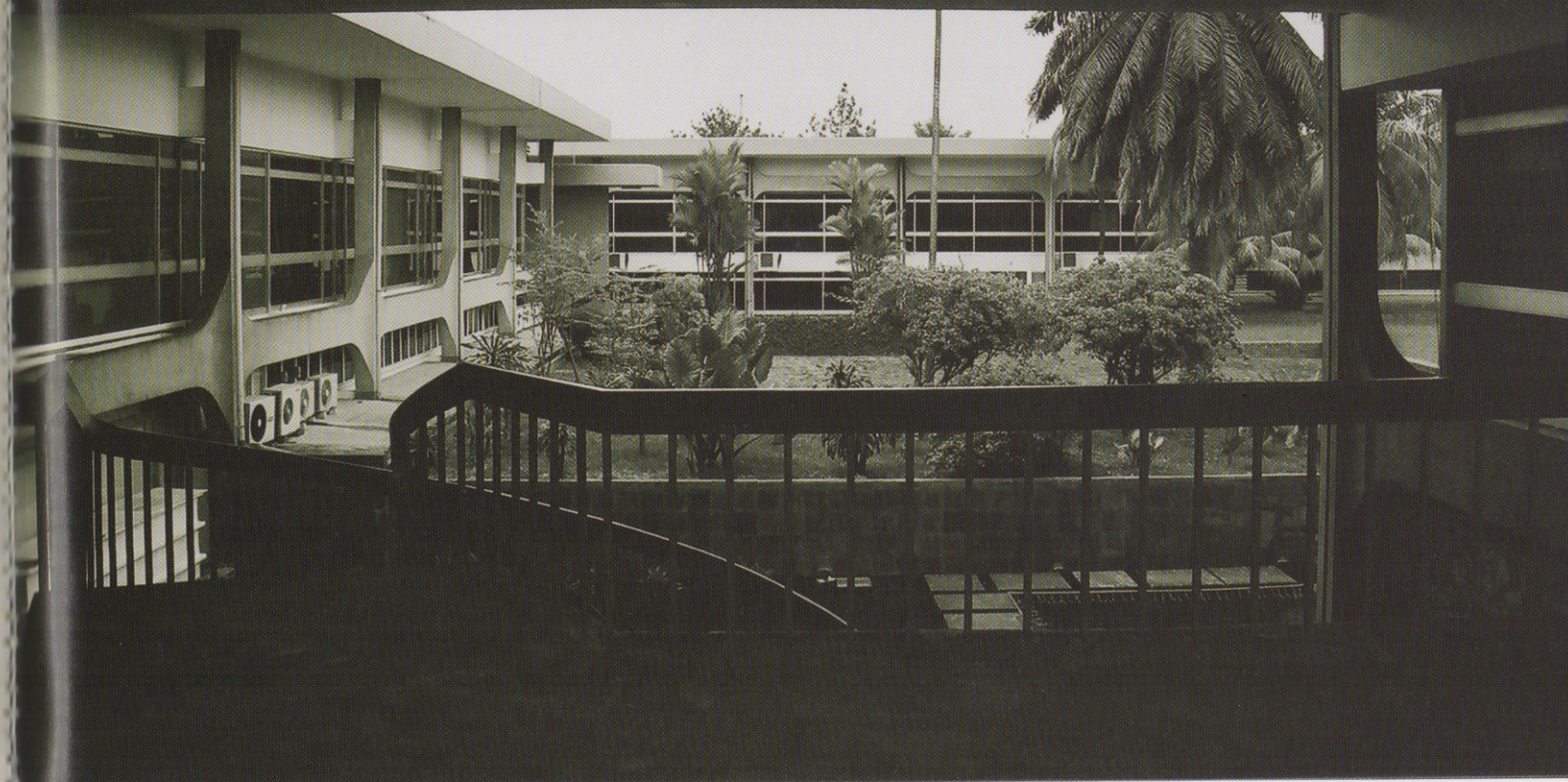
## 依地而建

这项设计中较有趣的一点在于,建筑师决定善加利用被一般认定为缺乏个性的地形。原本是由许多山丘、沼泽形成的裕廊区,后来经彻底开辟,成为地势扎实、平坦的一个个长方形地段。

