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建筑与都市 中文版 06:06 Architecture and Urbanism Chinese Edition 06:06

> 专辑: 混凝土建筑 Concrete Architecture

Zaha Hadid/ Phaeno Science Center Wolfsburg/ Wolfsburg, Germany Moshe Safdie/ Holocaust History Museum at Yad Vashem/ Jerusalem, Israel smarch/ New Apostolic Church in Zuchwil/ Zuchwil, Switzerland Valerio Olgiati/ House K+N/ Zurich, Switzerland Rudy Ricciotti architecte/ Centre Chorégraphique Aix en Provence/ Provence, France





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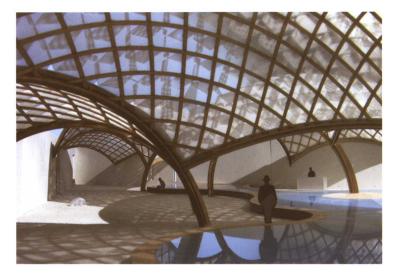
MoMA and P.S.1 Select OBRA Architects as Winner of 7th Annual Young Architects Program 纽约现代艺术博物馆和P.S.1选出 OBRA建筑事务所作为第七届年度 青年建筑师计划得主

The Museum of Modern Art and P.S.1 Contemporary Art Center announced the selection of the New York City based firm OBRA Architects, led by Pablo Castro and Jennifer Lee, as the winner of the 7th annual MoMA/P.S.1 Young Architects Program. The objective of the Young Architects Program is to identify and provide an outlet for emerging young talent in architecture, an ongoing mission of both MoMA and P.S.1. OBRA, the winning finalist. will realize BEATFUSE!, an installation that evokes a sense of interior space via seven curved, interconnected shells made of plywood and polypropylene mesh that ripple throughout the courtyard. The project also encompasses wooden tidal pools, water misters, and light strainers that create constantly changing shapes in the mist. Three outdoor spaces - a caldarium, a tepidarium, and a frigidarium - offer climactic comfort and variety through architecture. For example, the frigidarium, a small outdoor gallery, will provide respite from the summer heat through the use of foil bubble insulation and ice. As in past years, the project serves as the venue for Warm Up, the popular music series held annually in P.S.1's courtyard. The installation will be on view into September 2006

纽约现代艺术博物馆和P.S.1当代艺术中心宣布,以纽约为基地、由帕博罗·卡斯特罗和詹尼弗·李带领的OBRA建筑事务所,为第七届年度MoMA/P.S.1青年建筑师计划的胜出者。

青年建筑师计划,是由MoMA和P.S.1 共同规划的活动,目标是挖掘建筑界青年 新秀,并为他们提供一个可供发表作品的 平台。

胜出的OBRA的作品"BEATFUSE!"是一个由夹板和聚丙烯网制成的装置,这七个互相连接的曲壳在庭院中起伏波动,唤起一种室内的空间感。这个方案还包括了潮汐的木质水池、喷雾器以及轻型过滤器,通过它们来创造出不断变化的薄雾。三个室外空间——高温浴室、温水浴室和冷水浴室——在建筑中提供了顶级的舒适和多样性。例如冷水浴室,一个小型的室



外廊道,通过使用铝箔气泡绝缘体和冰来 创造夏日热浪中的清凉空间。过去几年, 这个作品成为每年在P.S.1庭院中举行的 "Warm Up"流行音乐演唱会的会场。这 个装置将于2006年9月公开展出。

Foster and Partners Unveils Designs for Green Super-High Tower in Moscow, Russia

福斯特事务所揭开俄罗斯莫斯科绿 色超高层塔楼面纱

Foster and Partners' Moscow City Tower - taller than any other building in Europe - is a striking new addition to the dynamic high-rise skyline of Moscow. With its unique form, this new landmark will be visible from the heart of Moscow. The building continues the practice's investigation into the nature of the tower, taking structural, functional, environmental and urban logic to a new dimension. The mixed-use project incorporating apartments, hotel, office and leisure space - will have an 'energy cycle' that will pioneer sustainable architecture and reinforce the economic and social vitality of Moscow. Based on a highly efficient geometry derived from the triangular plan, the vertical city is a powerful triumvirate of three 'arms' that meet at a central green spine running the full height of the tower. Wider at the base and tapering towards the top, the pyramidal form is elegant and slender in profile, and benefits from a highly efficient composition to achieve the maximum stability with the minimum structure, as well as the most effective distribution

of space. The tower is aided in resisting wind loads by a series of sloped fan columns extending diagonally upwards to the spine from the broad, triangular base. Overlaid by columns set at a reverse angle, this unusual oblique lattice carries the building's load while also giving it its distinctive geometric facade.

福斯特事务所的莫斯科城市塔楼,这座比欧洲任何建筑都高的大楼,为不断变化的莫斯科高层天际线增添了一个惊人的新亮点。它独特的形式使人们从莫斯科的心脏就可看到这个新地标。该建筑延续了对塔楼自然环境的调查实践,将结构、功能、环境以及城市的思考带入一个新的尺度。这个多功能项目,结合了公寓、酒店、办公和休闲空间,具有"能量循环"的特点,是可持续建筑的先锋,有益于增强莫斯科的经济和社会活力。

这个垂直城市基于一个由三角形平面



This page, above: Model of BEATFUSE! by OBRA Architects. Photo courtesy of the architects. This page, below: CG rendering of the Moscow City Tower by Foster and Partners. Image courtesy of Foster and Partners. p. 6, left: CG rendering of Facility at American University of Beirut, Lebanon by Zaha Hadid. Image courtesy of the architect. p. 6, right: Ara Pacis Museum designed by Richrd Meier. Photo courtesy of Comune di Roma.

