

# WALL ELEMENTS PIXEL WALL

建筑立面材料语言  
像素墙

凤凰空间·北京 编

江苏人民出版社



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凤凰空间·北京 编

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### THE PAST AND PRESENT OF 'PIXEL WALL'

— Qingyun Wang, Nancy Zheng

In the 7th century B.C., Babylon, the biggest and most beautiful city at that time was lying on the Mesopotamia plain. The well-known Euphrates River flowed through the city which was surrounded by a 90-kilometer-long wall. All the gates of the city were named after gods. The most significant front gate, the Ishtar Gate, was named after Ishtar who is the goddess of love, fertility and war. The gate, measuring twelve meters in height, has two archways and four belvederes. It was completely covered with orange-yellow, white and light blue glazed bricks, which were inlaid with lions, bulls and dragons against the blue background. The bright colors and distinctive adornments embodied the mosaic art of that era.

For the sake of waterproof and adornment, the Sumerians invented mosaic (originally refers to the exquisite decoration made by means of inlaying and jointing) around 4,000 B.C., which started the history of mosaic art. Mosaic is an art form that involves fitting small pieces of rock, shell, tile, glass or enamel together to create patterns on the wall or on the floor. From the noble garden in ancient Greek and Rome to the mural painting of tombs in the early Christian art, from the icon painting in Byzantine churches in Eastern Europe to the rose windows of Gothic architectures in Western Europe—all of them are the heritage and development of this artistic skill and style.

With the spreading of the Enlightenment thoughts and the completion of the Industrial revolution in the middle of the nineteenth century, Europe stepped into the era of modern society. However, the ancient art form didn't decay in this age of great social transformation. Mosaic art is still found even in the industrial civilization. For instance, the leader of Spanish Art Nouveau movement, architect Antoni Gaudi is skilled in employing mosaic in modern architectures. In his master work of Park Guell and the Sagrada Familia Church, he created a graceful and fantasy world by means of attaching the colored stones to the meandering building structures.

# 序

## INTRODUCTION

Nowadays, new technology and aesthetic bring new possibilities to the gorgeous visual art. Brick, rock, wood, glass, ceramic, metal, paint and even the living vegetation provide new materials for the mosaic art. Meanwhile, the hollow-out art and multimedia electronic interactive art cater to people's fast-changing taste with richer visual resources and experiences. The ancient artistic form of mosaic also got a new name in the field of modern architecture—"pixel wall".

"Pixel" is combination of the word "picture" and "element". In a narrow sense, pixel is a unit for calculating the digital image. When the image is enlarged several times, we may find the continuous hues are composed of numerous square dots of similar colors. The book *Wall Elements: Pixel Wall* lays stress on the visual isomorphism of dummy slider in modern architecture and pixel which is the smallest unit in image. In addition, it emphasizes the external appearance and intrinsic nature of the "postindustrial society" which is highly digitalized and virtualized. This book selected more than 110 projects with "pixel walls". They are not only the latest attempts and achievements in architectural practice, but also visual descriptions of the current "postmodern society".

## “像素墙”的前世与今生

——王青云 郑亚男

公元前7世纪，美索不达米亚平原上有一座当时世界上最大、最美的城市巴比伦城，著名的幼发拉底河即从城中穿过。围绕巴比伦城的是一道长达90 km的城墙，各道城门分别用巴比伦的神祇命名，其中最重要的正门是以代表丰饶、爱情与战争的女神伊什塔尔来命名的伊什塔尔门。城门高12 m，有前后两道拱门、4座望楼，墙上覆盖着彩釉砖：深蓝色的背景上用橙黄色、白色、浅蓝色彩釉砖镶嵌着狮子、公牛和神兽浮雕，色彩鲜明并富有装饰效果，而这正是当时镶嵌艺术的代表。

出于对建筑防水和装饰的考虑，苏美尔人在公元前4 000年发明了马赛克（译自Mosaic，原意是用镶嵌方式拼接而成的细致装饰），即用小石子、贝壳、瓷砖、玻璃、珐琅等有色嵌片在墙壁面或地板上制作各种图案，并以此拉开了镶嵌艺术的序幕。从古希腊、古罗马的贵族花园，到早期基督教艺术中的墓室壁画，从东欧拜占庭教堂中的圣像画，再到西欧哥特建筑中的玫瑰窗花，无一不是对这种艺术技巧与风格形式的继承与发展。

19世纪中叶开始，随着启蒙思想的传播以及工业革命的完成，欧洲进入了现代社会。但古老的艺术形式并不会因为社会的变迁而丧失生命力，即使在工业文明中我们依然可以看到镶嵌艺术的身影，西班牙“新艺术运动”的领袖——建筑师安东尼·高迪就以擅长在现代建筑中运用马赛克而著称，在他的代表作“古埃尔公园”以及“圣家族大教堂”中，色彩斑驳的石片附着在蜿蜒、婆娑的建筑结构上，创造了一个如梦幻般旖旎、奇幻的世界。

