

Color in Architecture façade

建筑立面与色彩

(西班牙) 布里奇特 编 鄢格 译



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Preface — Color endows architecture with individuality

颜色可以赋予建筑独特的个性

Façade generally refers to outside appearance of a building in terms of architecture and often impresses the viewers a lot at the first sight. Nowadays, as art is more and more integrated with architectural design, the façade of a building is no longer of the previous unified pattern. Color as an essential decorative element starts to play its role. Color is a deeply emotive subject. For most of us it is also highly personal, we each have a unique response to color that we develop internally through experience and association.

The roles different decorative elements play in façade design is gradually changing. In western thinking of the late 20th century, color and its potential gravitas seem to have diminished, become secondary, decorative, deeming a colorful object or artwork less serious or intellectual than its less chromatic counterpart. The use of natural, material color found in concrete, glass and metal, celebrating a chromatically devoid minimalism, has dominated architectural thinking since Le Corbusier. White has most often been associated with an elevated intellect and color consequently delegated to the arena of whimsical decoration with but a few notable exceptions such as the chromatically masterful architect, Luis Barragan. Unfortunately color has often been used so badly on the outside of buildings, though, that it spawned a great fear of large-scale colorful architecture. Apart from an ill conceived, short-lived trend in the 1980s where cladding materials lacked durability and light-fastness, color has been, on the whole, conspicuously absent from our buildings.

Recently a visible renaissance is taking place where intelligent, provocative and serious color is being used to serve form and function and take a leading role in architectural environments. All the projects featured in this book were completed between 2004 and 2008 clearly illustrating this resurgence over a very short period of time. We have, for now, put aside our chromophobia, replacing the achromic facades of the last several decades with a polychromatic celebration of new technology. What is most intriguing about this collection of projects is the diversity of materials and application. Color has become wholly integrated into the construction process with a vast array of techniques. Rather than a secondary afterthought, chromaticity is considered through material, surface, light and finish at an early stage in the design process.

Technological advancements over the last ten years has enabled the use of cheaper, repeatable and more durable materials than ever before, available in an extensive range of colors. Paints are more UV-stable, colorfast, Polymer based and able to cover large surfaces. Glass spandrel panels can be back painted, powder coated metals sprayed in a range of closely related RAL colors as Bernard Tschumi Architects' blue residential tower in New York illustrates. Curtain wall technology allows a range of materials to clothe a façade and new glass technology such as the laminated photovoltaic solar panel system used in the Zero Energy Media Wall in Beijing by Simone Giostra and Partners can create almost psychedelic nuances of moving color. Transparent films and prismatic foils react to night and day light giving their structures changing reactive color, which is exquisitely revealed by UN Studio's Offices "La Défense" in The Netherlands. Coatings and smart films can change from transparent to opaque using heating elements potentially changing the identity of a façade instantaneously.

建筑立面是建筑的外观，是建筑带给人的第一印象。由于建筑设计艺术化的趋势，建筑师在色彩设计的同时，也越来越重视立面设计。而色彩是表达立面的重要方式。颜色往往带有浓烈的感情色彩，由于不同的经历，个人对同一色彩的反应却不尽相同。

立面设计中不同元素所引起的重视在不断变化着。据西方理论记载，在20世纪末期，颜色及其潜在特质的重要性不断退居到次要位置，仅仅作为装饰元素使用。彩色的物体或者艺术品在打造庄重或彰显智慧的空间氛围时远比不上那些色彩淡雅的装饰品。自勒·柯布西耶（现代建筑大师）时代开始，保留混凝土、玻璃及金属材料的自然原色成为极简主义的核心，并“统治”了当时的所有建筑理论。不幸的是，色彩在建筑外观上的不当使用，导致了人们对大型的彩色建筑产生了极大恐惧感。20世纪80年代覆层材料开始盛行，但由于其缺乏持久性及耐光性等而被人们摒弃，可以说是昙花一现。至此，建筑已经完全与色彩“脱离”。