本页,上:OBRA建筑事物所的"BEATFUSE!"模型;下:福斯特事务所的莫斯科城市大楼CG效果图。

6页,左:扎哈・哈迪德的黎 巴嫩贝鲁特的美国大学教学楼 CG效果图;右:理查德・迈耶 的阿拉帕西斯博物馆。 衍生而来的精炼的几何形,其三个强有力的呈三足鼎立的"臂"交会于贯穿大楼整个高度的中心绿色脊柱。金字塔式造型的轮廓基部较宽,向上渐收,优雅而修长,并受益于一个以最少结构达到最大稳定性的高效率的构成系统,同时也使空间的使用率达到最大化。一系列倾斜的扇形柱从三角形基础宽处向脊柱对角式向上延伸,从而保证了塔楼的抗风荷载能力。这个不覆;的独特格网由相反角度设置的柱子覆盖,承担了建筑的荷载的同时,也给予建筑与众不同的几何立面。

Zaha Hadid Wins Competition for Facility at American University of Beirut, Lebanon 扎哈·哈迪德赢得黎巴嫩贝鲁特的 美国大学教学楼竞赛

The Issam Fares Institute (IFI) for Public Policy and International Affairs at the American University of Beirut (AUB) in Lebanon is designed for students and academics as well as local, regional and international researchers - policy makers whose work projects and strategies current and future policy decisions in Lebanon and the Middle East. This proposal aims to reflect and facilitate that social and intellectual program. The design approach accommodates the existing site landscape conditions which allow the IFI to function in a harmonious fashion. The building emerges fluidly from the geometry of the surrounding network of public paths as opposed to sitting on the land as an isolated object. The form of the building flows as an undulating extension of the site moving up to create different dynamic spaces and then vanishes back into the terrain. The gesture

extends beyond the limitations of the site, creating a structure that is open and spacious - two qualities that rarely result from the construction of a confined building in a small site. The IFI is to be accessed from two main public entrances. The west entrance gently ramps up to the second floor from grade level where the Director's office, Administration and Researcher Lounges are located. The east entrance leads to the first floor where the Conference/ Workshop, break-out rooms and lounge spaces are situated. The researchers' offices and seminar rooms are located on the third floor and fourth floor with a Reading Room and roof terrace on the fifth and sixth levels. The Auditorium and its related amenities are located underground, creating a comfortable and quiet academic space. The third and fourth floors are connected via bridges through the atrium leading clearly to an escape core at each end of the

黎巴嫩贝鲁特美国大学(AUB)的伊萨姆·法利斯学院(IFI)公共政策和国际事务学会教学楼是为该校师生和学术团体——包括来自本地、本区域和国际的研究学者——以及那些研究黎巴嫩和中东当前和未来政策的政策制定者设计的。该提案的目标是表现并推动社会和知性方面的活动。

building.

该设计融合了现有的基地景观,使教学楼呈现出一种和谐的姿态。建筑从周围公共道路网的几何形式中自然流畅地立起,而并非一座突兀在地面上的独体建筑。建筑的形式,从基地处如波浪起伏般往上延伸,创造出了不同的动态空间,并最终消失在整个地块中。此建筑物超越了基地的限制,创造了一个开放而充满空间感的结构——这是从小面积基地的局限性建筑中产生的少有的两种特性。

IFI将从两个主公共入口进入。西入口以缓坡通向三层主任办公室、行政管理室和研究人员休息室。东入口通往二层的会议/工作室、各种隔间和休息室。研究人员办公室和会议室位于四楼和五楼,同时在六层和七层设有一个阅读室和屋顶平台。

礼堂和相关设施被安排在地下,创造 出了一个舒适而安静的学术空间。四层和 五层以桥相连接,通过中庭可以直接通往 建筑各个部分的逃生核。

announcements

New Museum of the Ara Pacis in Rome Designed by Richard Meier to Open 理查德·迈耶设计的罗马阿拉帕西 斯新博物馆开馆



The Ara Pacis Museum marks the first work of modern architecture in the historic center of Rome before World War II. The sacrificial altar - which dates back to 9 B.C. - has been under protective covering for the last five years during construction of the new museum designed by Richard Meier. Situated along the Tiber River near the Ponte Cavour, the museum will be an integral part of the urban context of the Augustan area located on the western edge of the Piazza Augusto Imperatore.

The building features a striking glass curtainwall measuring 40 feet in height and over 150 feet in length. Outside the main structure, a low travertine wall extends from within the Great Hall tracing the ancient shore of the Tiber River. An outdoor roof terrace above the auditorium includes a café with views over the Mausoleum of Augustus to the east and the Tiber River to the west.

阿拉帕西斯博物馆成为首座在二战前罗马历史区的现代建筑。在理查德·迈耶设计的阿拉帕西斯博物馆的营建过程中,公元前9世纪建成的祭坛被保护性地覆盖了5年之久。位于台伯河卡沃尔桥附近的博物馆,将成为奥古斯都帝王广场西部边缘的

古斯都区城市文脉中不可分割的一部分。 建筑以40英尺(约12.0m)高、150英尺 (约45.7m)长的惊人玻璃幕墙为特色。 主结构外,一片低石灰墙依着台伯河的古 沿岸从大厅处延展。礼堂上方的屋顶户外 平台设有一个咖啡厅,可以从那里向东眺 望奥古斯都帝王灵寝,向西眺望台伯河。

Deyan Sudjic Appointed Director of Design Museum in London

迪耶・萨迪奇担任伦敦设计博物馆 馆长

The Design Museum in London announced the appointment of Deyan Sudjic as director. Sudjic, a journalist and critic, will replace Alice Rawsthorn. He is currently the architecture critic of London *Observer* magazine, and the dean of the faculty of art, architecture and design at Kingston University. He founded *Blueprint* magazine in 1983 and served as editor of *Domus* from 2000 to 2004. He was also the director of the 2002 Venice Architecture Biennnale.

