

# 诺丁汉 100 Nottingham

研究主导型设计室文化  
Research-led Studio Culture

王琦 【英】达伦·迪恩 编著  
Editors: Darren Deane, Wang Qi



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Design teaching can thrive only under certain conditions, one of which might be described as an atmosphere of free thought. At the Department of Architecture and Built Environment, University of Nottingham, Professors Tim Heath, Brian Ford, Michael Stacey, along with Dr. Jonathan Hale, Dr. Laura Hanks, Dr Sergio Altomonte, and Mr David Short, have played an important role in creating a thoughtful curriculum. Additionally, nearly all full time staff supported this book in countless ways, whilst the extensive team of part-time tutors drawn from professional practice have ensured the currency and relevance of studio praxis. The students themselves, many of who could not be mentioned, have by far made the most significant contribution, as it is they who ultimately placed trust in guidance, and who extended advice much further than their teachers could ever imagine. In a project of this size and scope the list of contributors extends beyond those who are directly named in the volume itself. Any successful studio culture depends upon additional layers of support from individuals who, although not on the front line of teaching and research, make it possible for a department of architecture to function.

Without the careful translation of the following individuals the work contained in this volume would not have reached a Chinese audience in such high quality. Many thanks should give to Xiao Jing, Jia Min, Zheng Xiaofeng, and Gao Nan, who took the job of minor translation in different chapters. Special mention must go to Zhang Licheng and Ding Guanghui, who took on major tasks translating some of the more difficult sections first written in English.

With regards to the editors, Darren Deane would like to thank Adrian Ball of SatmokoBall Architects, London, for his long and valuable collaboration, along with Matt McKenna who since 2008 has supported the Lateralisms series of studio production, and Tony Swannell for his boundless passion and energy. Finally, to Angela, Jude and Mimi for their patience. Wang Qi would like to thank Lei Yanhui for her attention to detail on page layout, proofreading, and overall invaluable encouragement, Wang Qimin for his initial conception of the project, and the devoted support of Qi Linlin from China Architecture and Building Press.

设计课程教学只能在具备某些必要条件的情况下繁荣发展，而其中一个条件或许就是那种鼓励自由思维的氛围。在诺丁汉大学建筑与建造环境学院里，蒂姆·希斯教授、布莱恩·福特教授、迈克尔·斯泰西教授，与乔纳森·赫尔博士、劳拉·汉克斯博士、塞尔吉奥·阿尔特蒙特博士，以及大卫·肖特先生等一道，孜孜不倦地鼓励并维护着各种思想百花齐放。此外，几乎全体教职员工也均对此书给予了各种各样的支持，同时一支来自设计实践行业的兼职教员团队也为建筑设计教学能够始终保持连贯性与相关性奉献颇丰。而学生们，尽管他们中的许多成员并没有在本书中被提及，却是做出了最为重要的贡献，正是他们将教导转化为无限的信任，将建议引申发展到即使老师自己也始料未及的深度。对于这样一本博采众长的集子而言，对它作出贡献的人们远远不止名列其中的那些。任何成功的建筑设计课程文化的形成，均需要来自不同个体的多层面支持，尽管他们未必站在教学与科研的第一线，但却对于整个建筑系的正常运转而言至关重要。

没有下列诸君缜密仔细的翻译，本书将无法以如此之高质量呈现在中国读者面前。肖靖、贾敏、郑小锋与郜楠帮助翻译了少部分文字，应予以诚挚的感谢。而特别的感谢则应给予张沥成和丁光辉，他们各自担负了主要翻译工作，将许多最为困难的部分译为流畅通顺的中文。

对于编者而言，达伦·迪恩希望特别感谢来自Satmoko Ball建筑师事务所的阿德里安·博尔所提供的长期且有价值的合作，迈特·麦肯纳自从2008年以来对“写实主义系列设计课程”所给予的支持，托尼·斯瓦内尔那无限的热情与能量，以及最后，感谢安吉拉、犹太和咪咪的耐心。王琦则希望特别感谢类延辉对页面设计的仔细校对、文字纠错，以及无价的全心支持，王奇民为此书的诞生提供了最初的概念想法，以及威琳琳站在中国建筑工业出版社的角度对本书出版所给予的大力支持。

Darren Deane & Wang Qi  
达伦·迪恩 王琦  
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## FOREWORD - 序

### ARCHITECTURE AT THE UNIVERSITY OF NOTTINGHAM 建筑学在诺丁汉大学

This magnificent book captures some of the recent highlights to emerge from the Department of Architecture & Built Environment at the University of Nottingham. The Department has an amazing track record and can trace its history back to 1843 with the first 'training' of architects in Nottingham and the establishment of the first department in 1865. In modern times, the Department has become one of the leading 'schools of architecture' across the world with students and alumni from most countries.

The breadth of expertise within the Department enables students to explore architecture through a plethora of approaches enabling them to develop a rigorous knowledge and understanding of the discipline and profession. Importantly, teaching is informed and enhanced by research being undertaken by academics and the projects in this book are organized by the four dominant themes that reflect their specialisms: architectural humanities, architectural environmental design, architecture and tectonics, and urban design. The department is also particularly proud of its 'live projects' that introduce students to specific challenges – such as the social architecture projects in South Africa and the Solar Decathlon project – and develop hands-on construction and management skills.

The chapters in this book offer a glimpse of the varied projects undertaken within the Department demonstrating the different scales of project, challenges being undertaken and issues being tackled. Most of all, it illustrates the intellectual and professional rigor with which our students address their work and the exemplary skills that have made of graduates highly sought after around the world. As the Department continues to flourish – and with the recent establishment of the course at our campus in Ningbo, China – there will be increasingly impressive student work and research emerging from the University of Nottingham.

在这本漂亮的集子中，收录了近几年来从诺丁汉大学建筑与建造环境学院所涌现出的一批优秀作品。学院本身拥有着令人自豪的历史轨迹，其历史最早可追溯到1843年为诺丁汉地区提供首次建筑师的培训，以及1865年学院正式成立。在当代，本学院业已名列世界知名建筑院校之一，而我们的学生与毕业生则遍布世界大多数国家，桃李满天下。

学院中各个专业间的广泛融合使学生们能够从不同的角度探讨建筑，进而既可发展出缜密综合的知识体系，又可了解不同的专业特点。更为重要的是，这里的教学系统通过教师所进行的学术研究而得到了支持与强化，正如在本书中所展示的那样，所有方案均可根据其专业特点而被细分入四个科研主题：建筑人文篇、建筑环境设计篇、建筑与建构篇，以及城市设计篇。除此之外，学院还为其拥有的“实践项目”而感到骄傲，诸如南非的社会建筑项目与太阳能十项全能项目等，均为学生们提供了特殊的挑战以及发展动手建造和项目管理技巧的宝贵机会。

本书中的各章节提供了一处小小窗口去了解学院中各种不同的设计方案，它们有着不同的尺度，迎接不同的挑战，以及试图去应对不同的问题。然而尤为重要的是，它不但通过方案体现了我们学生们的聪明才智与专业技能，而且展示了学生们杰出的设计技能——而正是这些技能使得我们的毕业生在世界各地供不应求。作为一所正在持续上升的学院，并且挟诺丁汉大学中国宁波校区最近设立建筑学专业的东风，我们相信在将来，必定会有更多引人注目的学生作品与研究成果从诺丁汉大学孕育而生。

**Prof. Tim Heath**  
蒂姆·希斯 教授

Professor of Architecture & Urban Design  
Vice Dean of Faculty of Engineering  
建筑与城市设计教授  
工程学院副院长



## PREFACE - 前言

### NOTTINGHAM – A WINDOW LOOKING INTO THE BRITISH SYSTEM OF ARCHITECTURAL EDUCATION

#### 诺丁汉,一扇了解英国建筑教育体系的窗

In the UK the path to qualification as an architect is totally different to that followed in China. As we know to qualify as a Chinese level-A Architect, architectural students firstly need to complete the university degree; then based on the levels of their last academic degree, they are required to work additional years in practice before taking part in the National Architect Qualification Examination. This includes 9 modules that need to be passed in eight years – normally BArch students are asked to work in practice for three years and MArch students need to work for two. This system indicates that, to qualify as an architect in China one needs to spend a minimum nine years (5 years BArch + 3 years working experience + to pass all 9 modules in 1 year time if you are working hard enough) or up to maximum eighteen years (5 years BArch + 3 years March + 2 years working experience + to pass all 9 modules in 10 year time if you are not really lucky indeed) in the professional scope. By comparison, in the UK the route to Chartered Architect status is much faster. All architectural departments validated and prescribed by the Royal Institute of British Architect (RIBA) and Architects Registration Board (ARB) can provide three-levels professional training courses: Part I, Part II and Part III. After successful completion of three years BArch course, students qualify as Part I Architects. Then after one year out in practice, if they choose to continue onto a two years Diploma course and pass it, the title of Part II Architect can be obtained. Finally after taking part in a one year part-time professional training course whilst working in practice, culminating in a series of complex course work, written examinations, and an interview, a title of Chartered Architect is awarded. This shortest period in which this training can be completed is seven years in total and there is no additional specific registration examination involved. Indeed, to be qualified as a British architect, one simply needs to work hard in the university and to smoothly progress through the three-tiered training courses.