然而,远东印刷厂的地势其实有轻微的坡度,前方靠近惹兰文礼的地势较高,后方排水沟渠所在处的地势较低。与其把它当成是平坦的基地,建筑师选择突显这个小小的坡度,而造就了杰出的空间效果。

工厂的主要大楼都楼高两层,然而,朝向惹兰文礼的大楼所在处地势较高,大楼一部分其实低于地面层,因而产生该建筑只有一层半的视觉效果。此外,衔接外围柱子的横梁在排列上也使人产生该建筑只有单层的错觉。

部分建筑低于地面层的设计有几项优势。大楼的相对长度加上“依地而建”的设计,形成一个低而长的建筑形态-庄重、谦恭中不失气派。除此之外,建筑“依地而建”,建筑师也因此通过例如屋顶、入口处的遮篷板、围梁等的设计,发展出一套以直线和水平平面体为主的建筑语汇。最后,由于这一处理,来访者必须登上一道平缓的坡道,直接从二楼进入建筑,而从这个角度,建筑群内优美的庭院景致映入眼帘,为该厂制造良好的第一印象。



One gets a glimpse of the internal landscaped court from the entrance foyer on the second level. The low murmur of the reflecting pool below provides soothing relief.

从二楼门厅可以一窥建筑内园林化的庭院。倒映池涓流淙淙,舒缓神经。

From the entrance foyer, one descends a gentle spiral stairs and traverse over stepping stones over a shallow reflecting pool.

从门厅走下一道平缓的螺旋式楼梯,踩过浅水倒映池上的石踏板。



suggests a stronger connection to the land. It also allows the architect to develop a language dominated by linear and planar horizontals, such as the roof and entrance canopy slabs as well as the perimeter beam. Finally, it allows visitors to ascend a gentle ramp to enter the building directly on the second floor, from which point they are able to survey the beautifully landscaped courtyard inside, creating a positive initial impression.

The external landscaping carries on the sensitive relationship between building and site. The formality of the façade is complemented by large, rectangular reflecting pools, echoing the floating roof planes above. The rhythm of the exterior columns also finds resonance in the tall rows of flagpoles, palm trees and even fountain jets. Meanwhile, the building is given a very spacious setback from the main road, adding to the sense of stately repose and the ease with which the factory occupies its site.

The four main blocks of the complex enclose a landscaped open-to-sky courtyard, within which is a pavilion that houses the company boardroom. The earth in the courtyard has been levelled and shaped to suggest the slope from a higher point in front to a lower level at the back. This is especially obvious because the rear block is viewed from within the courtyard as a full two-storey building, although it is of the same number of storeys, height and level as the illusory single-storey front block. Changes in ground level are managed using horizontal planar elements in the form of paved terraced platforms and deep steps cut into the sloping terrain of the courtyard. Low retaining walls and shrubbery are used strategically to conceal or highlight changes in level. These landscape elements also have the effect of making the courtyard an accessible place for workers to visit and relax in.

Elsewhere, the earth within the courtyard is more organically moulded to sweep over and conceal a tunnel connecting the rear block to the pavilion in the courtyard. Meanwhile, a flight of stairs on the other side of the pavilion rises to connect it to the front block. The stairs are sheltered by a series of pyramidal canopies, staggered to follow the rising stairs. The overall effect leads the eye around the courtyard and draw attention to the undulating landscape within, punctuated in picturesque fashion by the pavilion, reflecting pools and palm trees.

## Bridging the Divide

Beyond these more explicitly architectural features, the FEP factory is also unusual because of its programme and brief. In addition to the usual industrial spaces, it also housed the substantial editorial and administrative functions of the company. Thus, storage spaces, bookbinding and plate making workshops had to share the site with offices, a photo studio, library, showroom and boardroom. The proportion of industrial to non-industrial spaces, being roughly even, was unusual for a factory at the time, especially in this highly zoned industrial estate, which was better known for its concentration of heavy industries.

