建筑策划的反思与完善：从前策划－后评估到全过程咨询

REFLECTIONS AND IMPROVEMENTS ON ARCHITECTURAL PROGRAMMING: PROGRAMMING AND POST-OCCUPANCY EVALUATION TO WHOLE-PROCESS CONSULTATION

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摘要

“建筑策划”概念诞生于20世纪50年代，并于90年代引入中国，对中国的城镇化建设产生了积极影响。受访者庄惟敏自博士论文起就一直致力于建筑策划理论的研究，并先后出版了《建筑策划导论》《建筑策划与设计》等著作。近几年，其逐渐意识到“策划－设计－施工－运营－后评估－策划”闭环过程对于建筑创作的重要性。2017年9月，庄惟敏等人出版最新著作《后评估在中国》，也由此构建了“前策划－后评估”的完整研究体系。在对自身的塑造及对学生的培养中，其一直倡导“全体论”的发展方向，强调中国建筑师应具备符合国际要求的职业素质及知识储备。本文梳理了建筑策划、使用后评估、全体论等理论的发展历程，并评述了这些理论在中国的推行现状及相关举措，以形成对早期建筑策划理论的反思与完善。此外，其还特别指出，虽然评估与评论是两个不同的概念，但都属于建筑师应掌握的技能范畴。

关键词
建筑策划；使用后评估；全体论；全过程咨询；功能；评论

ABSTRACT

The concept of Architectural Programming was proposed in the 1950s, but has only guided China's urbanization since the 1990s. The interviewee, Weimin Zhuang, studied architectural programming for his dissertation and has since published *Architectural Programming Guide* and *Architectural Programming and Design*. In recent years, he comes to emphasize that architects need to master the closed-loop process of "programming — design — construction — operation — post-occupancy evaluation — programming." In September 2017, Zhuang and his co-authors published *Post-Occupancy Evaluation in China*, and formed the research methodology for "Architectural Programming and Post-Occupancy Evaluation." For years, Zhuang argues for a "holistic approach" in education to both students and himself, and emphasizes the importance of Chinese architects to meet international professional standards. This article explores how the development of architectural programming, post-occupancy evaluation, and holistic approach has been adopted in China, and reveals reflections and suggestions for the improvement of architectural programming. Finally, Zhuang points out that architects are supposed to build the skills in both evaluation and criticism.

KEY WORDS
Architectural Programming; Post-Occupancy Evaluation; Holistic Approach; Whole-Process Consultation; Function; Criticism