So clearly there is a significant difference in between the two qualification systems. Nevertheless, a true comparison cannot be based solely on the time it takes to professionally qualify and the style of progress. On the contrary, the most reliable criteria are embedded in the essence and strategy of architectural pedagogy. "Nottingham 100" provides such a small window offering an insight into architectural education in the UK. Although the aim is not to provide a comprehensive panorama, what follows is a snapshot of current trends – just like the old Chinese saying: "sensing the fall with one fallen leaf".

This collection contains 100 innovative student projects selected from the studio works completed in the Department of Architecture and Built Environment, University of Nottingham, between 2006 and 2012. Many were designed by year 5, year 6 and Masters students, with a small group of exemplary samples from year 2 and year 3 studios. As a 'Nottingham Book', it aims to reflect the full spectrum of architectural education within the Department and to illuminate the strong tradition and personality of a world-leading school of architecture. Furthermore, as a project archive representing one of the strongest validated departments in the UK, the book also demonstrates the principles and criteria advocated by the RIBA and ARB.

Nottingham's strategy of architectural education may be summed up in three key words. Then "humanities", "sustainability" and "freeness" could be the best extractions.

"Humanities" can be found in all Nottingham projects because it is the primary teaching principle. Crossing the different Years, the gauge of increasing difficulty in design is not measured by the complexity of functional arrangement or the size of constructional area. On the contrary, readers could easily find a large amount of projects no bigger than several hundred square meters and

在英国,想成为建筑师的年轻人要走一条与中国完全不同的资格认证途径。我们知道,为取得中国一级注册建筑师头衔,建筑专业的学生们需要首先完成大学教育;然后再根据自己学术学位的高低而工作一定的时间——往往本科学位要工作三年,硕士学位要工作两年;最后在最多八年的时间里参加且通过九门国家一级注册建筑师资格考试。这就意味着想当一名中国建筑师,您需要经历短则9年(5年本科+3年工作+1年即通过全部9门考试)、长则18年(5年本科+3年硕士+2年工作+8年通过全部9门考试)的专业积累过程。而在英国,取得注册建筑师的头衔相比之下要快捷得多。通过英国皇家建筑学会(RIBA)与建筑师注册委员会(ARB)评估的建筑学院,均可以提供三阶段建筑师培养课程。这其中,完成三年本科学习的学生们将可获得建筑学学士学位(BArch)暨第一阶段建筑师头衔;此后,在工作实习一年后,他们可选择进而完成两年期的建筑学学位暨第二阶段建筑师头衔培训;最后,再在自己的工作岗位上接受为期一年的在职函授培训课程,并通过一系列复杂的课业,笔试与答辩,便可以成为一名英国注册建筑师了。这一过程总共加起来最短不过七年时间,而且学生并不需要参加额外的建筑师资格考试——想成为一名英国建筑师,只需要好好学习,顺利通过三阶段的培训就可以了。

不用说,从表面看来,英国的系统与中国的系统有着巨大的差异。然而,仅仅凭借着时间与考核方法的差别来判定孰优孰劣俨然有失严谨,而对建筑教育内涵与其指导思想的分析才可以提供最可靠的评价。本书正是为各位读者提供了这样一个了解英国建筑教育的小小窗口。从这100个方案中,纵然无法览其全貌,或许也可观其大意,见一叶而知秋至吧!

书中甄选了从2006年到2012年间,诺丁汉大学建筑与建造环境学院学生设计的100项独具创意,颇有特色的方案,这其中以五年级、六年级以及硕士研究生的设计方案为主,兼顾少数二年级与三年级的代表作品。作为一本诺丁汉大学的专辑,本书当然要在最大限度内体现出本学院的办学特色,并通过方案,将这所名扬全球的建筑院系的传统与性格阐述清楚。但除此之外,作为一家通过评估的传统强校的方案集,英国皇家建筑学会与建筑师注册委员会所倡导的建筑师培训宗旨自然也将在这本书中得以体现。

如果试图用几个简单的词汇来总结诺丁汉大学的建筑教学理念,那么“人文精神”、“可持续发展”与“自由探索”可能是相对比较贴切的提炼。

“人文关怀”几乎印证在所有诺丁汉学子的方案之中,因为这是办学的首要理念。在诺丁汉的各年级中,建筑设计难度的递增并不是依照建筑功能的复杂程度与建筑面积的大小而定,与之恰恰相反,读者会轻而易举地在高年级甚至毕业班的设计方案



containing no more than a few simple functions, completed or even final year students. The first chapter (Architectural Humanities) and the fourth chapter (Urban Design) gathered the most of this kind, but this approach can be observed in other chapters, too. Among them, some chose historical buildings currently under threat and revitalized them through imaginative and sensitive reconstruction; some investigated neglected pockets of cities and brought them back to life through proper urban design; some explored hidden conflicts within multicultural society and reconciled harmony through cogent architectural intervention; and some sensed the loss of subtle functions within context and attempted to fill using contemporary re-programming of space. Indeed, it is not hard to see that, although the buildings may be small, their proposed social influences cover a vast area, and although the immediate internal function might be simple, their social functions are considerably rich and complicated.

In Nottingham, we emphasize that architecture, as a general type of artificial interference into society, regardless of size or complexity will bring significant and various effects to the surrounding built physical environment, demographic composition, cultural background and city operation. These effects may bring improvement or deterioration, prosperity or recession, revival or collapse in the built environment, but they are never useless or inactive. Undoubtedly, the positive impact is a natural expectation of everyone. However it can only be realized by manipulating meticulous analysis of local context, and establishing interwoven relationships with local context. Therefore, in Nottingham the Department emphasizes the importance of site analysis and concept generation throughout all studio works. The qualities have direct impact on a tutors' judgement. In brief, what we are looking for are projects that can illuminate the spirit of humanities for local communities, rather than beautiful and luxury "vases" – dazzling on the outside but hollow on the inside.

Based on the statistics of the UK Green Building Council, "globally, the built environment accounts for 40-50% of natural resource use, 20% of water use, 30-40% of energy use and around a third of CO2 emissions." This has led to more stringent targets to the extent that "in December 2006, the UK Government promised that all new homes would be 'zero carbon' from 2016."<sup>1</sup> This commitment suddenly raised wide-range echo throughout the field of architecture. Regardless of whether this target can be seriously achieved on time, it represents a positive attitude towards dealing with climate change. Subsequently, the entire British architectural profession adopted the new horizon of "Sustainable Architecture" as its guiding purpose, across the complimentary angles of planning, design, structure, construction and materiality. As a base for integrated research and education, the University of Nottingham has closely mirrored this green shift. In fact, the Department has committed itself to the research and application of sustainable building technologies since the 1990s. Its persistent development in this area has enabled it to gradually build up a high international academic reputation, and the Department has been recognized as a world-leading research centre on sustainable building technology. Here, not only has "sustainability" been defined as one of the key pedagogical strategies, but also many Department buildings have been converted into environmental friendly facilities that in turn can be used as testing facilities. Various passive sustainable technologies, such as solar panels, wind turbines, rain water collection and reuse, geothermal heat pumps, self-cleaning glazing, solar water heating system, natural ventilation, and light tube strategy, etc. have all been applied to old and new buildings for PhD students to test. This advantageous situation provides the students with a unique opportunity to experience the most advanced sustainable technologies whenever they are in the Department, and allows them to understand the strengths and weaknesses of technology in a direct way through their own feeling, to critically analyse their performance, and to inventively merge this knowledge into their own studio works.

The projects in the second chapter (Architectural Environmental Design) and the third chapter (Architecture and Tectonics) mainly embody this attitude. Within this section, the most striking are twelve Tall Building projects. Over 200 meters high, these skyscrapers are proposed in major metropolitan areas around the world. Although key issues like structural system and fire evacuation have been carefully discussed, the studio never detracts from their ultimate aim – the creation of self-sufficient, sustainable tall buildings. Besides applying various sustainable technologies to the buildings, these schemes also concerned with another kind of sustainability – social sustainable development. Therefore, these "Made in Nottingham" skyscrapers all become useful new members to different cities, who impose no burden on the cities' energy bill whilst enriching the local culture through their architectural language. The Environmental Design Studio, led by Professor Brian Ford, prefers to explore the essence of sustainability in a more traditional sense. Based on

中, 找到大量面积不过几百平方米, 直接功能十分单一的方案。本书建筑人文篇与城市设计篇中集中了此类方案中的大多数, 而在其余各篇章之中, 该现象也是比比皆是。这其中, 有的选择正在受到威胁的旧建筑遗存, 通过建筑改造使其光辉重现; 有的注意到城市中破落肮脏的死角, 通过巧妙规划使其起死回生; 有的探究现代多元社会中的潜在矛盾, 通过建筑介入来重塑和谐; 有的敏锐感知到某种微妙的功能缺失, 通过建筑补丁来加以强化。不难发现, 尽管建筑面积不大, 但它们的社会影响面积却十分广阔; 尽管直接功能简单, 但它们起到的社会性功能却异常复杂。