如今，新的科学技术与新的审美需求为这种色彩斑驳的视觉形式带来了新的可能性。砖、石、木、玻璃、陶瓷、金属，乃至鲜活的植物都成为了马赛克嵌片的新物质材料，而雕塑、装置艺术、多媒体电子交互艺术的参与，则为人们日新月异的观赏品位提供了更为丰富的视觉资源与视觉体验，“镶嵌艺术”这一古老的形式在当下的建筑领域中又有了新的名字“像素墙”。

“像素”（Pixel）由 picture(图像) 和 element(元素)这两个单词的字母组成。狭义上的像素是用来计算数码影像的一种单位，若把数码影像放大数倍，这些连续色调即会变成许多色彩相近的小方块。《建筑立面材料语言——像素墙》一书的内容不仅强调当代建筑嵌片与像素——影像中的最小单位——在视觉形式上的同构性，更是旨在突出当下这个“后工业社会”中高度信息化、数字化、虚拟化的外在表象与内在本质。本书中所选取的110多个“像素墙”的案例不仅代表了当下建筑实践中的最新尝试与最新效果，更是对于“后现代社会”的一个视觉描述。





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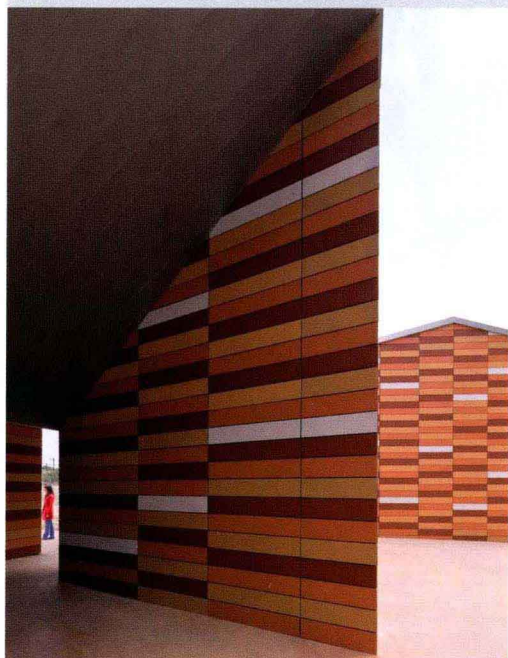
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The curtain wall of buildings is generally constituted of panels and the supporting structures behind them, such as aluminum beams, pillars, steel structures, glass ribs, etc. ■ With a breath-taking growing trend, the once cumbersome panels have been adopting much lighter materials and structures. ■ Various types of panels have been emerging in an endless stream, besides the traditional materials such as glass, metal, slate, wood, plywood and ceramic which will be introduced in the subsequent chapters, there are also nearly 60 kinds of panels applied onto the outer walls, such as microcrystalline glass, high-pressure layer boards, cement fiber boards, FRIM and clay boards. ■ These new kinds of panels have higher safety performance, more flexible and convenient construction techniques, and they are good at water proof and heat preservation. ■ The coating techniques can make the panels appear various colors, which can even maintain unfading for 10 to 15 years. And their working life can reach as long as 45 years. ■ The characteristics in color makes panels the first choice in forming the pixel wall.



# 面板

## PANEL

### 010

建筑物的幕墙通常由面板和后面的铝横梁立柱、钢结构、玻璃肋等支撑结构组成。■ 面板的发展速度惊人，类型多种多样。面板类型逐渐由笨重型走向更轻型的板材和结构。■ 除了玻璃、金属板、石板、复合木板、陶瓷板这些传统材料将在后续的章节中分别进行介绍外，还有微晶玻璃、高压层板、水泥纤维板、无机玻璃钢、陶土板等近60种板材应用在外墙。■ 这些新型面板，拥有很高的安全性能，更为灵活方便、快捷的施工技术，以及良好的防水性能、保温性能。■ 面漆工艺可以让面板呈现任意的颜色，甚至做到10~15年无褪色，整体使用寿命达45年。■ 色彩方面的特性让面板成为像素墙所选材料的首选。