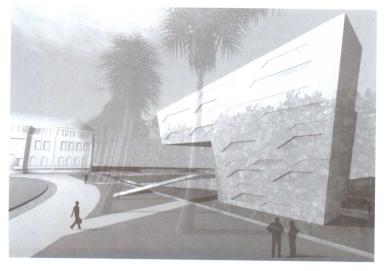
伦敦设计博物馆宣布迪耶·萨迪奇担任馆长。萨迪奇是名记者兼评论员。他目前是伦敦观察报的评论员,金斯敦大学艺术建筑与设计系主任。他于1983年创办了《蓝图》杂志,从2000年至2004年担任《Domus》编辑。他同时也是2002年威尼斯建筑双年展的策展人。

obituary

Simon Ungers Passes Away 西蒙·翁格尔斯逝世

Simon Ungers, an architect and an artist, died on March 6, aged 48, in Cologne, Germany after a long illness. He was born in Cologne in 1957 and moved to New York in 1969 when his father, O.M. Ungers, became the Dean of the School of Architecture of Cornell University. He received a Bachelor of Architecture in 1980. He designed elegant austere homes, including the Knee Residence (New Jersey), T-House. and Cube House (New York). He also taught at a number of American schools. Since 2000, he primarily focused on his artwork in Cologne.

建筑师和艺术家西蒙·翁格尔斯长期 卧病在床,于3月6日在科隆逝世,享年48



岁。他1957年出生于科隆,于1969年搬往纽约,当时他的父亲奥斯瓦尔德·马蒂亚斯·翁格尔斯在康奈尔大学建筑学院任院长。他于1980年获得建筑学学士学位。其设计的作品优雅质朴,如腕木住宅(新泽西)、T住宅和立方体住宅(纽约)。他曾在美国众多学校任教。自2000年起,在科隆主要从事艺术工作。

competitions

2006 International Bamboo Building Design Competition 2006国际竹建筑设计竞赛

Bamboo is the next green building evolution. This giant grass is a renewable, restorative and versatile building material. Structural bamboo has been certified for international building codes. Now this certified structural bamboo material is available for use by architects and engineers throughout the world. The competition encourages architects to apply their creativity to design new buildings with this ancient building material.

竹将带来下个时代的建筑革命。这种 大型草木允许更换、修复,是具有多种形式的建筑材料。竹作为结构材料来使用, 己获得国际建筑规范的认可。现在,这种 材料已经在世界各地,为众多的建筑师和 结构工程师所使用。该竞赛鼓励建筑师发 挥创造性,以这种古老的建筑材料来设计 新的建筑。

Host organization: Bamboo Technologies, 1156 Makawao Avenue, Makawao, HI 97678, USA Registration deadline: December 31, 2006 Submission deadline: January 15, 2007

phone: +01 808 572 1007 e-mail: info@bamboocompetitio n.com

url: www.bamboocompetition.co m/index.html

The World Habitat Award 2006

2006世界住宅奖

Two awards are given annually to projects that provide practical and innovative solutions to current housing needs and problems: one for a project in the global north and the other for a project in the

global south. The World Habitat Awards has a two-stage entry process. See website for further details.

该奖项颁给对现今住宅需求与问题提供创新又具实用性解决方案的项目。南半球和北半球各设一个奖项。世界住宅奖有两个入选程序。详情参见网站。

Host organization: Building and Social Housing Foundation
Submission deadline: June 1
e-mail: wha@bshf.org
url: www.bshf.org

exhibitions

Yves Klein: Air Architecture 伊夫·克莱因: 空气建筑展

Austrian Museum of Applied Arts Until September 24

This exhibition shows architectural projects and concepts by the French artist Yves Klein. Throughout his life, Yves Klein also concerned himself with the idea of "Air Architecture", an architecture of ephemeral materials such as air, fire, water, and space as defined by the body.

该展是对法国艺术家伊夫·克莱因的一些建筑项目和概念的展示。伊夫·克莱因终其一生在追求"空气建筑"理念,即一种使用诸如空气、水和火短暂性的建筑材料并由身体来限定空间的建筑类型。

Contact: Stubenring 5, A-1010 Vienna, Austria phone:+43 1 711 36 0 fax: +43 1 713 10 26 e-mail: office@MAK.at url: www.mak.at

Modernism: Designing a New World 1914–1939

现代主义: 1914-1939新世界的设 计展

Victoria & Albert Museum Until July 23

At the beginning of the 21st century our relationship to Modernism is complex. The built environment that we live in today was largely shaped by Modernism, which was not conceived as a style but a loose collection of ideas. It was a term which covered a range of movements and styles that largely rejected history and

applied ornament, and which embraced abstraction. This is the first exhibition to explore the concept of modernism in depth, rather than restricting itself, as previous exhibitions have, to particular geographical centers or to individual decades.

21世纪初,我们与现代主义的关系极为复杂。我们今天居住的环境大部分来自于现代主义的塑造。现代主义不被人们认为是一种风格,而只是一种松散概念的集合。这个术语涵盖了各种运动和风格,其中大多数拒绝传统及应用装饰并拥护抽象性。不像以前展览将自身局限于某个地理中心或个别年代,这次展览首次对现代主义作了深度的探索。

Contact: Cromwell Road, London SW7 2RL, UK

phone: +44 20 7942 2000 e-mail: vanda@vam.ac.uk url: www.vam.ac.uk

DynamiCity - Tactics for a Changing Metropolis 动态都市——应对变化中的大都市策略展

Netherlands Architecture Institute Until June 11

This exhibition assembles four groups of architects who have developed a new approach and a visual language for urban environments. These firms offer a novel analysis of the intricacies of urban life. To do so, they have developed methods to help us better understand, perceive, experience and use the city. In the "DynamiCity" exhibition, each firm will present a project from its portfolio and demonstrate its approach to investigating, analyzing and mapping out the dynamic metropolis.