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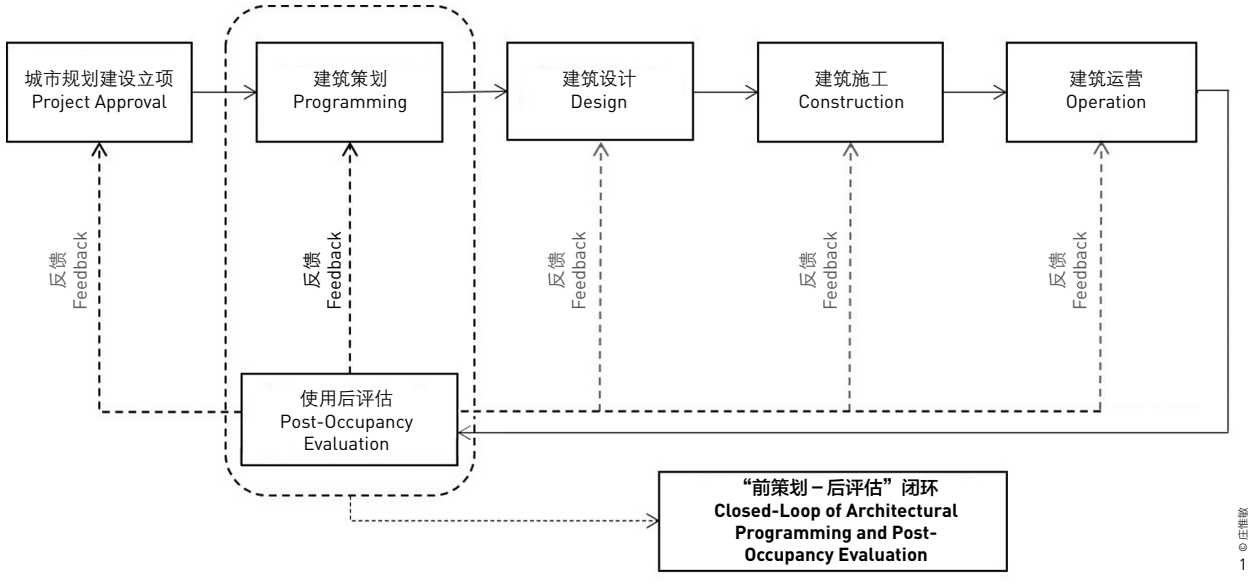
2017年9月，《后评估在中国》出版，作为国内第一部使用后评估领域的专著，该书的出版极大地助力了使用后评估工作在中国建筑领域的推行和开展。《景观设计学》编辑部借由这一契机，采访了该书的主笔人庄惟敏。作为建筑策划和使用后评估领域的专家，其结合自身近30年的建筑策划理论及实践，提出了“前策划－后评估”闭环、全过程咨询等理念。本文根据采访内容整理而成，呈现了庄惟敏对于建筑策划理论的反思与完善，以及他对于当代背景下建筑师权责及能力培养的新思考。

建筑策划的必要性与发展现状

20世纪50年代，经历了第二次世界大战洗礼的西方城市亟待快速重建，人们对人居环境营造的重视度也日益提升。1959年，美国学者威廉·M·佩纳和他当时的合伙人威廉·W·考迪尔在《建筑实录》杂志上发表了一篇名为《建筑设计分析——一个好设计的开始》的文章，奠定了“建筑策划”概念的基础[1]。

建筑作为人工环境应该具备功能和精神两个维度的意义。建筑界国际知名奖项普利兹克奖奖牌背面印刻着“坚固、实用、愉



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1. 前策划 – 后评估过程图解

1. The process of architectural programming and post-occupancy evaluation

悦”字样，“坚固”和“实用”属功能层面，而“愉悦”则属精神层面；哲学家马丁·海德格尔提出“诗意地栖居”，“栖居”是功能，“诗意”则属于精神。建筑策划关注建筑的功能性，代表着建筑创作的基本底线，通俗地讲，就是探讨如何用最少的钱盖最好的房子。

在中国的城市建设发展过程中，出现了一种对于精神层面过于偏重的倾向，为建筑附加了很多文化意味和额外诉求，反而忽略了建筑作为使用空间所具有的最本质的功能问题。20世纪90年代，中国开始进入城镇化建设快速发展阶段，建筑策划也在此时引入中国，以指导城市建设的理性开展。

近年来，人们开始慢慢理解和认可建筑策划对于建筑设计的意义。在中国，二类民用建筑的使用年限是50年，但往往在建成30余年后就会被拆除，其中相当一部分建筑被拆除是由于其“不好用了”。究其原因，大多是一开始的“题出错了”。我们经常会听到甲方要求设计的建筑“一百年不落伍”或是“让人眼前一亮”，正是这些难以界定的附加条件引导建筑师走向了另一个方向。建筑师的本位工作即是照章做设计，一旦“章”出现问题，就只能在后期建造和维护中不断修正。建筑策划的核心要求即是从源头上把控建筑设计的合理性、科学性和逻辑性。

从2000年出版的《建筑策划导论》到中国建筑学会建筑师分会建筑策划专委会（APA）成立，再到2016年出版的《建筑策划与设计》，我们已经形成了一套契合中国国情的完整的建筑策划理论体系，并已经研发出相应的软件系统，用于验证设计任务书的合理性、科学性和逻辑性，规避有风险或不合理的地方，以及人为因素（利益追求、政治诉求等）带来的偏差。