近年来，色彩复兴运动已悄然兴起。本书中收录的2004年至2008年间竣工的项目，清晰地阐述了这一段时间内的色彩复兴。通过新技术的应用，我们彻底摆脱了恐色症，“无色”建筑已不复存在，取而代之的便是“彩色”建筑。此外，本书内容涉及建筑立面设计的方方面面，涵盖了多种材料及建筑方式的运用等内容，极具吸引力。可以看出，在建筑立面设计中，颜色的运用已经完全融入到整个建筑过程中，并在设计初期便渗透到各个层面，如材料、灯光及饰品的处理上。

在过去的十年中，由于科技的进步，人们选择建筑材料，尤其是建筑外层材料的范围更加广泛，经济实惠、持久耐用、色彩丰富的材料越来越多。这些材料不同的质感与不同的色彩共同运用，可以创造出精彩的建筑外观设计。举个例子，以聚合体为原料的油漆，其耐紫外线、防褪色性能不断提高，同时可以覆盖大面积空间；磨砂玻璃板可以在背面喷漆；在德国工业标准色（RAL）中加喷射粉包金属屑（在纽约的蓝色公寓设计中使用）。此外，幕布墙技术的出现为运用多种材料覆盖建筑表层创造了可行性；新型玻璃制

In Singapore, Alsop Architects have used laser cutting technologies which mean materials can be manipulated in complex irregular formations, in this case ETFE (Ethyl Tetra Fluoro Ethylene) cushioned canopies are iridescently illuminated with color above street level. Ceramic hexagonal tiles in a pixilated kaleidoscope echo the produce sold below in Barcelona's Santa Caterina food market (EMBT) highlighting the building as a complex artwork in its own right. Larger single sheets of certain materials such as glazed volcanic stone and ceramics and the ability to curve materials for façade use all merge to bring a new natural color palette into play. Sustainability and eco friendly techniques have also advanced to enable a green geo-textile planted, living wall to replace concrete with foliage in Seoul's Ann Demeulemeester Shop by Minsuk Cho Architects, so the color scheme is literally determined by a living skin. Furthermore, materials once associated exclusively with industrial architecture are being adapted to different uses, Hamonic + Masson's "Addition to the Centre for Contemporary Archives" in Fontainebleau uses deliberately "poor" industrial cladding materials to link the building with it's rural site concealing a monochromatic magenta interior, while Lotek's nomadic 'Puma City' takes industrial material to the extreme with shipping containers saturated externally with 'Puma red'.

Nowadays, expressive specification of external color can also alter out pre-conceived ideas about how certain types of buildings should look; we have come to expect public buildings in particular, to look a specific way. Swanke Hayden Connell's hospital, King's Mill, in Nottinghamshire, for example, does not immediately look like a hospital from the outside. A sequence of undulating, secondary colors vibrate across the façade, which can be seen from several miles away. In this case color was deliberately used to reduce 'threshold anxiety' often associated with hospital visits and distract the visitor momentarily on arrival. The notion of a building as 'artwork on the landscape' can be encouraged by the use of interesting color. Likewise, Jarmund/Vigsnæs AS Architects' school in Oslo, Norway, creates an unexpected place of learning. By striating many shades of yellow and orange along its outer walls and by using monochromatic internal color schemes the building itself looks like a stimulating game that any child would be intrigued by. In both projects it is undeniably the color that has created these unusual dynamics.

In tandem with explorative materials color is an extraordinary tool for giving a building both identity and presence. All of these projects share an immediate and iconic persona. Another important element they share is their placement of color. The impact and strength of a color scheme is determined by proportion, shade, saturation and location. A successful building can expose the intelligent use of one color to great effect and often one color can go a long way. Color must be explored in relation to site and location. Regardless of whether one or many colors are used on a building's façade, color becomes the most significant and noticeable thing about the building.