该展主要是针对在都市环境上形成新设计手法和视觉语言的四组建筑师的展览。这些建筑事务所从新的角度分析了复杂的城市生活。为此,他们发展出了一套新的方法来帮助人们理解、感知、体验和利用城市。在这个展览里,每个建筑事务所从他们的其中一个项目展开对动态都市的调查、分析和规划。

Contact: Museumpark 25, 3015 CB Rotterdam, Netherlands phone: +31 10 4001200 fax: +31 10 4366975 e-mail: info@nai.nl url: www.nai.nl

The Green House: New Directions in Sustainable Architecture and Design 绿色住宅: 可持续建筑与设计的新方向

The National Building Museum May 20, 2006–June 3, 2007

In the world of architecture and design, green means cutting-edge, cost-efficient, and environmentally aware. The exhibition will explore the building materials, consumer products, and energy systems that offer attractive and often affordable sources of the latest in home building technology and products. Through the exhibition and related programming, The Green House will explore developments in sustainability and will provide an informative overview of this dynamic design movement.

在建筑与设计领域,绿色意味着先进、效能和环保意识。该展览是为探索最新住宅建造技术与产品中具有较大应用可能性的建筑材料、产品以及能源体系而设。通过展览和相关的活动,绿色住宅将探索可持续性建筑的发展方向,并提供这个设计运动信息的综览。

Contact: 401 F Street NW, Washington DC, 20001, USA phone: +1 202 272 2448 fax: +1 202 272 2564 e-mail: akalinowski@nbm.org

url: www.nbm.org



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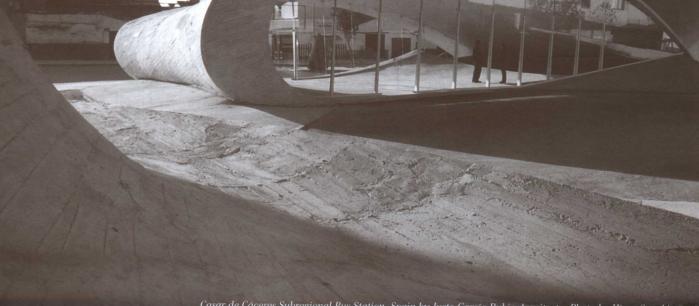


伊奈(中国)投资有限公司



Concrete Architecture

专辑: 混凝土建筑



Casar de Cáceres Subregional Bus Station. Spain by Justo García Rubio Arquitecto. Photo by Hisao Suzuki.

此为试读,需要完整PDF请访问: www.ertongbook.com

Essav:

Just Another Material?

Adrian Forty

论文: 只是一种材料? 艾德里安·佛缇



Left: Apartment building, 25 bis rue Franklin (1904) by Auguste Perret. Right: Detail of tile cladding of apartment building, 25 bis rue Franklin. Photos on pp. 10–17 except as noted by Adrian Forty.



左: 奧古斯特·佩雷设计的巴黎弗兰克林路25号公寓(1904); 右: 弗兰克林路25号公寓的外墙细部。

A review of recent concrete architecture at once raises the question whether there is anything new about the way concrete is being used today. Are the conventions for the architectural use of concrete set up in the last century simply being continued, or are we looking at a departure in a wholly new direction? Curiously, in spite of the renaissance of concrete over the last ten to fifteen years, there has been very little discussion about this, and we have no choice but to turn to the buildings themselves for answers.

Before doing so though, it should first of all be said that the very notion of 'concrete architecture' is itself a residue from the twentieth century. Prior to the nineteenth century, it would not have occurred to an architect that works of architecture could be defined by a material - yet from then onwards it became a commonplace, and the fact that we have accepted it so willingly up to now is just one sign of how strong a hold the nineteenth century theory of structural rationalism has continued to have upon our minds. Of the several revolutions in architectural thought that took place in the nineteenth century, perhaps the one with the longest-lasting influence was the notion that the form of buildings was a result of the material of which they were made: as the great French theorist and architect Eugène-Emmanuele Viollet-le-Duc put it, 'any change of materials must bring about a change of forms', and with this was born the expectation that a new material must give rise to new forms of expression.

And of all the new materials developed in the nineteenth century, it was concrete that seemed most particularly destined to bring into being new architectural forms, because its isotropic properties - its ability to direct loads in all directions - offered the prospect of liberating architects from the tyranny of load and support that had dominated all previous architectures. The expectation that concrete must ultimately make possible a new architecture was rife well into the 1960s, and made it completely normal to talk about 'concrete architecture' as a distinctive category. Whether we can still do so today seems more doubtful. Already by the early 1960s there were signs that some people no longer took it for granted that works of architecture made out of concrete would be different from those made out of other materials. Kenzo Tange, in a conversation with Mies van der Rohe sometime in the late 1950s, asked him what he thought the difference was between steel and concrete, and Mies replied, very much to Tange's surprise, 'both are the same substantially'.2 For Tange, an inheritor, however indirectly, of the French structural rationalist tradition, this was mildly shocking, and indeed, coming from Mies, an architect famous for his obsessive attention to the craft of building, it does seem heretical. Nonetheless, at the end of his life, Mies appears to have decided that the qualities of works of architecture were independent of the materials of which they were made. Another half century later, Mies' remark seems less exceptional, and many architects would now say that concrete is just another material - yet there still seems to be a residual belief that the material must in some way define the architecture from which it is made, and for that reason we find ourselves unprepared to give up altogether the notion of 'concrete architecture'.