国际建筑师协会（UIA）明确界定“编制科学合理的设计任务书”属于建筑师的职责范围[2]。我们可以培训业主、甲方、政府方的建筑策划能力，但建筑策划的操作主体只能是建筑师。虽然建筑策划收费制度尚未健全、操作流程尚未清晰、相关的研究工作多半没有资金支持，但在当下，无论是体制内的大型设计院，还是体制外的民营企业、明星建筑师，都有自主推动相关工作的意愿，促进了建筑策划的推行。

恰逢其时的使用后评估

在许多欧美国家，政府投资的项目不仅必须进行建筑策划，以监督和审查任务书

的科学性和合理性，其研究结果也必须经过主管部门的审核，审核的手段即为“使用后评估”。中国于2014年印发的《住房和城乡建设部关于推进建筑业发展和改革的若干意见》也明确指出，要“探索研究大型公共建筑设计后评估制度”，以保障其社会、环境和经济效益[3]。

使用后评估同样也是在第二次世界大战以后发展起来的，这一概念最初由美国学者沃尔夫冈·普雷萨提出，其著作《使用后评估》至今已修订至第5版，书中详细论述了评估的步骤、原则和指标等，形成了一套完整的架构[4]。2017年9月出版的《后评估在中国》则立足中国国情，全面呈现了使用后评估工作的理论体系、研究方法、技术路线和具体实践，并汇集了国内外专家对于推进后评估工作的讨论、思考与行动[5]。

现在也有很多人习惯使用“使用后评价”一词，但我认为“评估”一词更加准确。我们不仅要借助指标和数据来衡量其“价值”，也需要综合考虑各种绩效，估算出总体水平，并提出针对性的改进意见。由此，从前期的建筑策划到后期的使用后评估，形成了“策划－设计－施工－运营－后评估－策划”的闭环和一套完整的价值观体系，进一步完善了只包含建筑策划和建筑设计两方面的早期广义建筑学的学科框架。

同样的，评论与评估也是两个不同的概念。评估需要通过计算，以实际数据指标来支持论点，即使是通过主观评价来界定，也有语义学解析法等评价方法可依循，具有高度的科学性和合理性。但在进行评论时，每位评论者都持有自己的主观立场，可以从历史、经济、艺术等各个角度出发，也促成了评论的趣味性和赏析性。评估与评论都代表着一种反思，评估大多针对某一特定的建成作品，而评论则往往聚焦于某一现象。我于2003年在《建筑学报》上发表的一篇名为《关于建筑创作的泛意识形态论——“实验的作品”与“商业的产品”》的文章，即是对泛意识形态论对建筑创作的误导这一现象的批判[6]。

由全体论推动的全过程咨询

在对上述闭环进一步补全和完善后，我们的研究还关注全体论这一设计方法，其旨在应用建筑的空间方案将艺术、技术、功能、美学和营造融为一体。中国的鲁班、德国的沃尔特·格罗皮乌斯、意大利的米开朗基罗·博那罗蒂，以及荷兰的阿尔多·凡·艾克都是全体论的代表。全体论要求建筑师了解建造的所有工艺，从理念生成到设计建造，再到使用后评估，代表着一种建筑的理性回归。随着工业化和信息化时代的到来，我们的工作被切分成很多碎块和断面，建筑师有时会陷入攻其一点不及其余的怪圈，常常导致设计出的图纸无法用于施工、图面很美但不利于使用的弊病，这些都源于全体论意识的缺乏。

为了将全体论意识注入到建筑师的设计实践中，住房和城乡建设部提出了“全过程咨询”这一理念，要求设计师具备“策划－设计－评估”的完整素质，掌握立项、规划、策划、设计、施工、运营等各环节的基本知识。虽然全过程咨询理念才刚刚开始推行，但我们在已完成的建筑实践中已经融入了这一理念。2011年设计的北京市“煤改电”重点工程——菜市口220KV变电站及附属设施（电力科技馆）项目，即通过前期策划确定项目定位，并对任务书进行优化和调整，在原有的城市基础设施上设计了一个集展览、示教、商业、办公功能于一体的复合体，同时满足了社会、环境和经济效益。

