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Ammar Eloueini

图书在版编目(CIP)数据

法国当代建筑实践: 数字建构—折叠 织造 覆层: Ammar Eloueini作品 / 仇宏洲

主编; 美国亚洲艺术与设计协作联盟

—武汉: 华中科技大学出版社, 2008.9

ISBN 978-7-5609-4860-7

I. 法... II. ①仇... ②美... III. 建筑设计—作品集—法国—现代 IV. TU206

中国版本图书馆CIP数据核字(2008)第139256号

法国当代建筑实践: 数字建构—折叠 织造 覆层: Ammar Eloueini作品

主 编: 仇宏洲

美国亚洲艺术与设计协作联盟(AADCU)

出版发行: 华中科技大学出版社

地 址: 武汉市珞喻路1037号(邮编: 430074)

出 版 人: 阮海洪

责任编辑: 张晓进

责任监印: 张正林

制版印刷: 北京画中画印刷有限公司

开 本: 889mmx1194mm 1/16

印 张: 14.75

字 数: 221千字

版 次: 2008年9月第1版

印 次: 2008年9月第1次印刷

ISBN 978-7-5609-4860-7/TU·413

定 价: 228.00元

销售电话: 022-60266190, 60266199(兼传真)

网 址: www.hustpas.com

TU206/439

2008

AADCU PUBLICATION

WWW.AADCU.ORG

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ACKNOWLEDGEMENTS

This publication has been made possible with the help and cooperation of many individuals and institutions. Grateful acknowledgement is made to Ammar Eloueini for his inspiring work and for his kind support in the preparation of book on AEDS for the AADCU Arch - Design Program.

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PROJECT DIRECTOR: BRUCE Q. LAN

COORDINATOR: XIAOQU LUO/Stanford University

CURATOR/EDITOR IN CHIEF: BRUCE Q. LAN

BOOK DESIGN: °C Office®/BRUCE Q. LAN(principle)

EDITED AND PUBLISHED BY: Beijing Office/United Asia Art&Design Cooperation/bj-info@aadcu.org

IN COLLABORATION WITH: Ammar Eloueini/www.

digit-all.net; d-Lab&International Architecture Research;

°C Office®

ISBN: 978-7-5609-4860-7

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编辑与出版:美国亚洲艺术与设计协作联盟\info@aadcu.org

协同合作: Ammar Eloueini\法国;

国际建筑研究与设计中心\美国;零度事务\美国

学术项目总策划:蓝青

国际总协调:罗小渠\斯坦福大学

书籍设计:°C Office®\蓝青(艺术总监)

翻译:顾澎雯\清华大学建筑学院

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后数码时代的微妙性和复杂性

AEDS

A A D C U 2008 ARCHITECTURE DESIGN MONOGRAPH SERIES:

法国当代建筑实践

AMMAR EIOUEINI

PARIS, FRANCE

数字建构

折叠·织造·覆层

Issey Miyake法国巴黎专卖店

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物质的折叠和晶体裂层

建筑师年表

INDEX

Section One:

- 06 Switched On Gothic;
Ammar Eloueini and the Development of a Digital Aesthetic
By Reed Kroloff
- 10 Issey Miyake Pleats Please Berlin
- 26 Issey Miyake Pleats Please Perpignan
- 38 California, Stage Set Design
- 46 ONS
- 58 Nubik
- 68 Nubi-Verdopolis
- 76 MU Chair
- 86 SAICFS,
School of the Art Institute in Chicago Fashion Department Stage Set Design
- 94 CAF 1.0, Exhibition Design for the Chicago Architectural Foundation
- 98 CAF 2.0, Exhibition Design for the Chicago Architectural Foundation
- 108 MCA 1.0, Exhibition design for the Museum of Modern Art in Chicago

Section Two:

- 112 Delicacy and Intricacy in the Post Digital Age
The Work of AEDS/ Ammar Eloueini
By Neil Spiller
- 116 Issey Miyake me Store in Paris
- 140 Mediatheque
- 148 Hong Kong Design Institute
- 158 Seoul Performing Arts Center
- 164 Bezalel Academy of Arts and Design
- 170 J-House
- 174 Bus Shelter
- 180 Skin Tight: The Sensibility of the Flesh
- 182 Northern Osaka Station Competition
- 188 Paris 2012 Olympic Landmark
- 192 Evolo Tower
- 196 CoReFab#71
- 208 LCG House
- 210 Cultural Information Exchange Center
- 214 IUAV School of Architecture
- 218 Sarajevo Concert Hall
- 222 Structure Prototype of the Cultural Information Exchange Center Competition
- 224 Material Folds and Crystalline Fractures
By Ila Berman
- 231 Bibliography—Ammar Eloueini