Ptolemy Mann 2009

Bridget Vranckx
2009.9.30

品的兴起使得打造动态梦幻的彩色外观成为可能（北京零能耗媒体墙中层压光电玻璃板的使用）；透明薄膜材料及菱形金属薄片的诞生赋予建筑结构变换的色彩（根据材料在白天和黑夜对光照不同的反应原理设计，荷兰UN工作室设计中使用）；建筑覆层薄膜通过加热可以不断变化形态，在透明和不透明状态间变化，瞬间改变建筑的外观。新加坡阿尔索普建筑运用激光技术，将材料处理成不规则的形状，打造了ETFE（聚氟乙烯）膜结构遮篷，色彩缤纷，闪闪发亮；在圣卡特纳市场的翻新设计中，多色的六边形瓷砖材料完美地映射出里面出售的食物，将整个建筑打造成一个精致的艺术品；在首尔安·迪穆拉米斯特商店中，种满绿色植物的环保墙壁代替了以往的水泥结构，彰显了环保技术进步的同时，也推出了新的理念“建筑表面的色彩由活的植物来决定”；在枫丹白露当代档案馆的设计中，以往仅被用于工业建筑的“破旧”材料被“移植”过来，强调建筑与周围环境的融合；在彪马移动城堡的设计中，设计师更是将工业材料的运用发挥到极致，突出了带有彪马标志性红色的集装箱结构。

现在，对建筑外观色彩的详细说明改变了人们长久以来形成的思维观念，我们一直期盼着建筑，尤其是公共建筑，在外观色彩设计上打破常规，别出心裁。SHCA（Swanke Hayden Connell建筑事务所）设计的“米尔医院”，在外观上和传统的医院有很大区别。连续的波浪状色条在建筑外观上“跳跃”，即使在数里之外也清晰可见，如此的设计打消了人们对医院的恐惧感。通过对色彩的巧妙处理，打造“建筑艺术品”的设计理念完全可以实现。位于挪威的奥斯陆学校，外墙表面由黄、橙相间的条纹装饰，而室内则为单色，整个建筑如同极具刺激性的游戏，吸引着孩童们探索。从上面两个案例，我们不可否认，色彩的确能够打造非同寻常的动态美感。同创新材料一起使用，颜色可以作为一种特殊的工具，赋予建筑独特的个性。本书中选用的案例具备这一共同的特色。某一色调所产生的效果由各种颜色的混合比例、深浅、饱和度以及建筑位置决定。不管是否运用到建筑表面，颜色已成为建筑中不可或缺的元素。

布里奇特
2009.9.30

Nestlé Chocolate Museum

雀巢巧克力博物馆

Location:
Toluca, Mexico
墨西哥 托卢卡

Architect:
Rojkind Arquitectos
Rojkind 建筑事务所

Photography:
© Paúl Rivera/archphoto.com, Guido Torres/Rojkind Arquitectos
保罗·里维拉 托雷斯