在诺丁汉, 我们强调建筑是对社会有着至关重要影响力的人工介入。一栋建筑的出现, 无论其大小繁简, 均会对周围的建造环境、社会组成、文化背景, 以及城市运营产生各种复杂的影响——或提升、或降低、或繁荣、或衰败、或新生、或毁灭, 却恰恰不会无为无用。积极的影响自然人人引领而望, 然而得到这种结果却需要在设计上对周边文脉进行周密分析, 并在建筑本体上建立起与周边环境密不可分的文脉街贯。于是, 在整个设计过程中, 场地分析与概念提出就变得至关重要。它的成败与否直接关系到导师对方案的评判。简而言之, 我们希望看到的是能够踏踏实实地为当地提供人文关怀的建筑, 而不是漂亮而昂贵的花瓶, 尽管夺目却无甚内涵。

根据英国绿色建筑委员会发布的统计结果, “在全球范围内, 建筑环境消耗了40%-50%的自然能源, 这其中包括20%的水资源, 30%-40%的能源以及大约三分之一的二氧化碳排放”。为此, 在2006年12月英国政府做出了一项极富挑战的承诺——“即从2016年开始, 所有的新建住宅均必须达到零碳排放标准”。<sup>1</sup> 这一誓言随即在整个建筑界内激起了广泛的反响, 且先不论届时其目标是否真的可以在严格意义上得以实现, 它至少表明了一种积极的, 应对全球环境持续恶化之事实的态度。而整个业界也随之在规划、设计、结构、构造、材料等专业领域全面开启了对“生态可持续建筑”的探讨。作为科研与教学单位, 诺丁汉大学自然没有落后。事实上, 自从1990年代以来, 诺丁汉的建筑与建造环境学院就致力于生态可持续技术的研究与应用。如今, 该学科发展已在国际学术界中极负盛誉, 成为全球领先的生态可持续建筑技术研究中心。在这里, 不但“可持续发展”成为贯穿教学体系始终的核心战略之一, 而且学院也身体力行, 将很多教学建筑进行了节能生态化改造。大量的被动式生态建筑技术, 诸如太阳能发电板、风力发电、雨水收集、地源热泵、自净化玻璃、太阳能热水、自然通风、光管自然采光等等, 均被广泛应用在新老教学建筑之上, 供博士研究生们测试研究。这一得天独厚的条件使得诺丁汉的学生可以随时体验到世界上最先进的生态建筑技术, 以自身的感知来理解其好坏优劣, 并进而进行批判性分析, 然后再融会贯通入自己的设计方案之中。

本书的建筑环境设计篇与建筑与建构篇中, 所收录的方案多是这一指导思想的具体表现。这其中最为醒目的当属那12个超高层设计方案。这一栋栋超过200米高的摩天大楼均计划位于世界各地的大都市中, 虽然师生在诸如结构体系与消防疏散等重要方面均进行了细致的探讨, 但设计组的终极目标却始终聚焦于如何使这些大厦实现自给自足的可持续性发展。事实上, 除了各种巧妙融入建筑本体的生态技术之外, 年轻的建筑师还进而对另一种可持续发展——社会可持续发展——给予了充分的关注。于是, 这些“诺丁汉制造”的摩天大厦成了各个城市中有用的新成员, 不但不会在能源消耗方面为城市增加负担, 而且还以独特的建筑语言丰富文化, 回馈社会。布莱恩·福特教授领衔的环境设计组则更多地传统意义上试图探讨生态可持续的本质。他们基于英格兰中东部, 结合当地条件, 在小型公共建筑领域进行了卓有成效的尝试。迈克尔·斯泰斯教授领导的五年级设计组——零碳建

1. New Build, from <http://www.ukgbc.org/content/new-build> [Access by 2012-11-27]



the context of East Midlands in England, they have completed successful small scales public buildings. Professor Michael Stacey, along with his year 5 studio – Zero Carbon Architecture Research Studio (ZCARS) and year 6 studio – Making Architecture Research Studio (MARS), discuss the applications of sustainable concepts from the angle of architectural tectonics, which results in a series of successful schemes such as Nottingham Meadows Sustainable Housing Project, the Solar Hydrogen Centre on Trent River and the Water Squares in Liverpool with tidal energy, etc.

Architecture is a professional field where you can extend imagination into any possibility. An architect without free-thinking is like a soulless person. “Freeness” is an indispensable element in the strategy of architectural pedagogy of Nottingham. Yes, we highlight the importance of humanities thinking and social responsibility, and we encourage the exploration of sustainability. However, all of these cannot be alive without respecting the students’ individual developments. Here, design studios don’t provide the students with any explicit design specification but just detailed project briefs. What included in a brief are explanations of project aim, definition of optional sites, introduction of local context, useful background theories, and studio schedules, but parametric data like how many square meters the whole project is, how many different functions need to be included, and what size of every single functional room should be, etc. is strategically excluded. In general, individual student is free to analyse the project and to draft design generators by themselves. The result is a high degree of diversity within design approaches, even within one studio. During this process, every student will become the true “author”, who will “write” a unique architectural story in their own architectural language. Furthermore, for the students with special talent we will provide them enough room to harvest it. For instance, the exploration of surreal art within architectural scope is strongly encouraged, and even the practice of pure fine art is developed in some schemes. The 100th project of this book – Stories at Nottingham – is one such example, which interprets the built environment through graphic art. The copyright of these two paintings has also been officially purchased by the University and these beautiful works have become a permanent collection displayed in the Department of Architecture and Built Environment.

It was on the basis of the strategic principles of “humanities”, “sustainability” and “freeness” that the Department achieved its current reputation. And by examining the profile of this typical British school of architecture, the readers can obtain an understanding of the distinctiveness of the British training system. Through the seven years study, students are shaped as British Chartered Architects with qualities of social responsibility, contextualism, environmental awareness and the spirit of innovation. These qualities of architects can, for such a professional occupation that can bring significant physical influence to society, be more important than other skills.

However, for the honorific Chinese readers, the social soils where different educational systems growing up should be noted, by the way blind acceptance from externality should be discreetly avoided. The British architects training system is decided by the current situation of British post-industrial society. Indeed, all British cities and towns have completed their infrastructural development some time ago, which resulted in little change to the current built environment and fewer opportunities for designing large scale projects. Over time industrial estates declined and stagnated becoming places of social deprivation in need of urgent improvement. Additionally, because British communities hold relatively more conservative opinions supported by a reverence for tradition, which has resulted in the economic climate being less robustly equipped for change, it is quite rare to see local governments approving large scale projects. As a result, the architects who acquire the capability for interpreting social context and the reconfiguration of existing building find it easier to survive. What is more, the geography of the United Kingdom is not irrelevant as it is not located on a seismic belt. The territory is defined more by flat moors and plains than steep mountains and valleys. There are no major rivers with significant vertical drop. This relatively stable geological characteristic naturally creates a more flexible atmosphere for architectural practice, which relies less on anti-quake structure design and disaster resilience design. In general, all these external conditions are key factors determining the British architectural training system. In contrast, China is currently at a stage of economic prosperity, which naturally increases the number of large-scale projects resulting in a decreased time-span for design. Furthermore, China is located on seismic belt; its geological situation is much more complex with large areas of mountains and limited areas of plains; many major rivers feature with high vertical drop; and all these characteristics result in the frequent occurrence of various natural disasters. Based on this intricate situation, architectural design must strictly follow the national standards to satisfy the requirement of health and safety.

筑和六年级设计组——材料研究工坊从建构技术角度探讨了可持续理念的应用。诺丁汉梅多斯区的生态住宅，特伦特河上的太阳能制氢中心，以及尝试运用潮汐能的利物浦水之广场等方案均十分难能可贵。

建筑学是一个驾乘着想象之车翱翔九天的专业。没有了自由发挥空间的建筑师就如同人失去了魂魄。“自由”在诺丁汉的建筑教育宗旨中不可或缺。是的，我们强调人文关怀思想与社会责任，我们鼓励对生态可持续元素的探讨，但是这一切都必须基于对学生个性的足够尊重。在这里，几乎所有设计组均不会为学生提供明确的设计任务书，取而代之的则是一份非常详细的设计大纲。这里面包括对方案主旨的阐述、可选择场地的界定、场地周边文脉的介绍、有用的背景理论简介，以及课程进度安排等，但独独不会告诉学生建筑总面积是多少平方米、要包括多少不同的功能，以及每项功能的具体面积有多大，等等。总而言之，每个学生均有权去对该项目进行自主分析，并最终根据结果来自己确定设计任务书的内容。于是，同一个设计组中往往会产生截然不同的设计方向。而在此过程中，每个学生都变成了真正意义上的“作者”，运用自己的建筑语言来“书写”独特的建筑故事。此外，对于在某个方面天资秉异的学子，我们也为他们提供足够的发展空间。例如，我们鼓励超现实主义艺术在建筑领域的应用，甚至绘画艺术创作也可以发展成为独树一帜的设计方案。本书收录的第100个方案——诺丁汉故事——正是以平面艺术手段阐述建筑环境的佳作。这两幅作品的版权也已被大学正式购买，从而成为建筑与建造环境学院的永久收藏。