KANNISTO SCHOOL







总平面图 SITE PLAN



© Imagokuva



© Imagokuva

#### 坎尼斯托学校, Linja Architects, 芬兰, 凡塔, 2011年

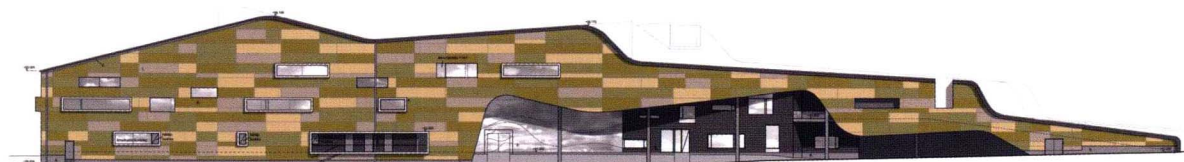
这座楔形建筑的西侧是空间开阔的操场, 而东侧立面则规整地顺沿着场地的边缘而建。建筑外立面的主要材料是“瑞士珍珠”外墙板和带有黑点的手制黑砖。4种颜色的面板赋予建筑趣味盎然的外观。

#### Kannisto School, Linja Architects, Vantaa, Finland, 2011

The wedge-shaped building form creates spaces for the playgrounds on the west side of the building while the east side of the building follows the border of the site. The main materials used on façade are Swisspearl panels and handmade dark brick with bricks pointing. Four different colors on the panels are chosen to give a playful look for the building.



东立面 EAST FAÇADE



西立面 WEST FAÇADE





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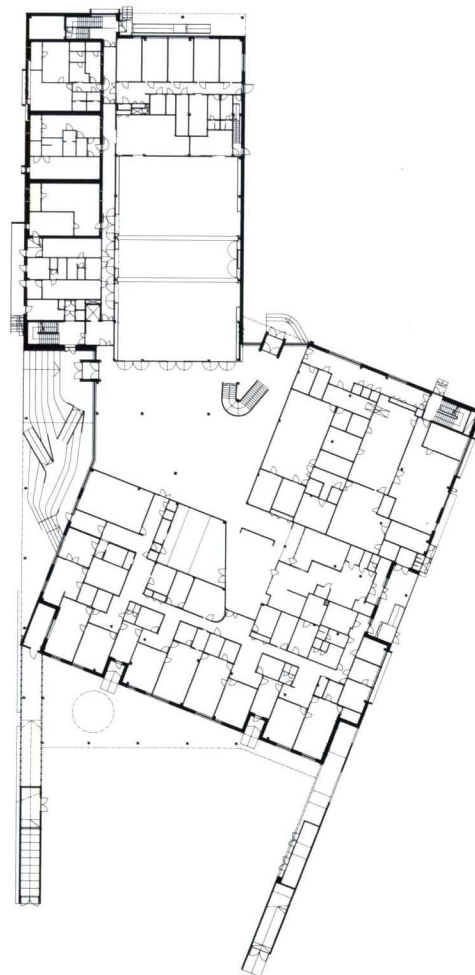
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### 坎尼斯托学校, Linja Architects, 芬兰, 凡塔, 2011年

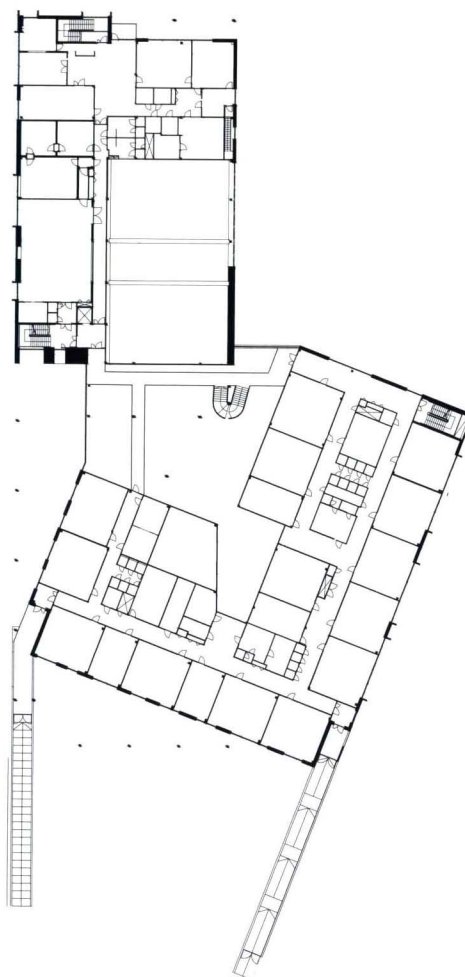
外立面的色彩被转化运用到室内。各个楼层的墙面略带绿色，大厅也采使用了诸多有趣的元素。虽然大厅和餐厅几乎通体为白色，但却能够通过大型玻璃墙向户外的绿色环境敞开怀抱。室内也同样使用了手制砖。

### Kannisto School, Linja Architects, Vantaa, Finland, 2011

The colors from façade are transformed to the indoor colors as well. Floors are slightly green and playful elements are used on main halls. The main lobby / dining hall is almost entirely white but it is opened to the green environment through large glass walls. Also handmade bricks are used indoors.