针对建筑策划和后评估，清华大学建筑学院专门开设了一门建筑策划课程，以引导学生对建筑底线相关问题进行研究。同时，也开设了建筑评论课程，从艺术、历史、技术等多个方向培养学生的建筑审美和辩证思维。我们的本科教育乃至职业教育，都应参照国际范围内对于建筑师的定义和评价体系，并借鉴西方注册建筑师的职业要求对学生进行全面的培养。除设计本身之外，建筑策划、建筑评论，以及相应的知识储备都是建筑师应该具备的基本素质。以往我们忽略了这种综合性需求，而前文提到的全过程咨询建筑师的培养目标则正是中国对建筑师国际化的一种回应。**LAF**

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2. 从菜市口大街望向电力科技馆
3. 可参观的220KV地下变电站

2. View to the Electric Power Museum from Caishikou Street
3. 220 KV Substation opening to the public

Editor's Note

In September 2017, *Post-Occupancy Evaluation in China* was published as the first monograph on post-occupancy evaluation in China, as a great promotion in this very field. In this interview, Weimin Zhuang, an expert with over 30 years research and practice experience of architectural programming and post-occupancy evaluation and the leading author of the book, proposed the ideas of closed-loop process of architectural programming and post-evaluation and whole-process consultation, and shared his reflection and suggestion on the development of architectural programming, and opinions on contemporary architects' professional skills and social responsibility.

Necessity and Development of Architectural Programming

In the 1950s, after World War II, western societies were keen to see city revitalization. In this movement of rebuilding, the quality of living environment was attached much importance. American scholars William M. Peña and William W. Caudill first introduced the concept of "programming" into architectural sphere by their article Architecture Analysis — Prelude to Good Design, published on *Architectural Record* in 1959[1].

As a kind of artificial environment, buildings need to meet both functional and spiritual requirements. The Pritzker Prize celebrates architecture that has "firmness," "commodity," and "delight." "Firmness"

and "commodity" are about function, and "delight" is about spiritual value. In Martin Heidegger's essay Poetically Man Dwells, "dwell" referred to the function and "poetically" to the spirit. The concept of Architectural Programming focuses on the functionality of buildings and is applied as a cost-quality baseline in architectural design and construction.

In China, urban development and construction has overemphasized the spiritual value of buildings with less consideration on the functionality, the essential aspect of a building. In the 1990s, when China began its rapid urbanization, architectural programming was introduced as a guideline to China's urban construction.

Architectural programming is getting more and more applied in recent years. In China, although the life of a class-two civil building is 50 years, they are often demolished after a couple of decades. Among all the reasons, the failure to meet usage demands is mostly ascribed. And the reason behind that is clients' ambiguous requirements for design proposals, like "prevailing forever" and "being stunning," led architects in the wrong direction. The responsibility of architects is to design according to the rules; imperfect rules cause problems for construction and maintenance. Architectural programming, which is meant to achieve rational, scientific, and logical designs from the beginning, is greatly needed.

From the publication of the *Architectural Programming Guide* in 2000, to the establishment of the Architectural Programming Association (APA) of Architectural Society of China, and the publication of the *Architectural Programming and Design* in 2016, a complete Chinese architectural programming system has been formed. A corresponding software system has also been developed to verify the scientific rationality and logic of design specifications to avoid problems caused by human factors such as economic, political, and social drivers.

The Union International des Architects (UIA) defines "creating a scientific and rational design specification" as an architect's responsibility[2]. Regardless of trainings to government and clients to improve their understanding of architecture, architects remain the primary agents for architectural programming. Up to now, the charge system and operation process of architectural programming are not clear, and most research work for architectural programming is not funded, but there are already many design institutes, private enterprise, and "starchitects" trying to promote architectural programming in China.