通过坚持以“人文关怀”、“可持续发展”与“自由探索”为其办学之根本，学院逐渐成就了今天的声誉。而从这所典型英国院校的轮廓中，读者或许可以理解英国建筑师培养体系的独到之处。通过这七年的学习，年轻的建筑学子们被培养成为具有社会责任感、尊重文脉、关心环境且崇尚创新与探索的英国建筑师。而这些品质，对于建筑师这一能对社会产生明显物质性影响的职业而言，似乎比其他方面更加重要。

然而，对于尊敬的中国的读者，我们也应该正视不同教育体系所生根发芽的社会土壤，不能对外部事物一味地盲目接受。首先，英国建筑师培养计划是基于英国社会的后工业发展现状而定的。如今，英国所有城镇早已完成了基础建设，改动很少，大型方案凤毛麟角；而与此同时，那些衰败的旧厂房厂区和破败的市中心却逐渐成为滋生犯罪的温床，迫切需要进行改造。其次，英国社会又是一个相对保守的群体，加之经济环境多年来也不甚强劲，于是地方政府很少会做出大拆大建的决定。因此，具有很强社会文脉阅读能力与更新改造能力的建筑师往往更容易生存。最后，英国并非位于地震带，全境多平原，少山地，没有什么高落差的大川大河，地质环境相对稳定，这在结构抗震与抗灾防灾方面为建筑设计提供了相对较大的冗余度，也自然有利于建筑师的自由发挥。总的来说，这些外部条件都是催生英国建筑师培养体系的重要元素。而与之完全相反，中国现在正处在经济高速发展阶段，大型项目自然层出不穷，设计周期也必然一再压缩。另外，中国处于地震带之上，地质条件复杂，山地多，平原少，大川大河垂直落差显著，各种自然灾害发生频繁，建筑设计必然要严格地遵循国家规范，保证其坚固安全。综合这些因素，就不难发现中国建筑师的确需要拥有在短期内处理复杂大型项目的的能力，要对规范标准了然于胸，另外丰富的工作经验也非常重要。依此公论，现有的中国建筑师培养体系可以中肯地说适应了社会的要求。

综上所述，我谨希望读者们能够客观看到两国建筑师培养体系的差别，并能够以批判性的眼光来审视来自诺丁汉的100个方



Summarizing these factors together, it is not difficult to figure out that Chinese architects indeed need come terms with large scale projects designed in a limited time, being extremely familiar with building standards, and obtaining rich and varied working experience. On this point, the current architects training system in China could pertinently adapt the social requirement.

Summing up the contents of this volume, it is hoped that readers will begin to understand the difference between the two training systems from a more objective point of view, and to read the 100 projects from Nottingham with a more critical judgement. On a personal note, what is collected in this book are 100 high-quality architectural design projects, but I can never affirm them as "perfect" because architectural design is an extremely hard field to assess. The benevolent see benevolence and the wise see wisdom! One can only comment but probably never can determine the final quality! So, only if this book inspires or helps a little, that will for me bring the greatest encouragement and joy!

案。公允而谈，这里仅集中了诺丁汉大学100个优秀的建筑设计方案，但我决不能断言它们是最好的100个，这是因为本身建筑设计就是一个极难评判的领域，仁者见仁智者见智，可以评说，却不可定性！于是，如果本书或能启发灵感，或能取长补短，则甚幸，甚慰！

王琦 博士  
2012年11月27日凌晨  
于诺丁汉阿滕伯勒小村

Dr. Wang Qi  
Dawn, 27th Nov. 2012  
Attenborough, Nottingham

## FRAGMENT ON METHOD: PRESERVING THE MIDDLE GROUND

### 方法的碎片：保留中间阶段

If the design process has a beginning, middle, and an end, where is the act of design located? The answer seems obvious enough – throughout – for design is a threefold combination of investigation, development and resolution. Design is often used to describe the general overall ‘flow’ between the three realms. But perhaps the truth is more complex, for each stage is characterised by different intentions and modes of thought. There is also a difference between ‘flow’ and ‘structured movement’. What is often glossed over in the flowing definition of design is the fine-grain creative practice, or particular interactions between modalities of thought, that enables the continual progression of the process. Without such middle ground operations thought can soon become discontinuous (how many times has insightful research and investigation failed to live up to expectations?). In a data-led culture where increasing emphasis is placed upon preliminary research, it is no accident that mapping techniques have become so predominant. However this is often at the expense of the middle ground, which as a result tends towards instrumental automation and scripting of form. The automation of creativity is perhaps inevitable as it is often developmental time that is squeezed out by tight budgets. And yet without a well-rounded experience of how the middle ground of project-work operates, design cannot be mastered and the sequence of perception-intuition-intention remains under-articulated. One of the primary roles of architectural education is therefore to cultivate this gestational ground, and for students of architecture to learn how it can be abbreviated and preserved in professional practice. Much of the material collected in this volume has benefitted from a reconditioning of the developmental phase of project-work, so what follows is an account of its structured movement.

#### Making Room for Thought

The creation of a room remains a guiding intention in architecture. Given how difficult it is to specify their edges with any precision, the conventionality of something like a room makes it more, not less profound as a design task. Despite its bounded nature, the boundaries of a room ‘move’ up and down, side to side, and back and forth in order to enrich and situate our experience of inhabitation. Interiority and exteriority can be challenged without destroying the identity and integrity of a room. Like clearings in a thicket, they are spatial conditions allowing phenomena to emerge into nearness, express and swell in presence, and then contract and withdraw. In essence the room exists somewhere between metaphor and thing. Continually made, unmade and remade in accordance with everyday life, a room is a fundamentally unstable, manifold reality, as opposed to a box. It is a hinge within a threefold spatiality whereby the background space of the world is accommodated and measured by placed rooms in the context of which human activity takes hold. David Leatherbarrow explains this threefold spatiality in the following way:

“When the building is freed from technological and aesthetic intentionalities, we discover its lateral connections...performance in architecture unfolds within a milieu that is not of the building’s making. A name for this milieu is topography, indicating neither the built nor the un-built world, but both. Three characteristics of topography sustain the building’s performativity: its wide extensity, its mosaic heterogeneity, and its capacity to disclose previously latent potentials. There is always more to topography than what might be viewed at any given moment. Excess is implied in its ambience, for what constitutes the margins of perceptual concentration always exceeds the expectations of that focus.”<sup>1</sup>

If, through their creation and performance, rooms condition the slow acts of secular revelation, then

如果设计的流程由开始、中间和结束组成，那么设计行为本身应位于何处？答案似乎很明显——在整个过程中——因为设计是一个集调查，发展和解决问题为一体的三重组合。设计经常被用来描述这三个阶段之间的总体“流动”。但也许事实的真相更加复杂，因为每个阶段都有不同的意图和思维模式。而“流程”与“结构型推进”也有不同。在强调设计的“流程”属性时，那种细腻的，富有创造性的实践或者不同思维方式之间的碰撞通常被掩盖了，而它们恰恰能够使设计过程不断向前发展。于是，如果没有这种在中间阶段的推进，思想很快就会变得不够连续（想想有多少次有见地的研究和调查辜负了期望？）。在以数据为主导的文化里，初步研究得到越来越多的重视，因此整体计划技术自然而然地变得如此突出。然而，这往往是以牺牲设计的中间进程为代价，其结果趋向于工具性的自动操作和形式的脚本化。创意的自动化也许是不可避免的，因为对设计的深化时间往往受到紧张预算的影响。假如没有一个成熟的，在中间过程操作项目的经验，设计便不可能被掌控，而且感知——直觉——意图的过程也无法被明确表达。因此，建筑学教育的主要任务之一便是培养这种孕育性的中间阶段，并让建筑学学生了解如何在职业实践中将其提炼且加以应用。本书收集的许多素材受益于对设计作业深化阶段的重新整理，因此，接下则是关于教学大纲的结构说明。

#### 为思考提供一个房间

设计一个房间仍然是建筑中的一个首要意图。考虑到精确限定房间的边界是多么的困难，即使一个通常的房间作为设计任务而言也是极其深奥的。尽管其有一定的范围，房间的边界依然可以上下、左右、前后来回“移动”，目的是丰富我们的居住体验。在不破坏一个房间的可识别性和整体性的同时，其内在和外在属性亦可改变。就像位于丛林中的空旷地，它们的空间状态允许现象就近涌现，表达存在，膨胀，然后收缩并退出。在本质上，房间存在于象征性和物质性之间。在日常生活中，一个不断经历变化，不变，和再变的房间从根本来说是一个不稳定的，丰富多样的实体，而不简单是一个盒子。通过将其纳入人们的活动之中，房间就变成了一个三重空间里的中枢，容纳并测量着背景世界。大卫·莱瑟巴罗这样解释三重空间性：

“当建筑脱离技术和美学的意图时，我们发现它的横向联系……发生在建筑中的各种行为超出了房屋建造本身的预料。这个范围的名称就是建筑拓扑学，它意味着既不是建成的世界也不是未建成的世界，而是两者的叠加。建筑拓扑学的三个特点，即广泛的延展性，拼图般的异质性，以及揭露先前隐藏潜能的能力，支撑着建筑物的表现。当然除了观察的那一时刻外，还会有更多的变化可能。过剩总是隐含在它的周围环境中，因为浓缩的感知边缘总会超出对重点的预判。”<sup>1</sup>

1. David Leatherbarrow, 'Architecture's unscripted performance', in Kolarevic, B. and Malkawi, A.M., eds., *Performative architecture: beyond instrumentality* (New York: Spon, 2005), pp.5-19



the following question arises: are the conditions of architectural design analogous to the threefold spatial structure of a room? In other words, is the primary task of design one of (re)articulating and reconditioning the 'project-work' - a realm which has an interiority all of its own, both real and virtual - that is capable of articulating the slow, lateral emergence of architecture? In the words of Theodor Adorno, every project-work is a potential space or force field. Viewed in this way, project-work, along with the its space of production, can be defined as a constellation of potentiality, the purpose of which is to set out the connective structure for gathering and aligning human, inhuman and cosmic action.