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INDEX

Section One:

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Introduction

Switched On Gothic; Ammar Eloueini and the Development of a Digital Aesthetic By Reed Kroloff

引言

哥特式的转换：Ammar Eloueini和数 码美学的发展

Reed Kroloff, 国际著名建筑评论家, 美国建筑杂志 (Architecture Magazine) 前主编, Tulane 大学建筑学院前院长, 现任克兰布鲁克艺术学院 (Cranbrook Academy of Art) 院长。

It wasn't all that long ago that the sheer whizbangery of digital design was enough to call attention to anyone who could manipulate it. Computational adepts became architecture's new scientific class, masters of an ethereal universe both unfamiliar and contradictory, a place that was physically inaccessible yet visibly seductive. In this digital realm, the skills that previously engendered disciplinary prestige and authority in architecture—drawing, model-making—suddenly seemed quaint, even cumbersome. Those whose fingers were not also nimble with a keyboard and a mouse were consigned to watching from the sidelines, irritated and anxious, as the rules of the game were changed before their very eyes.

Times change. Where the world of digital architecture was once exclusive and exotic, the greenest first year student now can produce convincing fly-through animations. Even middle aged designers—too paunchy for their Pradas—are likely Macsavvy, daddy. To a surprising degree, and with remarkable speed, digital technology has become simply another tool of architectural production. With that, native talent has reclaimed its place as the arbiter of success. But where technological skill and raw talent are both present, a new and exciting breed of architect has emerged, one whose avenues of investigation are greatly expanded and whose visual vocabulary can be immense. These are exciting folk to watch, much as were the first architects who could anticipate widespread use of steel construction and elevators. Those too were technologies that changed the profession, and designers who knew how to exploit them liberated the field.

Ammar Eloueini is the 21st century version of that kind of architect. His work would not be possible without the freedom engendered by the digital environment, but the strength and excitement of his designs transcend any media-driven parameters.

Take his CoReFab#71 chairs. Each is derived by creating a digital animation of chair patterns and then slicing that into individual frames. The selected images are then fed into one of the world's most advanced 3-D printers (a great, hulking machine which though clearly contemporary, reminds the viewer of late 19th century steel stamping machines or early 20th century assembly lines: this is a technology that will clearly grow smaller, more efficient, more affordable, and thus ubiquitous). Because each of Eloueini's images is pulled from a set of serial images, they are all visually related. But because the image changes slightly from frame to frame, no two chairs are ever alike. In essence, they are fraternal twins that look nearly—but not exactly—identical. Their infinite yet familial variation is possible only because of the digital processing that allows so

many small changes to be captured and separated into distinct images (To be fair, one could render each variation individually on paper, but the process would be painfully, impossibly slow). And it is these slight, confounding changes that are immediately fascinating. The digital seduces.

But in the end, it is the sheer beauty of the objects that makes them something other than a well-tuned science project. Eloueini's designs are elegant and architectural. They draw knowingly on the history of chair design (there are echoes of Louis XV here, which given the designer's upbringing in Paris is perhaps inevitable), but also on the record of architecture and engineering. These chairs are unmistakably gothic in their structure and appearance, with ribbed articulation and ogee curves. Like any good Gothic detail, they are stretched and attenuated, richly detailed and somehow organic. But they are clearly, inescapably modern and new. The details are reductive and minimalist. The edges are sharp, even a bit dangerous. They are familiar, yet something we have never seen before. This duality, this dialectical complexity, is part of what distinguishes Eloueini from his peers, many of whom are satisfied simply with the formal exotica the computer allows.

His "New Shotgun House" is equally provocative, playing the long, boxy form of a traditional southern house type against a sensuously cascading structural system that heaves the building off the ground. This is his "Nude Descending a Staircase" (or in this case, perhaps Ascending—again his ability to double allegory and imagery is both impressive and immensely satisfying), relocated to a post-Katrina New Orleans, where Eloueini practices and teaches (at Tulane University) where lifting a building off the ground is both a necessity and a poignant reminder of the disaster. The simple box-truss structural system is a logical and playful interpretation of the balloon framing tradition of the area. And typical of Eloueini, though the shotgun is clearly the precedent, his shotgun is strikingly new and distinctive.