What is referred to as 'concrete architecture' in practice means works of architecture where the concrete is exposed, and the recent renaissance in concrete architecture is a renaissance of *exposed* concrete. Although a high proportion, possibly even the majority, of all buildings produced the world over today are built with a concrete structure which is then clad in other materials,

审视当下的混凝土建筑,人们不禁要问,我们对混凝土材料的使用是否有所创新?今天,我们是延续了上世纪传统的表现手法,还是有了全新的发展方向?虽然在过去的十到十五年里,混凝土建筑经历了复兴的历史,但是人们对此却鲜有研究。因此我们不得不从建筑本身去寻求答案。

在开始研究之前,我们首先必须理解,这里所用的"混凝土建筑"概念本身,仍是20世纪思想的延续。因为在19世纪之前,建筑师的作品不可能用他使用的建筑材料来命名。尽管在此以后,这成为了一种普遍的现象。今天,我们能很自然地接受这种观点,正是强烈地受到19世纪结构理性主义的影响。在当时众多建筑理论中,影响力最持久的应当算是"形式追随材料"这一理论了。正如法国伟大的建筑师及理论家尤金•埃曼努尔•维奥莱•勒•杜克所言:"任何材料的变化都必然导致建筑形式的变化。"正是在这种理论影响下,人们也期待新性能建筑材料的应用能够带来建筑表现形式的新发展。」

19世纪发展的新材料中,混凝土注定能够带来建筑形式的革命。因为混凝土具有受力均等性的特点,能够向各个方向均匀传力,它使建筑师能够摆脱以前所要考虑的材料受力及支撑问题的束缚。因此,人们满怀信心地期待混凝土材料能够最终带来新的建筑形式,这种观点一直持续到20世纪60年代,并且混凝土建筑也顺理成章地成为一种独特的建筑类型。今天我们能否还能够这样看待混凝土建筑是很值得怀疑的,其实早在20世纪60年代,人们就不再盲目地认为混凝土建筑和其他材料的建筑会有多大区别。1950年左右,丹下健三在和密斯·凡·德·罗的一次谈话中,问道:"钢结构和混凝土的区别在哪里?"密斯的答案出人意料,他说:"二者没什么本质区别。"²

丹下健三作为法国结构理性主义传统的间接继承人,感觉密斯的回答有些不可思议,特别是考虑到密斯是一个对建筑工艺情有独钟的建筑师,这个答案越发令人费解。即使到了晚年,密斯仍坚定地认为建筑之美独立于材料之外。半个世纪后,这一论断逐渐被很多人接受了,人们不再把混凝土材料当成一种特别的建筑材料。但是人们还是坚持认为建筑材料在某些方面会影响建筑形态,这也说明我们还是不能完全舍弃混凝土建筑的观念。

这里所说的混凝土建筑是指将混凝土材料暴露在建筑表面的做 法,近来所谓的混凝土建筑复兴亦是就此而言。虽然今天绝大多数建 筑都使用混凝土结构,但因为做了不同的面层处理,所以并不属于我 们所指的混凝土建筑的范畴。只有追溯近百年来建筑的发展史, 我们 才能理解这种看似不合逻辑的分类观念。纵观百年漫长的发展历史, 对于混凝土材料的暴露或是隐藏,人们一直摇摆不定。20世纪初叶, 人们普遍认为混凝土应该隐藏起来:这种观点见诸于法国钢筋混凝 土大师奥古斯特·佩雷早期的作品,比如巴黎弗兰克林路25号公寓 (1904),这个建筑的混凝土表面用陶瓷面砖装饰。英国的建筑师贝 雷斯福德・派特在1925年发表评论指出, "混凝土暴露得越少越好, 它并不是像大理石一样珍贵。"3这代表了20世纪早期的典型观点。 但是到了20年代,包括佩雷在内的很多建筑师有了不同的看法, 他们认为混凝土结构应该暴露在室内外。佩雷为他在巴黎市中心设 计的公共土木事业博物馆(1937)深感自豪,这是一个大型的公 共建筑,室内外全部使用了暴露的混凝土,没用任何抹灰面层。佩 雷坚定地宣称材料的普适性以及混凝土的优势: 作为普遍运用的建



Rooftop nursery school, Unité d'Habitation, Marseilles (1946– 1952) by Le Corbusier.

勒・柯布西埃设计的马赛公寓的托 儿所屋顶(1946-1952)。

these are not generally regarded as 'concrete architecture'. Their somewhat illogical exclusion from the category can only be understood in relation to the history of architecture over the last century. Taking a long view over that time, there has been a succession of alternating attitudes towards the exposure and concealment of concrete. At the very beginning of the twentieth century, it was generally expected that concrete should be covered: we see this in the early buildings of Auguste Perret, the French master of reinforced concrete, such as the Paris apartment block at 25 bis rue Franklin (1904), where the concrete was clad in ceramic tiles. As the English architect Beresford Pite remarked in 1925, in a view that was fairly characteristic in the early part of the century, 'I do not want to see as much concrete as I can, I want to see as little of it as I can; it is not as if it was precious marble'. But already by the 1920s, Perret and others had started to take a different view, and to argue that the concrete structure should be exposed, inside and out. Perret regarded it as a matter of great pride that in his Musée des Travaux Publics (1937), a large public building in central Paris, there were no internal plaster finishes, and that the building was entirely made of exposed concrete inside and out. Perret was determined to demonstrate the versatility of the medium, and the virtues of concrete as a universal building material that could be made to serve all purposes and in all situations. To cover concrete was to compromise it, to suggest that it was less than capable of fulfilling its destiny as the material of which all buildings in the future might be built. This same attitude was followed by Le Corbusier in his béton-brut architecture, and was repeated in the Brutalist architecture of the 1950s and 1960s. But after about 1960, there was a reaction against this attempt to demonstrate concrete as the universal building medium, and for the next twenty years there was very little exposed concrete, and it was generally covered with other materials, whether stone or glass, or metallic cladding systems. In the 1990s, however, concrete structures started to be revealed again, and exposed concrete came once again to be regarded as desirable. Was this a return to the aesthetics of the 1950s and 1960s? Although in a number of cases architects wanting to use fair-faced concrete found that they had to call out of retirement engineers and concrete specialists who had last practised in the 1960s because these were the only people who still knew how to achieve high quality concrete finishes, I do not think that we can regard these new post-1990 buildings as a continuation, or a revival of the 1950s and 1960s. There are at least two very significant differences between them.