Post-Occupancy Evaluation

Outside China, government projects use architectural programming to supervise and review the scientificity and rationality of design specifications, and the result must also be reviewed through post-occupancy evaluation. "Opinions on Promoting the Development and Reform of Construction Industry," issued by China's Ministry of Housing and Urban-Rural Development (MOHURD) in 2014, stressed that it is necessary to explore and develop post-occupancy evaluation systems for large-scale public buildings to guarantee their social, environmental and economic benefits[3].

Post-occupancy evaluation, a concept first proposed by American scholar Wolfgang Preiser, was developed after World War II, and Preiser's *Post-Occupancy Evaluation* is so far in its fifth edition. The book discusses evaluation steps, principles, and indicators for forming a complete evaluation framework[4]. *Post-Evaluation in China*, published in September 2017, offers a comprehensive theoretical system, research methodology, technical approach, and examples for post-occupancy evaluation in China. It also integrates other discussions, thoughts, and actions from post-evaluation experts[5].

Quite often, post-occupancy evaluation is translated into "评价" in Chinese, which emphasizes on calculating a numerical value for a mathematical expression. However, I believe that "评估" (with an emphasis on considering a building's quality and performance) is a more faithful interpretation, since during post-occupancy evaluation, we need to measure value through specific indexes and data, but also estimate overall performances

to propose targeted improvements. A closed-loop of "programming — design — construction — operation — post-occupancy evaluation — programming" and a complete value system have been formed, further improving the disciplinary framework of Architecture which includes only architectural programming and design in the past.

Criticism is different from evaluation. Evaluation should be based on objective data analysis or scientific evaluation methods such as semantic analysis. Criticism, however, is subjective based on the critic's own experiences in history, economy, or art and brings a great enjoyment and appreciation. However, evaluation and criticism are not contradictory, and both are a kind of reflection. Evaluation is often aimed at certain kinds of finished work, while criticism tends to focus on a certain phenomenon. A 2003 article I published in *Architecture Journal* titled The Pan-ideologism in Architectural Creation — "Experimental Works" and "Commercial Products," was a critique on how pan-ideologism can misguide architectural design[6].

Whole-Process Consultation Driven by Holistic Approach

Improvement of the above closed-loop led to a focus on a holistic approach that aims to integrate art, technology, function, aesthetics, and creativity through spatial solutions of architecture. Famous architects such as Ban Lu, Walter Gropius, Michelangelo Buonarroti, and Aldo van Eyck incorporated holistic approach into their practices. This approach requires architects to understand all the processes in architecture — from architectural programming, design and construction, to post-occupancy evaluation. Industrialization has fragmented design work, and the lack of holistic approaches has caused cases where beautiful design drawings cannot be used for construction, resulting in miscommunications and poor spaces.

To adopt holistic approaches to architectural practice, the MOHURD put forward the idea of "whole-process consultation," which would require architects to master knowledge of all stages including project establishment, planning, programming, design, construction, and operation. Although whole-process consultation is a new concept, it has already been demonstrated by some completed projects, including the 2011 Electric Power Museum project — transformation of the 220 KV substation and ancillary facilities in Beijing. This project optimized and adjusted the design specification through architectural programming to include an exhibition hall, education center, business hall, and office area to bring together social, environmental, and economic benefits based on the original infrastructure.

At School of Architecture, Tsinghua University, an architectural programming course is intended to guide students in studying issues related to baselines in architecture. At the same time, an architectural criticism course is also set up to train students' aesthetic and theoretical appreciation of architecture from arts, history, technology, and other aspects. Undergraduate and professional education should draw on international definition and evaluation systems, and the professional requirements of registered architects from The Royal Institute of British Architects or American Institute of Architects. In addition to the design process, architectural programming and architectural criticism should be the basic abilities of architects. To Chinese architects, whole-process consultation is needed for educating their comprehensive capability. **LAF**

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