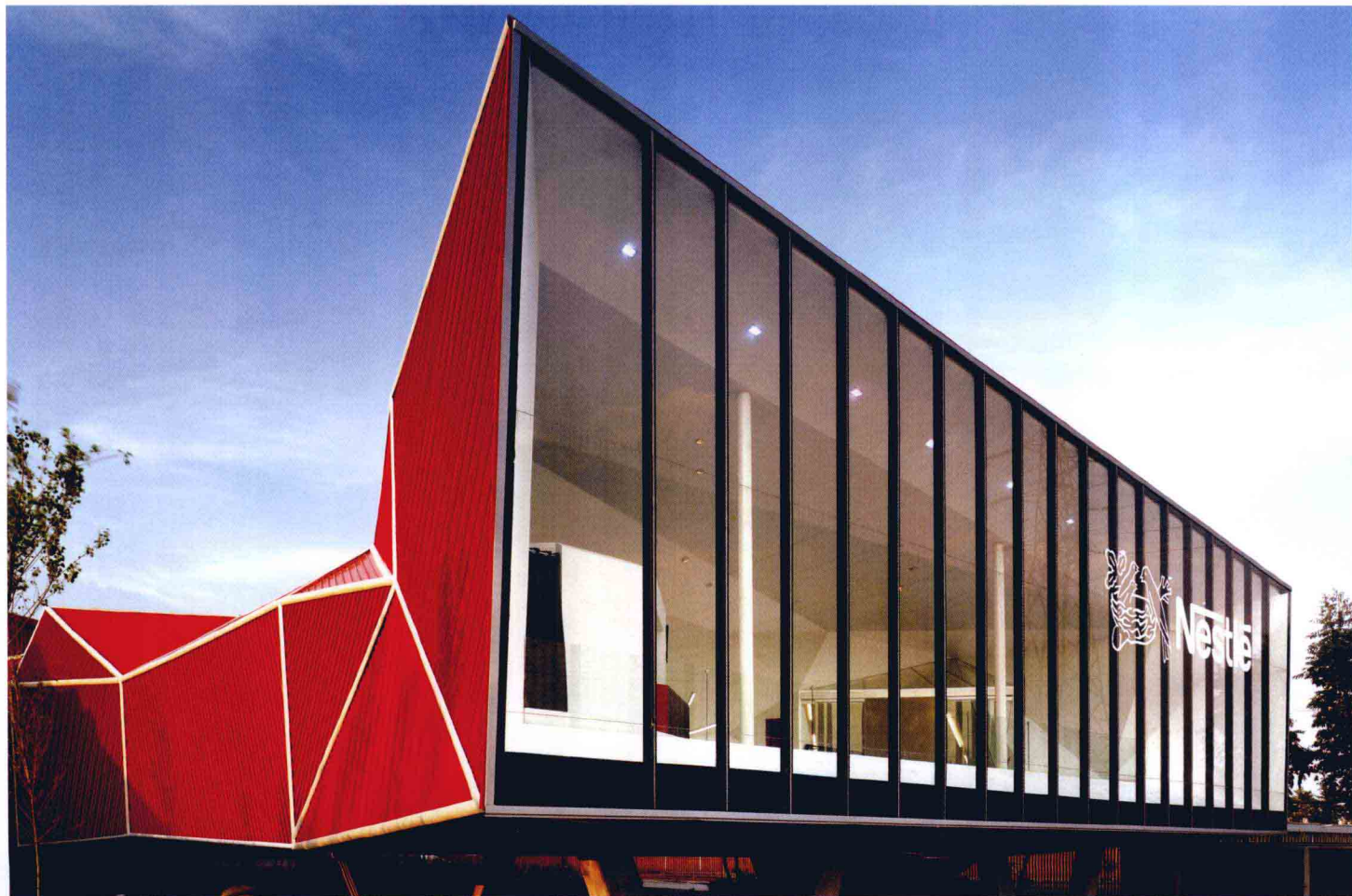
Nestlé's chocolate factory in Toluca (Mexico) was in need of a visitor space and inner walkway for cocoa lovers to witness the production of chocolate first hand. Mexican architecture firm, Rojkind Arquitectos, suggested their client create the country's first chocolate museum thus giving the candy giant a cultural space and a new image for its headquarters at the same time.