While mixed-use 'business parks' that combine industrial space with related administrative, logistics and research functions are fairly common now, they represented a move against the trend

建筑外部的景观设计,是建筑和基地之间细腻关系的延伸。大型的长方形倒映水池,映照浮于建筑上方的屋顶平面体,衬托庄严的建筑正面。一排排高高的旗杆、棕榈树、甚至是喷泉的水柱,都和建筑外部的柱子遥相呼应。与此同时,该建筑和大路之间距离宽敞,增添了建筑壮观的感觉,工厂和基地轻易地融为一体。

该建筑群的四座主要大楼围成一个园林化的露天庭院,公司的董事会议室就设在庭院里的楼阁内。庭院里的土地已经被平整并重新塑造,让人联想起前高后低的坡度。这个特征相当明显,从庭院里看过去,后方的大楼是一座足足有两层楼高的建筑,然而它和前方那座给人单层假象的大楼,有一致的楼层、高度和水平。地面水平的变化,以横向面体元素加以处理,如铺砖的阶梯状站台和庭院斜坡上的宽大台阶。矮护墙和灌木丛则在关键处,掩饰或是突显水平上的变化。这些景观元素,使庭院成为一个方便工友接近,在其中松懈身心的地方。

庭院别处的土地也以较统一的方式塑造,以覆盖并掩饰庭院里连接后方大楼和楼阁之间的隧道。与此同时,阁楼另一边的一道楼梯,将阁楼与前方的大楼连接起来。这道楼梯由一系列金字塔形的遮篷遮盖,这些遮篷根据升起的楼梯错开排列。其整体的效果是,庭院里延绵起伏,如画般点缀着楼阁、倒映水池和棕榈树的景观,成为目光的焦点。

## 搭建桥梁,拉近距离

除了这些外露的建筑特征,远东印刷厂也因为其方案和专案简介,而非比寻常。除了一般的工业空间之外,该厂也必须容纳公司的编辑和行政部门。因此,储物空间、装订和印版工作坊必须和办公室、摄影室、图书馆、展览厅和会议室共用同一个基地。该厂的工业和非工业空间的比例相等,这在当时是不寻常的,尤其是在这个高度规划,以集中重型工业闻名的工业区里。

结合工业空间和相关的行政、后勤和研究功能的混合用途“工商业园区”,今日虽然普遍,但是在1960年代却离经叛道,因为当时的大趋势是处处力求更加专业化,以为唯有如此方有进步。因此,这个给予非工业用途大量空间的专案,在当时显得有些异常。

对于这个挑战,建筑师的迎战策略是为工厂树立具影响力的企业形象,让蓝领和白领职工都能认同,这个企业形象就来自于工厂的公共面貌。尽管如此,基于实际的需求,两者之间还是得有某种程度上划分。大概呈长方形的基地被一分为二,靠近主要行车通道惹兰文礼的那一半,供编辑部和行政部使用,工业空间则设在后部。工业空间就设于当时常见,简单、实际并有宽阔斜屋顶的工棚内,另外还腾出土地供未来扩充用途。

与此同时,较重要的行政建筑,被发展成为两座互相紧扣的L字型大楼,中间围着园林化的庭院。这两座大楼由桥梁衔接,形成连贯流畅的整体。



Far view of courtyard, showing how the slight gradient is given character through a series of low, sweeping planes and landforms. 从远处眺望庭院,可以看出建筑师如何通过低矮、蜿蜒的平面体和地形,发挥该基地轻微坡度的特色。

Cascading umbrella canopies shelter a short flight of stairs which connects the front block to the boardroom pavilion. 悬垂的伞篷为连接前方大楼和董事会议室楼阁的一小段楼梯遮风挡雨。



back in the 1960s, when the way forward seemed to be towards ever greater specialisation. As such, this project might have appeared somewhat anomalous, given the generous amount of space allocated to non-industrial functions.

The architects responded to this challenge by creating a strong corporate identity to be shared by both blue- and white-collar workers, as seen in the factory's common public face. Nonetheless, practical demands required some degree of separation between the two. The roughly rectangular site was divided into two. While the half closer to the main access road, Jalan Boon Lay, was reserved for the editorial and administrative functions, industrial spaces were located to the rear. The industrial spaces were accommodated in simple and practical industrial sheds common for the period, with wide span pitched roofs and land set aside for future expansion.