To date, Eloueini's most significant commissions have been for the fashion industry, a pairing that seems not just natural, but perhaps even pre-ordained. Working in Paris for Japan's renowned Issey Miyake, Eloueini sketches an ice-white minimalist gallery against which Miyake's clothes provide a bright, playful wash of color. And in the back of the store stand two remarkable forms that seem like they could be oversized dress frames, or perhaps the skeletal system of two exceptional gowns. Tall and voluptuous, the two draping shapes are actually free-standing dressing rooms. Like the chairs, they are 3-D "prints" of a computer rendering, created on the same prototype machine. And again,

there is a sense of the gothic in the intricately woven surfaces that are at once skin and structure. But they could just as easily be derived from the genius of wasps or spiders. The rich gossamer structure seems to defy both gravity and our understanding of tectonic stability. Most satisfying, they provide a seemingly perfect architectural analog to Miyake's delightful and revolutionary work with material technology in fashion.

Ammar Eloueini is young, and so is the medium of architecture in which he works. He reminds me particularly of the composer Wendy Carlos, who in the early stages of her career was among the vanguard of composers experimenting with synthesizers—the first electronic machines to successfully emulate musical instruments. Carlos seized on the synthesizer's ability to layer musical tracks and replicate the reedy tones of concert organs as a medium for re-interpreting the complex compositional structure of Baroque music. In reminding people that music long thought to be fully understood is still the source of discovery and delight, her 1968 album "Switched on Bach" became the first classical recording ever to sell more than 1 million copies. Eloueini mines the same rich vein in architecture. As noted, his CoReFab#71 chairs draw directly on the formal and structural logics of Gothic architecture, a period generally dismissed as too complicated, too expressive, and too expensive to be practical in the Modern age. Like Carlos, Eloueini recognizes that new technologies of production have rendered this type of presumption obsolete. But rather than simply harnessing digital manufacturing to ape period detail—as the neo-historicist wing of architecture does with such empty-headed glee—Eloueini returns to the intellectual source of the material in order to create something new. The delicate tracery of the chairs is beautiful, functional and representational. It minimizes the amount of material necessary to build the chair while elucidating the physics of construction. We see each of the gravitational vectors called out and answered as structure, just as we would in a late Gothic rose window. Eloueini is not the first Modernist to recognize the form-following-function kinship of his era and the Gothic that preceded it, but his analysis is more satisfying and complex than the nervous formalisms of Minoru Yamasaki or Edward Durrell Stone. Like Wendy Carlos, Eloueini analysis goes directly to the fundamentals, reordering and revivifying them through the agency of technology.

The chairs and Miyake dressing rooms are small-scale enterprises. The real test for Eloueini will be the leap to full-scale buildings. There are many designers fully engaged in the research and production of digital design, and it remains to be seen how his investigations will be effected by scaling up. His

"House for New Orleans" is a hopeful portent: an energizing reinterpretation of the Shotgun prototype, raised for a post-Katrina landscape. Even his ephemeral work for the John Jasperse dance company suggests a departure from the bloboid tropes of his digital fellow travelers. It is light, folded, and above all, born from a fascination for making, rather than an infatuation with style.

It is here that Ammar Eloueini's digital architecture exhibits its greatest promise for something new. For Eloueini, the aesthetics of digital design arise as much from the practical concerns of construction as they do from the formal concerns of making beautiful things. It is in that nexus that real architecture gets made.

数码设计从最初显现至今已成功引起所有人的注意并得到了广泛的应用。计算机技巧已经成为建筑学领域新的科学性必修课程，这是一个既新奇又矛盾的空灵世界，一个我们不能亲自到达，但又看上去非常诱人的地方。在数字领域，以前建筑方面有绝对权威的技术——制图、建模——突然显得离奇古怪，甚至讨厌而麻烦。那些不能熟练操作鼠标键盘的人不得不作为局外人，恼怒而盼望地旁观，眼睁睁看着游戏规则的改变。

时代在改变。数码建筑曾经显得那么地曲高和寡而新奇，如今就连一年级学生也能制作出令人心悦诚服的流畅的动画。甚至是那些穿戴着普拉达的大腹便便的中年设计师也能很熟练地掌握这些技术。数码科技以令人惊讶的速度迅速成为建筑生产的一项简单工具。在成功的仲裁者、科学技术和自然天分同时存在的情况下，一种新奇而令人兴奋的建筑师类型显现出来。他们探究的路径比以前大大地扩展，还有大量的视觉语汇。这些建筑师令人激动，就像当年那些预见到钢结构和电梯将大量运用的建筑师一样。那些也是曾经改变了这个行业的技术，知道如何开发利用这些技术的设计师解放了这个行业领域。

Ammar Eloueini正是属于21世纪版本的那个类型的建筑师。他的作品正是数码科技盛行的大环境造成的结果，但是他的设计中的力量和激情超越了其他掌握多媒体技术的同行。