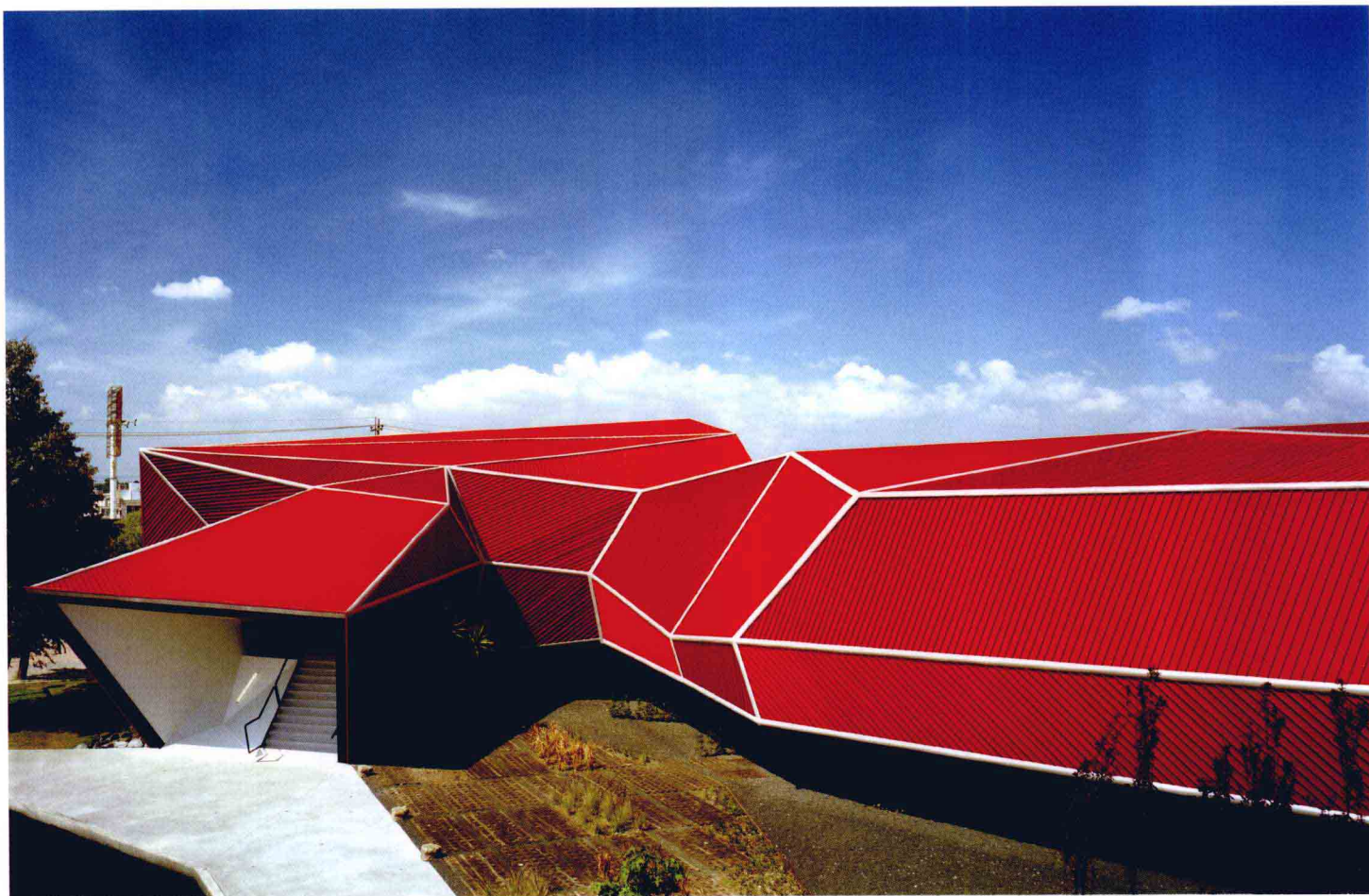
The first stage required 643sq.m to accommodate a reception area, a theater to introduce visitors to the Nestlé experience, a museum shop and a passage to the existing factory. The building (design and construction) had to be completed within two-and-a-half months, which required three daily eight-hour shifts from all the people involved. The new museum is clad in red corrugated steel panels and is raised off the ground by concrete pillars making it even more visible from the main highway leading into Paseo Tollucan. A gaping mouth reveals the museum's pristine white interiors which lead straight to the chocolate factory. The multi-faceted structure creates interesting abstract interior spaces, while the playful zigzagging volumes of the exterior could remind children of a spaceship or even a caterpillar.