#### Descending-Ascending Thought

Combining scales of operation, degrees of embodiment, and networks of equipment, project-work has a generational order of its own, all of which is housed and registered in the studio environment. Dwelling within a manifold of materialities, thought is transmitted through media of variable density and quickness, some of which have greater living presence than bricks and mortar - art, language, philosophy, and narrative. But in the same way that actual buildings must speak through less-animate materials, design is drawn down into fabric that delays verbal communication. 'Fabricated thought' is pulled backwards through a phenomenal world of dim materials and flattened figures forcing its utterances to become more archaic, embodied, and less explicit. At this level the voices expressed are more akin to the murmuring background surfaces of a room that witness everyday life, which only occasionally reach into the foreground. For the same reason that the room has a lateral or distended spatiality, so does the process which generated it. Lateral can refer to many things including peripheral, overlooked and edge phenomena but here it is used to designate the confluence of manifold realities within non-linear project-work.

In the reconditioned atmosphere of project-work, things come into being through artifice. It is a performance space in its own right, where cultural material and content interact. Animated from within as though it were a second nature, an immanent structure instils project-work with agency and instinct. In an academic context, project-work exists to intensify and thicken this field and as such, act as a compressed generating matrix analogous to the creative potential of nature. The fictional writer Italo Calvino once declared "my working method has more often than not involved the subtraction of weight. I have tried to remove weight, sometimes from people, sometimes from heavenly bodies, sometimes from cities." (Calvino, 1996) In architecture the opposite also holds. Forced to start from nowhere, the first act is to assemble a layered field of data similar to Robert Smithson's 'Heap of Language'. Eugene Dupréel's philosophical study of slowness, density and consolidation in *Théorie de la consolidation* (1931), was opposed to the simple generative concept:

"Life has not moved from an original nucleus towards an indeterminate development: it seems to have resulted from an advance from the external to the internal, from a state of dispersal to a final state of continuity. It has never been like a beginning from which a consequence results, but it was from the first like a frame that is filled, or like an order that has gained in consistency through, if we may be permitted to use the expression, a kind of gradual stuffing... Life is certainly growth, but all growth that is in extension, like fabric that stretches or individuals that proliferate, is only a particular case; life is essentially growth through density, an intensive progress."<sup>2</sup>

Simple driving concepts are emancipated from the slow accretion of an idea cultivated in the middle ground ecology of project-work. In architectural education the 'straight jacket' of the first formal concept needs radical and urgent retroversion.<sup>3</sup> As Simon Unwin put it, nothing will come out of nothing. Project-work has the capacity to invert ex-nihilo beginnings into the proper conditions of possibility of design. Single grand concepts, posited at the start and obeyed at all costs, are suspended and transformed into ideas and intentions embedded with their own particular scaffold, or preparatory architecture, that has weight.<sup>4</sup> Within a reconditioned project-space, architectural thought can move within different processual orbits simultaneously, thus helping to loosen the determining grip of one all-encompassing technique. Another way of putting this might be that heterogeneous materials and slower processes can interfere with and enrich design practice.

如果说通过房间自身的创造和表现，它们容纳了日常的普通行为，那么接下来的问题是：建筑设计本身是否就是对房间三重空间结构的体现？换句话说，是否设计的首要任务就是对项目工作进行再深化，再调整，从而制定一个包含全部自我，集真实和虚拟于一体的领域，再进而保证之后那缓慢，按部就班的建造过程得以顺利进行吗？用西奥多·阿多诺的话来说，每个设计作业都是一个有潜能的空间或力场。从这个角度来说，设计作业以及它创造的空间，可以被定义为一个由许多潜能之星组成的星座。而在它那星辰构络之间，人类的，非人类的，以及宇宙活动均可被妥善安排与放置。

#### 思想的回落与升华

对各种不同尺度的操作，对想法的具体表达以及对工具的使用这三个维度拥有一定的共性结构，而这种共性结构恰恰在设计室环境中均可以找到。寄居在物质表现之中，思想通过各种不同密度，不同速率的媒介传播，其中有一些存在得甚至比砖头和砂浆更长久，比如，艺术、语言、哲学和叙事。但是，实际的建筑必须通过不那么有生机的材料说话，而设计则需要向那延迟言语交流的建构构造妥协。“构造的思想”在这个由冰冷材料和二维图形构成的现实世界里，不得不以一种更加档案化的，具体化的，和不明确的方式表达自己的声音。在这个层面上，要表达的声音更类似于房间里的背景声，沙沙潺潺似有似无地作响，只是偶尔才变得引人注目。出于同样的原因，房间有一个横向性的或扩张性的空间感，产生它的过程同样如此。横向可以指很多事情，包括外围的，被忽视的和边缘的现象，但在这里它是用来指一个非线性设计作业中各种各样实体的汇集。

在一个经过调整的方案设计氛围中，事情的形成有赖于各种策略。在这个说到底是一个表演性空间，在其中文化素材和内容相互互动。在这种类似第二自然的环境中受到鼓舞，一种内在的结构赋予方案设计以力量和本能。在学术语境中，设方案计的存在可以对其进行强化，进而作为一种浓缩的基质激发无穷的创造潜力，就如同大自然那样。小说家伊塔洛·卡尔维诺曾经宣称：“我的工作方法往往涉及减去重量。我努力消除重量，有时是消除人的重量，有时是消除神灵的重量，有时是消除城市的重量”（卡尔维诺，1996）。在建筑中刚好相反。设计可以说从零开始，其首要行为就是组合一份包含各种有关数据的多层资料库，类似罗伯特·史密斯森的“语言堆。”尤金·杜普瑞尔在其1931年《固结理论》一书中关于缓慢、密度、固结的哲学研究与这个简单生成概念相反：

“生命不是一个原始的细胞核向某一个不确定的方向演化：它似乎遵循某种从外部到内部，从分散的状态到最终连续状态的演变规律。它从来不是有个开头其结果就尾随而至，而是像一个被填充的框架，或者说像在一个这个规律中被遵循的秩序，假如我们乐意使用这样一种表述方式，则这是一种逐步填充……生命当然在成长，但这种扩展性的成长，就如被撑开的面料，或繁衍的个体，都仅仅是一个个案；生命本质上是一个增加密度的成长过程，一个连续不断的进程。”<sup>2</sup>

对设计起到推动作用的简单概念来自对想法的反复推敲，并在方案设计的中间阶段——一种有益的类生态环境——得到培育。在建筑教育中，第一个正式概念往往需要激进且紧迫地返工。<sup>3</sup>正如西蒙·昂温说的那样，“无物生于无中”。设计作业可以把空无的初始阶段转化为可以用于开展设计的适当条件。不

2. As quoted in Gaston Bachelard, *Dialectic of Duration*, translated by Mary McAllester Jones (Manchester: Clinamen Press, 2000), pp 95-6.

3. See Jonathan Crary's reading of Olafur Eliasson: "Eliasson's work must be seen as part of a counter tradition of machinic production in which the dominant contemporary values of storage, speed, productivity, uniformity are discarded in favour of techniques for the creation of singular and non-recordable phenomena...[that reverse] an escalating mechanization and most often an impoverishment of human perception."

Jonathan Crary, *Olafur Eliasson: Visionary Events*. [http://www.olafureliasson.net/publications/download\\_texts/Eliasson\\_Visionary\\_Events.pdf](http://www.olafureliasson.net/publications/download_texts/Eliasson_Visionary_Events.pdf), Accessed 1st December 2012, 13.45.