Meanwhile, the more noteworthy administrative buildings were developed as two interlocking 'L' shaped blocks, enclosing the landscaped courtyard. The two blocks were linked with bridges to form a seamless circulatory whole. Formally, voids were created at the junction of the two blocks, to create openings for pedestrian access, cross ventilation and views into and out of the courtyard.

While the main industrial workspaces were set apart, the worker rest areas were located in the block dividing the two halves of the site. Thus, board members in their conference room, managers and editors in their offices, library users, storage room staff and production workers in their canteen and recreation area share the prized view of the landscaped courtyard equally. The courtyard - the centrepiece of this humane and dignified working environment - thus becomes a unifying focal point and possibly, a source of shared pride for the workers.

In retrospect, this factory in the Jurong heartland represented an attempt to go beyond the socially and functionally stratified, utilitarian and a-contextual industrial sheds of its day. However, we should acknowledge that this was probably enabled less by its architects than by the enlightened client's desire to attract highly skilled professionals to work in a grim industrial estate. Nonetheless, the architects responded with a design that exploited issues of site and programme to develop an oasis of dignity and beauty that could be shared by all its users. The architecture is also noteworthy for its clarity of form and space as well as fine detailing, making it an example of the elegance and rationality of Modern design at its best.

Beyond these details, however, the building's value lies in the ways it addresses the conventional disjuncture of its time, between doing/thinking, living/working, etc. Why shouldn't industrial environments be delightful? Why can't factory workers and senior professionals share and appreciate the same, well crafted spaces? Why should we accept a flat, barren and 'renewed' site as sterile or devoid of natural advantages? Architects are still dealing with these questions. Thirty years on, the FEP factory continues to offer us lessons in the possibilities of design excellence.

Note: The FEP factory has since been taken over by PSC Group, which was carrying out extensive renovations to the complex at the time of writing. Sadly, little of the original courtyard survives.s

两座大楼的汇合处都蓄意制造虚空空间(void),方便行人通行、促进空气流通,同时让人可以望入庭院,在庭院里的人则可以望出去。

虽然主要的工业空间被划分开来,但是员工的休息处却设在将基地一分为二的大楼里。因此,在会议室的董事、办公室里的经理和编辑、图书馆使用者、储藏室职员和使用餐厅、休闲区的职工们,均有平等的机会欣赏庭院里的景致。在这个有人情味及尊重个人的工作环境中,这个庭院是重要的一环,是工厂中团结人心的焦点,甚至是职工们共同的骄傲。

回顾探讨,这家设在裕廊中心地带的工厂,是试图超越当时在社会和功能上分层化、实用主义性的、不考虑环境背景的工棚的一个代表。然而,我们必须承认这个方案的之所以可以实行,建筑师的功劳仅居其次,主要应归功于开明的客户,他们有意吸引高技能专业人士,到欠缺吸引力的工业区就职。无论如何,建筑师的这个设计,充分地利用了该基地和其规划,创造一片充满尊严和美的乐土,供所有使用者分享。该建筑明确的形态、空间和十分讲究的细部,也都可圈可点,使之成为具备典雅和理性的优秀现代设计典范。

除了这些细节,该建筑可贵之处,在于其挑战当时将行动和思想、居住和工作等加以分裂的常规思想。为什么工业环境不能是宜人的?为什么工厂的工人和高级专业人员不能分享、欣赏同一个精心设计的空间?为什么我们认定平坦、荒芜、“再生”的基地一定欠缺个性和自然优势?建筑师目前依然在应对这些问题。三十年后的今天,远东印刷厂仍然给予我们启示,卓越设计其实潜能处处。

远东印刷厂已经由普威联营集团接管,本文撰写期间,该建筑群正在进行大规模装修。遗憾的是,原来的庭院现已所剩无几。s



A cascade of water flows from the boardroom pavilion roof into a feature pool. 瀑布般的流水从董事会议室楼阁的屋顶倾泻而下,流入主题水池。

Link bridge used to house the secretaries' offices between the interlocking blocks, allowing visually and physical continuity between the courtyard and its surroundings.

秘书的办公室就设在两座互相紧扣的大楼的连接桥梁上,该桥梁提供庭院和其周遭视觉上和实质上的连续