以他的CoReFab#71椅为例。每一个椅子都是来自创建一个座椅图案的数码动画，再将其切分为个体的框架。选中的图案再输入世界上最先进的3D建模机（这种机器虽然体型粗重，性能却很先进。它让人想起19世纪末的钢铁压机或者是20世纪初的生产线：这样的技术一定会越来越精细，越来越有效率，最后得到普遍的应用）。因为Eloueini的每一个图案都是从一系列图案中选出来的，它们的外观是有联系的。但是因为每个图案之间有细微的不同，所以没有一模一样的两把椅子。事实上，他们就像是外表很相像的异卵双生的双胞胎，而非一模一样的同卵双生。他们那无穷无尽的家族式的特征正是因为数字加工可以捕捉这么多微小的变化并把它们分成个别的图案（公平地来讲，这些变化也可以在纸面上单独表现出来，但这个过程是令人难以置信的，缓慢而痛苦的）。正是这些微妙的变化显得如此迷人。数码科技有很大的诱惑力。

但是最终，这些极其美丽的物品已不仅仅是一种科技项目。Eloueini的设计优雅而具有建筑的美感。它们吸收了座椅设计史上的经典（因为Eloueini在巴黎长大，所以其作品不可避免有路易十五时期风格的影子）样式，也有建筑和工业设计的成分。这些椅子在外观和结构上有很明显的哥特风格，有清晰的棱角和S形曲线。就像任何哥特风格的细部一样，它们伸展延长并逐渐变细，有很丰富的细节并且非常有机。但是，很明显，它们都很现代化且新奇。细节被减少到极限。边角非常锋利，甚至有些危险。它们看着有些眼熟，但仍然是我们以前从没见过的东西。这种双重性、辩证式的复杂性使得Eloueini超越他的同行，那些只是简单地满足于计算机允许的常规的新奇事物的设计师。

他的“盒式房屋”同样地具有煽动性，其外形如同传统的南方住宅一样长而规矩，依靠一个感觉如瀑布般跌落的结构系统从地面升起。这个为洪水之后的新奥尔良市所设计的“裸露的下降楼梯”方案（在这个案例中，也许也可以称作“上升楼梯”，他再一次表现出令人印象深刻的表达隐喻的能力）呈现出非常让人满意的效果，新奥尔良是Eloueini进行实践和教

学的Tulane大学的所在地，在那里建造一座作为那场灾难的纪念性的建筑非常必要。这也是对新奥尔良地区传统的轻骨结构一种严谨而俏皮的全新演绎。虽然盒式房屋有很明显的先例，但是Eloueini的盒式房屋异常醒目地新颖和别致，这是他的典型作风。

目前，Eloueini最新的设计委托来自时尚业，他们的组合不但显得非常自然，而且更像是命中注定。Eloueini为日本著名的服装设计大师Issey Miyake在巴黎设计了一个极简的冰白派风格画廊旗舰店，反衬出Miyake服装设计中的明快顽皮的色彩。商店的后部立着两个醒目的形体，像是超大号的人体模型，或者是两个特别设计的晚礼服的骨架。事实上，这两个高大艳丽被布包裹住的形体是独立更衣室。和椅子一样，它们是电脑渲染图通过同一个原型机得到的3D“印刷品”。而且两者用了同样的手法，具有哥特风格的杂乱的编织效果形成了表皮和结构。它们来自简单的对黄蜂和蜘蛛的效仿。那丰富的蛛网结构像是在同时挑战地心引力和我们对建构稳定性的理解。最令人满意的是，对于Miyake在时尚界愉悦而具革命性的材料科技作品，它们提供了一个外表上几近完美的建筑变体。

同Ammar Eloueini本人一样，其使用的建筑媒介非常年轻。他让我想起了作曲家Wendy Carlos，她在职业的早期同其他先锋作曲家们一起试验用音响合成器作曲，那是第一台成功效仿乐器的电子仪器。她利用音响合成器的能力，给音轨进行分层并复制了古典风琴尖细的音质，借此重新演绎巴洛克时代音乐的复杂作曲结构。她1968年的专辑“巴赫”成为第一张销量过百万的古典音乐唱片，这向人们传达了这样一个信息，即使是长久为人们熟知的音乐也可以成为惊喜和新发现的源泉。相似的，Eloueini在建筑界也发掘了这样一个丰富的矿藏。如上文所言，他的CoReFab#71椅直接吸取了哥特建筑的外形和结构逻辑，现代人无法接受应用这样的哥特风格，因为它过于复杂和昂贵。和卡洛斯一样，Eloueini意识到新的生产技术可以表现出这类被认为是陈旧的风格。但是Eloueini并没有像那些空洞的新历史风格建筑一样，装上数码制造的外皮和简单地模仿时代风格的细节，而是回归到材料的理性的源泉来创造出一些新的东西。椅子精美的装饰既满足了功能和美观，还具有代表性。它在表现结构外观的同时将建造椅子的材料精简到最少。我们看到重力作用在结构的形式中得到了表现，就像晚期的哥特风格玫瑰窗一样。和同时代的建筑师一样，Eloueini意识到“形式追随风格”是哥特风格和现代风格之间的血缘纽带，然而比起那些简单地拘泥于形式的建筑师，如亚马萨奇·斯通，他的分析更为复杂而令人满意。和温蒂·卡洛斯一样，Eloueini通过技术手段直接从根本上重新整理哥特风格，并赋之以新生。