4. In Greek scaffold translates as katabasis - that which lies beneath.



The middle ground is where project-work takes on thickness. Thickness is the direct result of the forced compression – simultaneity – of many planes of thought into one composite space. Project-work has the capacity to bifurcate concept, bequeath infinite potential to finite thought, and transform it into a convivial architectural topic. Laterally orchestrated creative practice also exceeds graphics. The process, its crystallisation, and subsequent presence, are one. Embodying and thickening abstract diagrams (swollen thought) transform through projection into a worldly body. Vice-versa, when flattened into plan corporeality is pressed into a rarefied intermediate state (inter-reality) between the ideal and the real where it becomes subject to proportional measure. The multiple flattening and elevating of minor events into major situations is the traditional procedure for progressing matter (procession) and the realisation of meaningful, lyrical form.

A persistent tension running through the intermediate stage of architectural thought, something that is often left unexplored, is the manner in which it is stretched (distended) across a three-fold spectrum of practice – the abstraction of language and conception, concrete materiality, and embodied spatial practice. This is a unique position, or threshold, in the overall design process.<sup>5</sup> Such ambiguity allows the project-work to enter into dialogue with culture through combinations of textual practice, the practices of inhabitation, and technological expertise. The American architect Louis Kahn once recalled how he failed physics at school because he couldn't come to terms with its abstract, numerical communication methods, but had he been asked to "draw physics" as he put it, his access to the phenomena would've improved. There is an important point to this: architects are privileged with the role of translating disembodied conceptual knowledge into tangible, public phenomena. Despite our growing ability to talk about architecture using increasingly more sophisticated language, combined with the enhancement of expertise offered by digital technology, in the end architecture is essentially interplay between the refined and the unrefined. Its creative potential lies in how phenomena shuttle (translate) across a spectrum between the material and the de-materialized.

#### Thought in Motion

Meaning, ideas and creative thought are carried by and communicated through things. Such embodiment is a sacrifice of pure thought. This descent allows the world to grip and takes hold of ideas, which can once again gain traction. The truth of thought is tested by movement in and through an inter-reality of matter-mind. Here thought becomes chimerical and no less noble, as the most elevated mind can soon become impoverished through solipsism. The paradox is that architecture is an impure discipline governed by ontological interplay. The philosophy of group-work is another medium of mobile thought that expropriates the ego. Within architectural education subjective authorship and the signature artifact still seem to carry the greatest significance, often at the expense of other voices that need to be registered in project-work. Solo and group performance need to be reconciled. The search for an enriched understanding of synesthetic, multidimensional space is therefore an ongoing, iterative task in the academy. A common mistake is to view project-work as a mapping of an introverted, mental landscape. But design is not the externalised psychology of the genius. Gianni Vattimo contrasts this strong trait latent within modern aesthetics with a deliberately "weak ontology": "The occurrence of Being is...an unnoticed and marginal background event." He goes on to say that which "endures" does so "not because of its force...but because of its weakness."<sup>6</sup> One way of interpreting weakness is to view project-work as a gathering and amplification of distributed utterances – voices spoken by the site, the whispers of history, the contingent life of materials and their temporal behaviour, not to mention the voice of the individual architect whose task it is to make sense and orchestrate the chorus. Despite our modernity the structure of the architectural imagination may still be said to resemble the creative exchange and distributed intelligence that once took place in the ancient polis, in the midst of which the individual voice and its lyrical intent becomes distinct.

The problem of integration is a further manifestation of mobile, collaborative thought, one that seeks to address the atomisation of project-work, along with the lifeworld, into competing specialisms. If architecture, as a reunification of thought and existence, provides the primary synthetic layer of culture, the question remains whether integrative, environmental science, which is itself an extension of modern instrumentality, can achieve such reconciliation. One route out of this situation could

惜一切代价而坚持下来的初始概念，会被搁置，被转化为各种想法和意图，进而嵌入它们自己特定的支架或预型建筑之中，而这些表征均具有重要之处。<sup>4</sup> 在一个经过调整的项目中，建筑思想可以同时在不同的思考轨道上运动，从而尽可能地摆脱一个所谓的全能方法的决定性桎梏。另一种有益的方式或许是尝试多种材料和放慢节奏，它们均可以促进和丰富设计实践。

设计的中间阶段是让作业在深化过程中呈现“厚度”。厚度，就是指一种强迫压缩的结果，同时，不同层次的思想可被集中呈现在一个复合空间之中。通过细分概念，把无限的潜力变成明确的想法，设计作业就会成为一个有意思的建筑主题。这种在横向上精心编构起的创造性实践超越了图形位界。设计的构思，实施以及建成则是一个一体化的过程。在这个过程之中，表现与厚化抽象图示从一个映像转化为一个存于世间的实体（思想膨胀）。反之亦然，当一个具体建筑呈现在二维的图纸上，有形的东西就被变成一个服从于比例法则，介于理想与真实之间的稀薄产物（内部真实）。这种将许多小事件的多重平面化与立体化交织在一个整体约束之下的过程，则恰恰是如何将设计推进并产生富有意义的、诗意的形式的传统真谛所在。

尽管时常被忽略，一种持久的思考张力应贯穿于对建筑思考的中段。这是一种对实践的三重维度的伸展——对语言和概念，对具体的材料以及真实空间的抽象化概括。这在整个设计过程是一个独特的位置，或阶段。<sup>5</sup> 这种模糊性使得方案设计作业可以通过整合文字表达，对栖居场所的设计以及表达的技巧和知识，与文化进行对话。美国建筑师路易斯·康曾经回忆起他在校时物理科目没有考试及格，是因为他不擅长那种抽象的数字表达方式，但是当有人让他“画物理”时，他却可以胜任。这一点很重要：建筑师很荣幸的角色就是能把无形的概念知识转化为有形的、公共的现象。尽管我们越来越善于使用日益复杂的语言来谈论建筑，再加上数字化技术所带来的丰富的专业知识，但是在本质上建筑仍是被细化和未被细化的结合体。其创造潜力体现在现象如何在物质实体和非物质概念这两个领域间穿梭交互之上。

#### 思想的活动

意义，想法和创造性思想蕴含在事物当中，并通过事物来沟通。思想的具体化是以牺牲其纯粹性为代价的。这种过程可以让现实世界得以把握思想，进而产生联系。思想的真谛存在于介于物质和精神的内在真实状态并在活动当中得到检验。这里思想也容易变成妄想且高高在上，因为如果过于自我，即使最有活力的头脑也可能瞬间变得贫瘠。吊诡的是，建筑作为一个不纯粹的学科依然受到本体性的制约。作业中的团队合作为思想的交锋提供了土壤也可以抑制过强的个人表现。在建筑教育中，设计者的署名权似乎仍是最重要的，但这往往以牺牲作品中其他必要的有意思的他人见解为代价。个体和群体的表现需要协调整合起来。另外，对复杂多维空间的深入理解依然是大学教育中一个中心任务。一个常见的错误就是把设计作业看作一个封闭的内心反映。但设计也不是天才心理的外在表达。詹尼·瓦蒂莫把这种蕴含在现代美学中的强烈特质与刻意的“弱本体论”进行了对比：“事物的发生……是一个被忽视和边缘化的背景事件。”他接着说，之所以能够“持久”的东西，“不是因为它的强力……而是由于它的脆弱。”<sup>6</sup> 一种解释这种脆弱的方式就是把设计作业看成许多分散声音的聚集和放大——包括现场的故事，历史的诉说，以及材料的生命和其特定时间的表现，更不必说那个负责让这些声音完美合唱的建筑师的操作。尽管我们身处现代时期，建筑创作的深层结构仍然可以说与古代城邦中那种创造性的交流、多元的

5. The idea of distension is derived from St Augustine's notion of the threefold present, or the idea that human intentions are composed from memory, attention, and anticipation.

6. Gianni Vattimo, *The End of Modernity: Nihilism and Hermeneutics in Postmodern Culture* (Baltimore: John Hopkins University Press), p. 86.



lie in the concept of intermundia or metakosmia, an Epicurean concept translated as 'interworld'. Referred to by Tennyson as the 'lucid interspace of world and world', it is a notion that appears attuned with current visions of multidisciplinary overlap. Characterised by motion and potentiality, intermundia suggests a de-specialised and de-tooled, spatio-material totality prior to division and separation. De-tooling is a provisional stage of integration that avoids the pitfalls of speculative collaboration - throwing expert tutors together during the early stages of the design process. Offering multidisciplinary teaching at a formative stage of a project is of course part of the solution, but there is more to it than simply juxtaposing art and science in a shared space. A deeper question needs to be asked: what exactly happens to each discourse during the encounter, i.e. the middle ground, as thought moves back and forth between art and science? The environmental consultant Max Fordham and the architect Peter Clegg in a joint lecture held at the University of Nottingham in January 2009 gave a first-hand insight into this mobility:

"Listening to Peter [Clegg] reminded me of the different things between being an engineer and being an architect. When you are an engineer you can have a very narrow vision which most engineers do, and in a way that narrowness of vision gives you the freedom to have really crazy ideas. When you look at how a plan developed with Peter doing the architecture you can see that there is a lot more to it than my simplistic little lighting idea. And that is very important. People who benefit from the architecture draw from a whole lot of values and emotions that have to be satisfied in the building. So it is no good just having a simple view."<sup>7</sup>

#### Sustaining Thought

The point here is that the purpose of architectural development is to reverse engineer science and reconnect it with its phenomenal origins in the lifeworld. Art and science were at some point in their history kindred spirits, and contemporary design needs a strategy for blending archaic residues of experience and meaning with exact measure and technology. The current understanding of 'environment' is a reduced version of a pre-enlightenment spatial condition which, prior to its conversion into the void of modernity, was perceived to be alive in a semi-materialised state. Constructing a well-rounded environment therefore requires a lateral, enriched account of space as a stratified reality where the distinction between thing and world although less clear, is more revelatory and truthful about the human condition. To that end the goal of a culturally-attuned, environmentally-aware, design education, ought to be one of grasping the primordial spatial intermundia that spans, envelopes, layers and sustains life.