The first of these is that exposed fair-faced concrete is now being used predominantly for the interior of buildings. Whereas in the 1950s and 1960s, exposed concrete was commonly used inside and out, it is now less usual to find it used as an exterior finish. Although there are plenty of notable exceptions, such as, to take two European examples, Herzog and de Meuron's Rudin House at Leymen, France (1996–1997, a+u 02:02 Special Issue), or Valerio Olgiati's school at Paspels in Switzerland (1997 -1998, a+u 02:04), these are not the monolithic objects that they would have been if built in the 1960s, but are constructed with a double skin of concrete with an insulating void between, to satisfy energy conservation requirements. More characteristic though of the recent use of concrete are buildings where the exposed concrete is exclusively on the interior, such as the Kunst Haus at Bregenz, Austria (1994–1997, a+u 98:02 Extra Edition), by Peter Zumthor, clad in translucent glass on the outside, but with an interior that is entirely finished with fair-faced

concrete. As well as avoiding the problems of staining and vegetable growths that were characteristic of 1960s buildings, the restriction of exposed concrete to the interior is connected with the discovery that concrete core acts as a thermal mass that slows down the heating of the building in summer, and cooling in winter, reducing the energy consumption of buildings. This effect, first noticed in Britain in the Wiggins Teape office building by Arup Associates at Basingstoke (1982-1983), is only effective when the surface of the concrete is exposed, so that air passing over it can be cooled or warmed: cladding concrete surfaces destroys the effect. Although not itself an aesthetic reason for exposing concrete internally, it has become a justification for the choice of concrete as an internal finish. The second feature of new concrete interiors that distinguishes them from earlier buildings is the concrete is often only partially exposed. Compared to the all-or-nothing attitude towards the use of concrete that was characteristic of the 1950s and 1960s, now it is common to find the concrete partially exposed, but partially clad - an arrangement that would not have been acceptable before. This can be seen in for example the Walsall New Art Gallery of 1996-2000 (a+u 99:04), by Caruso St John, where the concrete structure of the building is left partly exposed on the interior, but partly covered with a lining of narrow douglas fir boards, of exactly the same width (and material) as the boards that were used for the formwork of the shuttering of the concrete. The result is an ambiguity as to whether what one sees on the interior is a lining that has been attached to the interior of the building, or whether it is the timber that is the true surface of the interior - a fictive formwork left in place, but cut away in places to reveal the concrete that lies behind. Furthermore, the concrete that one sees on the interior of the building is presented entirely as a surface: there are no reveals in it that might allow one to see the depth of the concrete, and one is not encouraged to see it as a mass, but only as surface. The architects were keen to avoid the effect often given by concrete that has been cast in steel formwork, where the regularly spaced holes left by the tie rods give to the wall the appearance of being made up of panels fixed to it; and they were critical of 1960s buildings like Denys Lasdun's National Theatre in London, where concrete was used inside and out, and which they saw as too 'macho', too much a heroic demonstration of muscular strength. In the Walsall Art Gallery, the concrete's effect comes from the contrast with the wood: what matters is the relationship with other materials, and in these concrete does not always have to be the dominant partner.

In the architecture of the 1950s and 1960s, it was not usual to mix concrete with other materials. To do so implied that concrete was less than perfect, and risked compromising the claims for it to be a universal building material. The introduction of other structural materials immediately suggested that it had a weakness, that it needed support. Although there are many interesting examples of concrete combined with other materials in the mid-twentieth century, particularly from Italy, these were regarded, at least from the French-dominated orthodoxy of reinforced concrete at the time, as aberrations from good practice. In recent architecture, to combine concrete with other materials is no longer controversial: placing another material, even a structural material next to concrete does not call into doubt concrete's integrity.

Whereas in the 1950s and 1960s, architects and engineers frequently wanted their works to prove something about concrete, to show that concrete could do things that other

筑材料能满足各种条件下各种功能的要求。而将混凝土掩盖起来的做法不啻于对材料使命的危害,因为将来所有的建筑都将由混凝土建造。勒·柯布西埃也在他的"粗野主义"建筑中持相同的观点,并且这一观点在五六十年代的"粗野主义"建筑中又一次得到了表现。但是60年代以后,人们开始反对把混凝土当作一种万能的建筑材料。其后的二十年间,混凝土建筑多数都被隐藏在其他材料的面层以下,比如石材、玻璃或者是金属板,很少有直接暴露在外的。然而,90年代,混凝土结构重新被发现,并且暴露的混凝土成为人们追捧的对象。这是对五六十年代混凝土建筑美学原则的回归吗?在当时的很多项目中,建筑师不得不求助于那些已经退休的工程师或者混凝土专家,因为他们有在60年代建造混凝土建筑的经验,并且掌握着建造精致混凝土面层的宝贵技术。尽管如此,我仍然认为90年代后期的混凝土建筑不是五六十年代的延续或者复兴,因为他们之间至少有两点主要的区别。