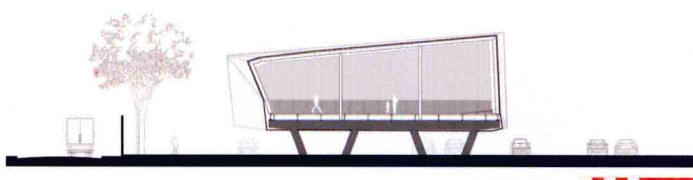
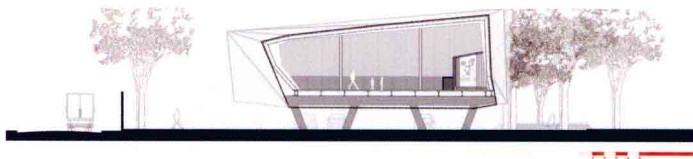
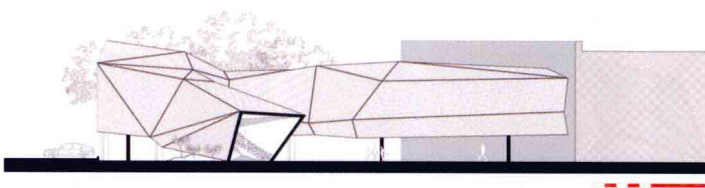
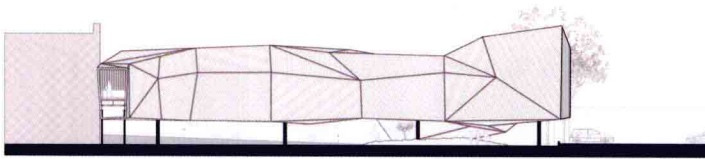
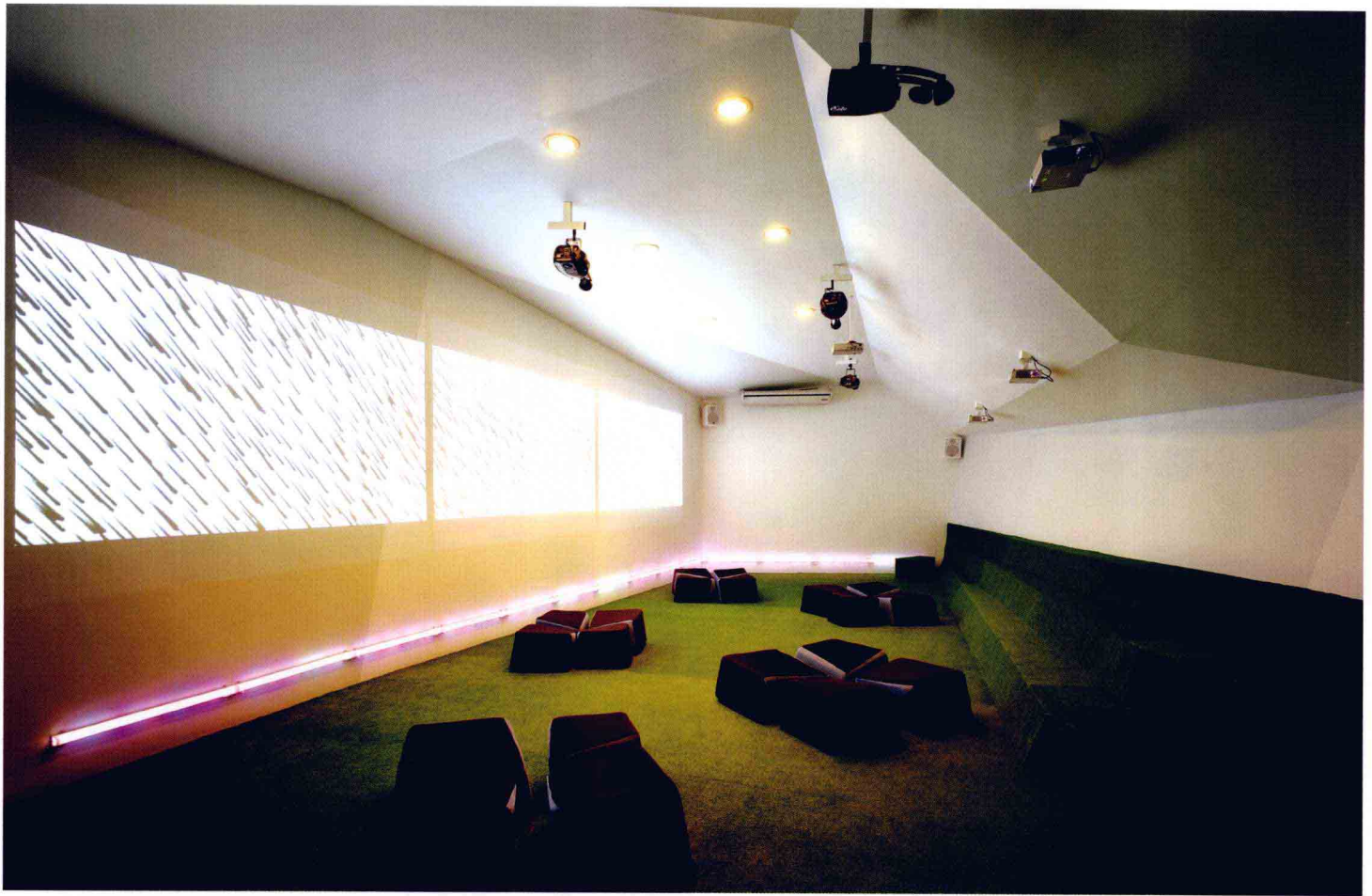
位于墨西哥托卢卡市的雀巢巧克力公司，为满足可可饮料爱好者能够在第一时间见证产品的诞生过程以及在建筑师的建议下，决定建立本国第一家巧克力博物馆，这不仅增添了公司的文化氛围，同时让公司总部焕然一新。