Architecture always already exceeds instrumental framing by any single technocratic field. Rooms orientate inhabitation with respect to cultural and natural horizons, and as such are synthetic assemblages of cultural-tectonic intentions. Existential space is defined as non-neutral or qualitative; it replaces dimensions and ergonomics with human relational categories such as foreground, middle-ground and background; nearness and remoteness; generic horizon and particularised rooms. When we inhabit space we often speak in terms of reach, horizontality and verticality, centre and periphery, above and below, seen and unseen, stillness and movement, active and passive, thickened and rarefied. It is a process that relies upon the renewal of a particular type of discourse for interpreting space. A shared design vocabulary helps to build understanding. Hence, largely assisted by the writings of David Leatherbarrow and the phenomenological tradition, we describe rooms in terms of 'recession, spectrum of articulation, sedimentation, extended temporality, crystallisation (of the vicinity), lingering, sectional strata, horizon, framing, focus and dissolution (of objects), lateral drift, prominence and retreat, commingling of the near and far, thick space, concentration and decompression, fluctuation and zones of attention.'<sup>8</sup> This language is a linguistic representation of pre-scientific intuitions of space, and is based on our primordial encounter with the world. Earlier Heidegger had similarly defined the relationship between a thing and its spatial sphere in terms of 'gathering of the fourfold, staying, dwelling together, enfolding, mutual belonging, revealed, bringing near, mirroring or interplay of spatial regions, expropriation (dissolution of the edge of discrete objects), worlding, nestling, inconspicuously compliant thing, stepping back (recession), and shining forth.'<sup>9</sup> Even though this discourse is untimely, it is inconceivable how architects can operate without a fundamental understanding of this influential tradition. This has to be the aim of design education today: to develop ways of seeing buildings as things or concentrated realities (contra objects) in

智慧没有太大差异, 因为两者当中类似的就是个人声音和意图的表达。

整合是对动态思想收集的深入推进, 它强调将设计作业结合生活世界并转化成富有竞争力的独特方案。假如说建筑, 作为思想和存在的统一体, 是文化的主要组成部分, 那么整体的环境科学——作为现代社会工具理性的一个延伸——能否促进这种整合依然是一个未知的问题。一个叫作 intermundia 或 metakosmia 的伊壁鸠鲁哲学概念, 或许能为摆脱这种局面提供一条可能的出路。这个可翻译为 "interworld" 的概念就是丁尼生所指的世界和世界之间的明了间隙, 与当今多学科交叉重叠的想法相吻合。以运动和潜力为特征, intermundia 建议去专业化的、去工具化的、空间物质整体性优先于分工与分离性的想法。去工具化是整合过程的一个临时阶段, 目的是为了避免投机性的人际合作的陷阱, 也就是说在设计过程的早期阶段将多名专业老师集中在一起指导。在设计成形阶段, 为学生提供多专业交叉教学当然是解决方案的一部分, 但除了这种简单地把艺术和科学并列在一起的方式, 它还意味着很多其他层面。一个更深层次的问题是: 当思想在艺术和科学之间来回游走时, 不同学科相遇时, 比如在设计的中间阶段, 到底会发生什么? 对于这种流动性, 环境咨询顾问马克斯·福特汉姆和建筑师彼得·克莱格在2009年1月在英国诺丁汉大学举行的联合演讲给出了第一手洞见:

"彼得(克莱格)的话让我想起了工程师和建筑师的差异。当你是一个工程师, 你可以像大多数同行那样, 有一个非常狭窄的视野, 在这个范围内, 你可以有很疯狂的想法。但当我看到彼得设计一个建筑平面时, 我就明白了, 在我那简单的, 关于照明设计的小点子之外还有很多重要的事情。从建筑中受到启发, 你就知道其中还有很多因素要考虑。因此, 只有一个简单的想法是不够的。"<sup>7</sup>

#### 保持思考

这里要指出的是, 建筑发展的目的并不仅仅是为了展示工程科学, 而是把工程科学和其在生活世界中的最初意图联系起来。历史上, 艺术与科学在某种程度上是类似的, 现代设计需要一个能够把古老的前人流传下来的经验和意义, 与当今的方法和技术相互结合的策略。我们目前对 "环境" 的理解是一个着重在前启蒙时代空间环境里的简化版, 在其经历现代性的虚无状态之前, 它是一个鲜活的半物化的存在。因此, 构建一个完美的环境需要对空间进行全面而丰富的诠释, 而在这个多层次的释义里, 事物与世界的区别, 尽管依然不甚明显, 却需要更具有启发性地, 更真实地揭示出人类的生存状况。为了实现这一目的, 一个强调文化自觉与环保意识的设计教学目标就应该尽量把握那本初的, 空间的 intermundia, 因为它可以跨越、包容、层切并延续生命。

建筑总是超越任何单一技术领域所限定的工具性框架。从文化的和自然的属性来说, 房间作为一个集文化建构意图于一体的有机组合, 是用于栖居的。真实的空间是有其属性的, 而非中性的; 它取代了尺度维度和一些与人有着密切的关联人体工程学名词, 比如前景、中景和背景, 亲近与偏远, 普通用途和特殊用途等。在我们所居住的空间里, 常常讲到远近, 水平和垂直, 中心和外围, 上面和下面, 看得见和看不见, 静止和运动, 主动和被动, 厚重和稀薄。这个解释空间的过程依赖于特定类型的话语。共同认可的设计语汇有助于增进彼此之间的了解。因此, 在很大程度上借助于莱瑟巴罗的著作和现象学传统, 我们这样描述房间的空间意向: 诸如空间的退让, 明确的空间表达, 沉淀, 丰富的时间感, (对周围环境的) 结晶, 不断的迂回反复, 剖面地层,

7. Unpublished lecture held as part of the 'Making Architecture' series organised by Michael Stacey and Darren Deane during 2008-9.

8. David Leatherbarrow, "Table Talk", in *Architecture Oriented Otherwise* (New York: Princeton Architectural Press, 2009), pp. 119-141.

9. Martin Heidegger, "The Thing", in *Poetry Language Thought*, translated by Albert Hofstadter (New York: Harper and Row, 1971), pp. 163-86.



relation to a wider horizon of reference. This will in turn enhance understanding of the 'sustainable metabolism' between things.

### Meaningful Thought

Meaning is carried in the articulation of human situations. Architecture in turn operates as a framework for human action. The renewal of interest in architectural meaning amongst students of architecture is of paramount importance. Even though today architects are aided by increasingly sophisticated software, cad/cam interfaces and predictive environmental modelling, and have become experts at explaining in exact terms the performance of materiality and atmosphere, this has come at a cost: a growing inability to elucidate the meaning of the work; its situation in cultural history, or even account for how the design process generates and sustains meaning. Our discomfort when faced with the question, 'so, what does it all mean', or 'what contribution does it make', partly derives from the poor reputation meaning inherited from postmodernism. The suppression of the problem can also be linked to recent anti-representational tactics promoted by North American pragmatists who claim that "practices imply a shift to performance, paying attention to consequences and effects. Not what a building, a text or a drawing means, but what it can do: how it operates in – and on – the world."<sup>10</sup> Process, performance and the active now appear to carry greater value than theories of representation, a work's content, or slower acts of interpretation. Our ability to restate the problem has to be recovered.

The production of meaning in architecture is founded on a dialogical intertwining of everyday rhythmic repetition and routine, with contemporary residues of myth, symbol and representational form. Architecture has the broad capacity to orchestrate and reconcile these two orders of time governing representation and performance of space. The nature of meaning can be revealed by something as simple as a fountain. Spanning the scale of furniture (1:1) and urban block (1:200), this humble piece of equipment brings the horizon of the countryside into contact with the representative order of the town, uniting material and environmental processes with iconography and inhabitation, all within one highly charged setting. A civic-scale room can also articulate the relationship between memory and ordinary habit; relationships that unite historic interior fresco with everyday performance in a single spatial encounter. This is an example of how architecture, in projecting a single image onto the life of the town and yielding through appropriation, leads us to dismiss as unhelpful the straightforward opposition between representational form and spatial practice. The production of meaning always involves a double movement between, on the one hand, the conviviality of room that suspends for contemplation the life and history of a place, and on the other, a wider urban field consisting of individual moments of social appropriation. Meaning is an ongoing event conditioned by the intersection between idealised space, and its deformation within a manifold, democratic reality. This became manifest in cosmological drawings that document in semi-abstract terms the latent meanings and relational field into which things, including buildings and bodies, are inextricably woven.