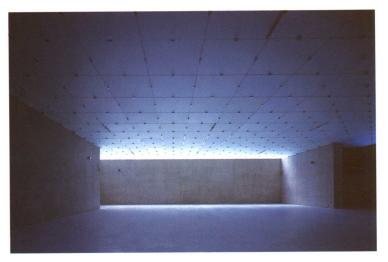
首先, 五六十年代对混凝土的暴露大量用于建筑的室内以及室 外,然而今天却主要用在室内,很少有用在外立面的。当然也有一 些例外,举两个欧洲的例子,赫尔佐格和德梅隆在法国雷蒙的鲁丁 住宅(1996-1997, 《a+u》02:02临时增刊)以及在瑞士帕斯佩尔斯 的瓦勒里欧・奥鲁加提设计的学校(1997-1998, 《a+u》02:04), 这两个建筑如果是建在60年代,可能就不会像现在这样引人注目 了。为了满足节能的要求,建筑采用了双层混凝土表皮,中间夹以 空气绝缘层。但是, 现在清水混凝土更为典型的用法仍然是用于室 内,例如彼得·卒姆托在奥地利布雷根茨的堪绍斯美术馆(1994-1997, 《a+u》98:02临时增刊), 这个建筑室外采用透明的玻璃立 面,室内全部饰以精致的清水混凝土面层。将混凝土暴露在室内, 一方面可以避免污染或植物滋生,另一方面可以降低建筑物的能 耗,研究发现,混凝土芯作为热载体夏天可以降低建筑的热度,冬 天可以减缓建筑的冷却。这一作用首先在由阿乐普集团设计的英国 贝辛斯托克的卫晋斯・特培办公楼(1982-1983)里发现,研究证明 只有在混凝土暴露的情况下, 空气经过混凝土表面时才能引起降温 或者升温,如果外面还有其他的材料就会影响这种效果。尽管这项 研究结果本身不代表暴露混凝土的美学,但它却为其提供了一个正 当的理由。

其次,五六十年代混凝土的做法是要么全部暴露要么全部隐藏,而现在只是局部地将混凝土材料用于室内,即部分暴露混凝土,部分覆以其他材料。这种做法在以前是不可能被接受的。例如,卡鲁索·圣·彼得设计的沃尔索耳新美术馆(1996-2000,《a+u》99:04),这个建筑的室内一部分是暴露的混凝土面层,另一部分则是与混凝土木模板尺寸完全相同的花旗松木板。这样就造成了一种模糊性:我们是把装修看作附丽于建筑室内的一层衬料,还是把松木板看作真正的室内表皮——部分保留原来的松木版,部分拆除以露出背后的混凝土材料。今天我们更倾向于把室内设计中运用的混凝土材料当作是一层表皮:人们看不到混凝土的厚度,也不倾向于把它看成是体量,而只是一层表皮。建筑师竭力避免在混凝土表面留有钢模板印迹和支撑杆件造成的规则的洞口。而这些对于60年代的建筑而言是必不可少的,比如伦敦的丹尼斯·朗斯顿国家剧院,室内外都使用了混凝土材料,这就使建筑看起来太过阳刚,过于炫耀建筑的力度之美。而在沃尔索耳美术馆中,混凝土的效果在与木材



School in Paspels (1997–1998) by Valerio Olgiati. Photo by Shigeo Ogawa.

瓦勒里欧·奥鲁加提设计的帕斯佩尔斯学校(1997-1998)。





Above: Gallery space of Art Museum Bregenz (1990-1997) by Peter Zumthor. Below: Entrance vestibule of Walsall New Art Gallery (1996-2000) by Caruso St John. Photo by Shinkenchiku-sha.

上: 彼得·卒姆托设计的布雷根茨美 术馆展厅(1990-1997);下:卡鲁 索·圣·约翰设计的沃尔索耳新美术馆人 口 (1996-2000)。

materials could not, this is a much less frequent ambition in recent buildings. For most of the twentieth century, buildings made out of concrete celebrated the material's exceptional rigidity. When employed in post and beam type structures, concrete lent itself to the creation of seemingly unnaturally long spans, or of dangerously extended cantilevers: one might think of buildings like Lina Bo Bardi's Museum of Modern Art in São Paulo (1957-1968) with its astonishing span carried on only four supports, or Frank Lloyd Wright's Falling Water (1935 -1948). Or when used in curved forms, in vaults, like Kahn's Kimbell Art Museum at Fort Worth (1967-1972), or in parabolic shells, like Reyna and Candela's Cosmic Ray Pavilion of 1952 in Mexico City or the Paris CNIT of 1956-1958 at La Défense, what was emphasised was the stiffness of the material, its shell-like nature. Concrete was understood as an exact material, which resulted in precise structures. The aim in every case was at an optimum solution, a determinate structural outcome. But compared to these examples, with their characteristics of rigidity and hardness, in some recent buildings we see instead almost the inverse, where concrete becomes soft and limp. Take for example Alvaro Siza's Portuguese Pavilion at the Lisbon Expo 98 (a+u 98:04): here the concrete roof covering the central space is a sagging canopy, hanging limply between the two side walls. This is not a roof that gives the impression of the hardness of the material, on the contrary there seems every reason to expect it to droop a little more under the weight of rainwater. There is no reason why the roof should be exactly this shape - it could sag a little more, or be a little tauter. Or to take another example, at Zaha Hadid's recent extension to the Ordrupgaard Museum in Copenhagen (completed 2005, a+u 05:11), where the roof and walls appear to be a monolithic slab of curving concrete, the structure is in fact a 330 mm thick skin of concrete on the inside, above which there is a void, and then another outer skin of 150 mm of concrete. There is no particular reason for the outer skin to be made of concrete - the choice of material is arbitrary, and makes no difference to the structure, only to the appearance. Whereas in the last century, the expectations were that concrete should be used to its technical limits, and that there should be no redundancy in the material, this no longer seems to matter. Compared to earlier attitudes, concrete now seems to be treated as a structurally indeterminate material. It is much more rare than it was to see concrete being used to demonstrate technological innovation and progress. Relative to the 1960s, much concrete today is relatively unadventurous in structural terms. Whereas in the late 1950s and early 1960s, architects and engineers wanted every building to be a structural experiment, now structural experiments are much more commonly found in lightweight materials, or innovative cladding systems. The role of concrete is much more often to supply effects of density and mass than it is to suggest ideas of architecture as an ever-developing structural art. For much of the last century, concrete was treated as a 'generic' material. It could almost be said that it stood for matter itself, as if concrete had subsumed all other materials and become the pure, fundamental substance of building. From Perret onwards, the obsession with creating buildings that were entirely made out of concrete, even down to the furniture, was a response to the belief that concrete was ultimately more capable than any that make up architecture. There was a belief that through concrete, architecture would at last be able to fulfil its destiny. To the untrained eye, the concrete of which the buildings of