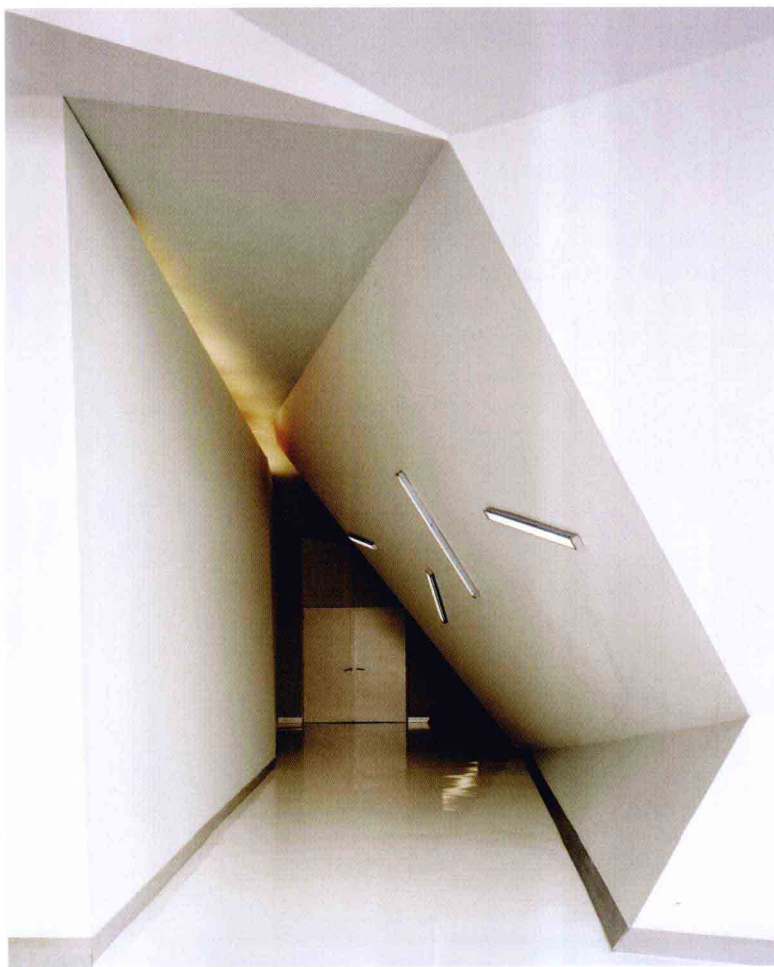
博物馆的设计及施工总共历时两个半月，其中第一阶段包括建立接待处、剧院（让来访者体验雀巢）、博物馆商店以及与通往工厂的过道。博物馆外表采用红色波纹钢板材料建成，底部由坚固的水泥立柱支起，即使在远处的马路上也能看见这幢创意建筑。通过如同大嘴一样的门，便可进入到纯白色的室内空间，并经此一直通往车间。室内空间由各异的结构组成，趣味性十足；室外弯曲的造型让人不禁联想到宇宙飞船或者是毛毛虫。