### (Syn)thetic Thought

Despite our post-enlightenment condition, the one characteristic that architecture still holds in common with ancient thought is its ability to draw together, within a single horizon of understanding, a multidisciplinary field of knowledge. This volume captures a sample of project-work from the Part I and II courses at the University of Nottingham, UK, which involved iterative combinations of writing, making, and poetic, sustainable programming. The architect has always been a polymath guided by synthetic ideals that condense the richness of our world into an integral, convivial figure. Process and progressive synthesis amount to the same thing, with the designer acting as an opportunist who steers and listens to the research material at his or her disposal. A research project thus always has the capacity to 'project itself'. As Louis Kahn put it, 'it is always the hope on the part of the designer that the building, in a way, sort of makes itself, rather than be composed with devices that tend to please the eye'.<sup>11</sup> The final year (from where much of the work contained in this volume is drawn) is an opportunity to deal with a complex body of research that unfolds across a structured middle ground. The sixth year thesis begins with the construction of a charged constellation of research out of which arise cultural topics relevant to our time. A thesis cannot be posited as a single concept. It is made from intersecting strands of intelligence that crystallise into a culturally relevant final

地平线, 限定空间的框架, (将对象)集中和分散, 横向移动, 突出和隐退, 结合远景和近景, 空间的丰富感, 浓缩和释放空间, 将注意力集中和打乱。<sup>8</sup> 这些词汇是透过语言学对空间认知的前科学阶段表达, 是建立在我们对世界最本初的认知基础上。与此类似的是, 海德格尔在早期也这样定义过事物与其空间的关系: 四重的集合, 停留, 聚居, 拥抱, 相互隶属, 揭示, 拉近, 空间区域的反射或相互作用, 征用(离散物体边缘的消解), 世界化, 偎依着, 不引人注目的抱怨, 退步(衰退)和灯塔效应。<sup>9</sup> 虽然这些话显得不合时宜, 但如果说建筑师没有从根本上理解这个有影响力的传统, 很难想象他将如何去实践。因此这一点有必要成为今天设计教学的目标: 在更广阔的视野内尝试把建筑看作事物或者浓缩的现实(而不是一些简单物体)。这将反过来提高对事物之间“可持续性新陈代谢”关系的理解。

### 有意义的思想

意义蕴含在对人类处境的清晰表达中。反过来建筑为人类行动提供一个框架。学生恢复对建筑意义的兴趣是非常重要的。尽管今天的建筑师获益于日益复杂的软件, 例如, 电脑辅助设计(CAD)和电脑辅助制造(CAM)以及用于模拟环境的模型, 并已成为可以用精确的语汇来解释材料和环境性能的专家, 但是代价却是: 越来越无力去阐明作品的意义, 以及其在文化历史中的地位, 甚至说明设计过程是如何产生和维持意义的。那么, 当我们面对诸如“这一切都意味着什么? 它的贡献体现在哪里?”等这类问题时, 那种潜在的不自在感可能部分源于声誉不佳的后现代主义对解释意义的影响。对意义的抑制也和北美一些实用主义者所主张的反对再现的策略有关, 他们声称, 实践意味着关注建筑的表现, 后果以及影响——这不关乎建筑物, 文本或图纸意味着什么, 而关键在于它们可以做什么: 即建筑如何在物理大环境上(或内)起到作用。<sup>10</sup> 现在, 过程, 表现以及激活作用看起来比再现理论, 作品的内容, 以及缓慢的阐释更有意义。我们应该重新正视这一问题。

建筑所衍生出的意义来自于日常生活中的反复使用与一些神话的片段, 象征以及再现性形式的相互对话和交织。建筑具有协调和整合那分别掌管着空间表现和空间性能两种时间秩序的能力。一个简单的喷泉就可以揭示出意义的本质。这个不太起眼的但多用途的装置横跨家具(1:1)和城市街区(1:200)两种尺度, 将乡野景致的魅力带入城市的秩序性表征之中, 在一件被高度掌控的设施中, 将物质与环境之形成过程和图示与居住结合为一体。一个宜人尺度的房间也可以阐明记忆和日常行为之间的关系; 在一个单一的空间里, 历史悠久的室内壁画可以和日常生活紧密共存。这个例子说明了建筑如何通过占有一块土地且进行开发建设而在城市生活中投影下一个单一印象, 并促使我们直截了当地摒弃了具象形式与空间实践之间那毫无益处的对立。意义的产生总是会涉及双重的互动, 一方面, 互动存在于那房间所代表的, 暂停了对生活沉思的欢乐与场地的深沉历史之间; 另一方面, 存在于其他更广泛的, 包括社会专有的个人时刻的城市领域之中。意义是一种不断发展的事件, 本身则受到理想化的空间, 以及它在多元化, 民主化现实中的畸变所影响。这一点清晰地体现在融合着宇宙哲学的图纸上, 因为这里以一种半抽象的方式记录了潜在的意义以及事物之间的联系, 包括建筑和人体的千丝万缕的关联。

### (综合)决定的思想

尽管我们身处后启蒙时代, 但建筑学一个自始至终始终保持着的特点就是在一个单一理解范围内综合多学科的知识。本书

10. Stan Allen with Diana Agrest, *Practice: Architecture, Technique and Representation* (Amsterdam: G+B Arts, 2000), p. xxv.

11. Louis Kahn, 'The Architect and the Building', in *What Will Be Has Always Been: The Word of Louis I. Kahn* (New York: Rizzoli, 1990), p. 5.



idea or grounded topic. Architects don't stick to concepts; they arrive at, or are propelled towards a synthetic idea as the fulfilment of research.

Project-work is another name for that structured movement; one might even refer to it as a topography of thought. The outcome stands at the intersection of x-y-z axes representing historical continuity, environmental responsibility, and humanised technology. This intersection marks the site of architectural meaning. What counts is to make sense of thick spatial conditions by forming questions that frame a topic; translating these questions into intentions; embodying intentions as spatial settings, and finally transforming the topic into a culturally relevant made work or room. One definition of a thesis could therefore be to make sense of the world. 'Thesis' derives from the Greek word *thetos* or *tihenai*, meaning 'placed' or 'position'. Some positions can be speculative – hypothetical – whilst others are synthetic. An architectural thesis situates and orientates design with respect to a set of historical conditions and possibilities. The notion of a 'thesis' is also linked to thematic construal, i.e. the act of drawing out and crystallising ideas over the time span of a project. In this respect a thesis is a disclosure of truth and is immanently moved by recursive oscillation between design and interpretation, much of which is made to happen in the middle ground.

精选了英国诺丁汉大学建筑学专业从第一阶段建筑师教育到第二阶段建筑师教育的一些学生作业，综合涵盖了联系写作、制作、诗意与可持续环境的设计方案。一直以来，建筑师作为一个具有综合知识的博学者始终致力于把我们丰富的世界浓缩成一个整体的、愉悦的图形。过程和进步性综合意味着是同样的事情，就是设计师作为一个机会主义者根据自己的需要“凝视，倾听”研究素材。因此一个研究项目，总是可以去“展示自己。”正如路易斯·康所说的那样，“设计师总是希望建筑能以某种方式自我逐渐形成，而不是将一批取悦眼睛的装置组合在一起。”<sup>11</sup> 最后一学年（本书中的许多作业是这一学年做的）为学生提供了一个机会，可以让他们在一个理构建起来的中期阶段中逐步展开复杂的研究课题。第六年的毕业论文始于一个严谨而丰富的研究建构，学生从中提炼出与当代有关的文化主题。一篇论文不能被假定为一个单一的概念。它是由相互交叉缠绕的智慧组成，最后凝练成一个与文化相关的想法或明确的主题。建筑师们不必拘泥于概念；他们主动或被动地构建一个能体现研究成果的综合构想。

方案设计作业是这种结构化行动的另一个名字，人们也可以把它看作思想拓扑学。它的成果建立在XYZ三轴的交点之上，代表着历史的延续性、环境的责任，以及人性化的技术。这个交汇点也是建筑意义的所在之处。设计过程中最重要的是通过提出架构起主题的问题来确定一个拥有厚度的空间条件；将这些问题翻译成意图；再把这些意图具体化为空间设置，并最终把主题变为一个与文化相关的作品或房间。因此，六年级设计论文的一种定义就是要把世界变得有意义。“论文”这个词来自于希腊字 *thetos* 或 *tihenai*，意为“被放置的”或“观点所在”。有些观点是投机性的，假设性的，而有些是综合性的。通过对一系列的历史条件和可能性的尊重，一篇建筑设计论文定位且引导着设计方向。“论文”的概念也与专题研究有关，即在一个项目的设计周期内想法的提出和表达呈现。在这一点上，一篇论文也是一个对真相的揭示，并在设计和阐释之间来回摇摆，而这其中大部分过程则是发生在教学的中期阶段。

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—— ARCHITECTURAL HUMANITIES  
—— 建筑人文篇





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