的对比中得以完美地体现。建筑师通过处理混凝土与其他材料的对 比关系来彰显其美学价值,而并非由其是否占主导地位所决定。

在五六十年代的建筑实践中,混凝土材料很少和其他材料混合使用。因为这样做就证明了混凝土材料是有缺陷的,需要其他材料来弥补,而这恰恰违背了当时人们普遍认为混凝土具有普适性的观点。尽管20世纪中叶在意大利也有一些有意思的建筑将混凝土与其他材料混合使用,但是至少在当时法国人主导的正统混凝土专家眼里,这些建筑背离了优秀作品的设计原则。然而在今天,将混凝土和其他材料甚至是其他结构材料混合使用已经是司空见惯的事情了,人们并不会因此怀疑混凝土材料的完整性。

上世纪五六十年代,建筑师和工程师都有这样的野心,要用混 凝土材料表现出其他的建筑材料所不能达到的效果, 虽然现在已经 很少有人这么想了。当时大部分的混凝土建筑都致力于表现混凝土 结构独特的坚固性。在梁柱结构中, 混凝土材料能够实现超大的跨 度和惊人的悬挑。大家熟知的例子,比如丽娜·波·巴蒂设计的圣 保罗现代艺术馆(1957-1968),超大的跨度却只有四根柱子支撑; 类似的还有弗兰克・劳埃德・赖特设计的流水别墅(1935-1948)。 混凝土材料也被用在曲线拱形结构的设计中, 比如在沃斯堡路易 斯·康设计的金贝尔美术馆(1967-1972)。用在抛物壳体结构 中,比如在墨西哥城的雷纳和坎德拉的宇宙光大楼(1952)和在巴 黎拉德芳斯的国家工业科技中心CNIT(1956-1958),体现了混凝 土具有类似薄壳一样的硬度特性。当时人们把混凝土看成是能够完 美表达结构的最佳材料,上述这些例子都是对混凝土材料特性的最 佳诠释,也是根据材料性能产生的最佳结构形式。与此相反,当代 的混凝土建筑更加追求表现其柔性的特点。例如阿尔瓦罗•西扎在 1998年里斯本世博会上设计的葡萄牙馆(1998, 《a+u》98:04), 这个建筑中下沉的混凝土屋面纤巧地悬挂在两片墙体之间,像雨篷 一样轻巧地覆盖在中央广场上方。你丝毫体会不到混凝土屋面的沉 重坚实感,反而会觉得十分纤巧轻柔,似乎即使是雨水的重量也 难以承担。事实上,没有任何理由说明为什么屋顶恰好是这样的 形态,它可以更为松弛,也可以更为紧张。再举另一个例子,扎 哈·哈迪德最近做的哥本哈根的奥德乐普格德美术馆的扩建项目 (2005年竣工,《a+u》05:11),这个项目的屋面和墙体是连成整 体的双层中空混凝土曲板,内层是330mm的混凝土厚板,外层是 150mm的混凝土薄板。外表皮之所以选用混凝土板并没有什么特殊 的原因, 也与结构无关, 更多的是建筑师对外立面效果的偏好。而 在过去混凝土是作为结构材料,根据其承重特点设计使用的,不考 虑它任何多余的装饰作用。但是,今天人们已经摆脱了单一从结构 技术角度使用混凝土的观念,很少有人还会再来炫耀它在技术上的 进步革新。事实上, 今天我们对混凝土在技术方面的应用还不如上 世纪60年代大胆。当时,工程师和建筑师把每一幢房子都当成一次 实验,希望能带来结构上的创新,然而今天大部分创新研究却集中 在轻型材料和外墙贴面系统上。今天人们使用混凝土更多的是为了 表现材料的密实和质量,而非为了阐明建筑是永远发展的结构艺术 的观点。

上世纪的大部分时间里,混凝土一直被视为是一种"普遍"建筑的材料,它几乎涵盖了所有其他材料的性能,因而成为最单纯、最基本的建筑材料。在佩雷以前,人们一直痴迷于使用其他材料设计





Above: Museum of Modern Art in São Paulo (1957–1968) by Lina Bo Bardi. Below: Portuguese Pavilion at the Lisbon Expo 98 by Alvaro Siza.

上: 丽娜·波·巴蒂设计的圣保罗现代艺术馆(1957-1968); 下: 阿尔瓦罗·西扎设计的1998年里斯本世博会葡萄牙馆;