Netherlands Institute for Sound and Vision

荷兰声光研究所

Location:

Hilversum, The Netherlands

荷兰希尔沃叙姆

Architect:

Neutelings Riedijk Architecten, Rotterdam

纽特林+李迪克建筑师事务所

Contributors:

Bureau Bouwkunde Rotterdam (Technical design and building consultancy), Aronsohn Raadgevende Ingenieurs/Rotterdam (Structural design), Cauberg-Huygen Raadgevende Ingenieurs/Den Bosch (Building physics consultant), Studio Jaap Drupsteen (Graphic design façade), T.N.O. Eindhoven, Studio Jaap Drupsteen and Saint Gobain (Development glass panels, in collaboration with Neutelings Riedijk Architects)

鹿特丹技术与建筑咨询机构等

Photography:

© Daria Scagliola & Stijn Brakke

Daria Scagliola&Stijn Brakke 工作室

The Netherlands Institute for Sound and Vision houses all the material produced in The Netherlands since the early days of Dutch radio and television. Half of the 30,000sq.m building is dedicated to storage and archive rooms with rigorously stipulated climatic conditions, but no need for daylight. Taking this into consideration, the building was divided into two; the archives vault is situated below ground, and the museum and other spaces requiring light above ground. The two portions are connected by a central south facing well at the heart of the building, which lets light into the core of the building and allows reflected light to skim over the wall of the offices.

For the glass façade an entirely new production line was created: 748 colored, high relief images were applied to more than 2,100 glass panels. A stained-glass technique, in which ceramic paste is applied to glazed panels by means of a printer especially developed for this purpose, was devised for the panels, onto which Jaap Drupsteen transferred manipulated video stills. To create a relief, positive images of a video still were milled into a MDF panel with a CNC (computer numerical control - a computer technique with a programmed code which, in this case, guided a ball-tipped bit back and forth across the MDF panel) milling machine. The wood panel, coated on one side in ceramic paste was then laid on the sand mould and heated at 820°C in the oven to burn the image into the glass and soften the glass panel enough for it to take the shape of the mould. The result is a colored, high relief UV resistant glass pane with long-term durability, which presents original TV images from the institute's archives.

荷兰声光研究所总面积为30,000平方米,里面收藏着本国在广播电视诞生初期生产的所有声像、光学材料。整幢建筑分为两部分,由朝南的天井隔开。其中一半空间位于地下,那里无光照,气候条件稳定,用于储存各种档案材料。博物馆及其他空间位于地上,光线充足。

建筑的外立面由2100多块、上面带有高浮雕图案的玻璃板构成(这是研究所新近开发的一条玻璃生产线产品),绚丽的色彩和独特的质感立即使其与众不同。彩色玻璃技术是指通过特制的工具将陶瓷油膏应用到彩色玻璃板上。同时为达到浮雕的效果,通过使用计算机数控技术将视频静像照片映射到MDF(配线板),然后在木板的一侧涂以陶瓷油膏之后放到砂型上,经过820°C高温加热,将图像印到玻璃上。经过一系列的工序,就形成了彩色的高浮雕玻璃板。