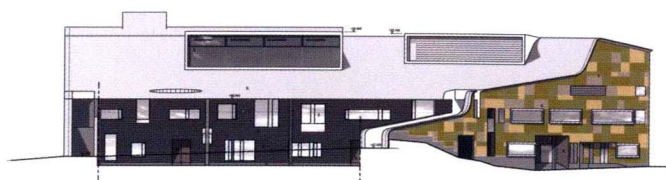
一层平面图 FIRST FLOOR PLAN



二层平面图 SECOND FLOOR PLAN



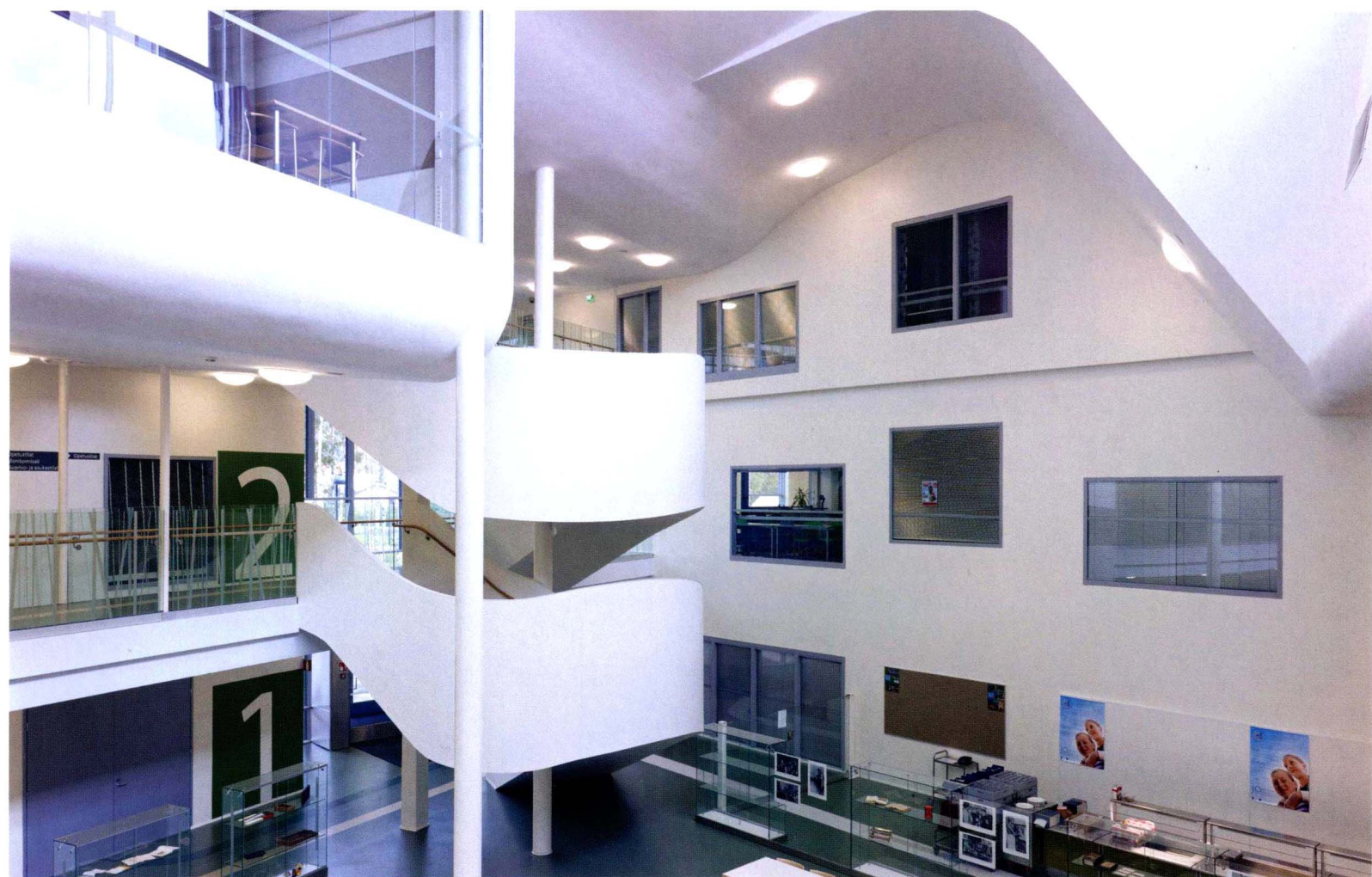
南立面 SOUTH FAÇADE



北立面 NORTH FAÇADE

1. Ilpvi  
2. Lasi,  
3. Puu,  
3B. Puu  
4. Pelti,  
5. Mäti  
6. Beton





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