椅子和Miyake更衣室设计是小型的产品。向大规模的建筑飞跃才是对于Eloueini的真正考验。很多设计师全程参与了数码设计的研究和生产，他们的研究能否起到预期的作用还有待通过增大规模来考证。Eloueini的“新奥尔良住宅”是个有希望的征兆：盒式房屋原型是一个富有活力的；对后卡洛琳娜环境的再诠释。即使是John Jasperse舞蹈公司做的临时性作品也和其他数码建筑师同行的象征很不一样。它轻巧而舒展，最重要的是，它是来自对制造的热情而非对风格的盲目沉醉。

Ammar Eloueini的数码建筑正是在这里展示了对新鲜事物的最大承诺。对于Eloueini来说，数码设计的美学不仅来自于对于美丽事物的关注，也来自于建造实践的关注。正是在这样的联系之中才能创造出真正的建筑。

Issey Miyake Pleats Please Berlin

Issey Miyake 德国柏林专卖店

Project: Pleats Please, Issey Miyake
Date: 2004
Client: Issey Miyake
Location: Galleries Lafayette, Berlin, Germany
Photographer: Christian Richters
Category: Retail
Status: Completed



The Pleats Please space in Berlin is the first in a series of retail spaces for the Japanese fashion designer Issey Miyake. The space is in the Galleries Lafayette building by Jean Nouvel. The design intends to give to the space a unique environment that reflects Miyake's personality and approach to fashion design while retaining direct focus on the clothes.

All of the design components relied heavily on the use of CNC (Computer Numerically Controlled) machines. Being fabricated in Chicago then shipped and assembled in Berlin, the ease of shipping and assembly created a challenge for this project. The primary design consists of a wall made of two overlapping pieces. This wall creates both a fitting room and a storage area.

Two materials, aluminum and polycarbonate, are used within the space. Half-inch 50x100x0.5 aluminum plates are cut using waterjet techniques. The aluminum serves as the structure supporting the wall polycarbonate panels, the racking system and table structure. Polycarbonate is used to create the organic surface and table top. The surface is modeled on the computer, unfolded using 3D software, then fabricated using router CNC machines. The polycarbonate panels are assembled using zip ties. The lightweight polycarbonate material and zip tie fastening creates a system that is both easy to transport and quick to assemble.

In 2005, this project received the AIA (American Institute of Architects) Chicago Chapter: Interior Architecture and Divine Detail Design Excellence Awards.

柏林的褶皱空间是为日本服装设计师 Issey Miyake 设计的一系列商业店铺中的第一家。这个商业空间位于让·努维尔设计的 Lafayette 画廊。该设计意在形成一个独特的环境，通过对服装的直接关注，来展现 Miyake 的个性和设计方法。

所有的设计都建立在对 CNC 机器(计算机数字控制)的应用上。所有部件在芝加哥装配，并运往柏林组装。如何简化运送和组装过程是这个项目的一个巨大挑战。初步设计包含一种由两片板材搭接而成的墙壁，构建一个试衣间和一个储藏区域。

这个空间应用了铝和聚碳酸酯两种材料。利用水喷技术切割 50X100X0.5 半英寸的铝材。铝材被用作聚碳酸酯墙板、折叠系统和桌子的支撑结构。聚碳酸酯则用来制作有机的表面和桌面。表面在计算机里建模，使用 3D 软件展开，然后使用 CNC 刨槽机制造。聚碳酸酯面板用链条连接装配。轻量级聚碳酸酯材料和链条连接紧固件组成一个容易运输而且装配迅速的系统。

2005 年，这个项目被美国建筑师协会芝加哥分会授予室内设计 with 细部设计优秀奖。





PLEATS PLEASE

ISSEY MIYAKE







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ISSEY MIYAKE