

新医疗建筑的 创作与实践

IMPLEMENTATION OF
INNOVATIVE HEALTHCARE DESIGN

孟建民 Meng Jianmin

中国建筑工业出版社

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孟建民

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序 一

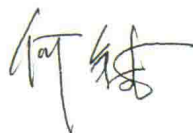
孟建民同志为改革开放后第一批进入大学的建筑学子（南京工学院78级本科生），他师从杨廷宝、齐康等名师，专注于建筑实践与学术研究领域。在其从业近三十年来，孟建民参与了南京雨花台纪念馆、梅园周恩来纪念馆、淮安周恩来纪念馆等重大纪念性建筑的设计，并在深圳开拓其新的创作事业，主持设计了深圳基督教堂、西部通道口岸大楼等重要公共建筑项目，表现出其追求精品建筑的专业精神与能力。

近十年来，国家为了改善“看病难”等医疗服务的问题，开始大规模建设医疗设施，孟建民敏锐地把握到这一点，将其一部分精力投入到新医疗建筑的研究、创作与实践当中。跨入21世纪，孟建民开始进入医疗建筑的设计领域，他的第一个医疗建筑作品——张家港第一人民医院，简洁的造型与复杂的功能取得了较为良好的统一，此作品一经问世，便一度成为医疗界关注的对象。在此后的创作过程中，孟建民立足中国的国情，融合国内外成功的经验，探索新型医院的模式，提出了“医院城”与“全方位关怀”的设计理念，达到了理论与实践的高度结合。

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大学附属医院、深圳市滨海医院等均以全新的形式诠释着他所倡导的设计理念，功能与形式一气呵成，完美结合。我想，这与他一直以来从事公共建筑的创作并一直保持着建筑创作的张力不无关联。

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中国工程院院士 何镜堂

2011年7月

PREFACE 1

As a student majoring in architecture (undergraduate of 1978 from Nanjing Institute of Technology) among the first group that was admitted to colleges after reform and opening-up, Meng Jianmin studied under such great teachers as Mr. Yang Tingbao and Qi Kang and devoted himself to architectural practice and academic research. Over the last thirty years or so of his career, Meng Jianming took part in the design of many major memorial buildings, such as Nanjing Yuhuatai Memorial Hall, Meiyuan Zhou Enlai Memorial Hall and Huaian Zhou Enlai Memorial Hall. He developed his new creative work in Shenzhen and hosted the design of major public building projects like Shenzhen Protestant Church and Shenzhen West Channel Port Building and revealed his professionalism and ability for top-quality buildings.

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He Jingtang
2011.7.

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回顾我国医疗建筑发展的历史，大致可以分为三个阶段：第一个阶段应该是近代以前的医院概念阶段，这个阶段受当时生产组织“作坊”模式的影响，赤脚医生组成各式各样的“病坊”为病人提供医疗服务；第二个阶段是近代时期的成长阶段，在澳门、广州、北京和上海等地先后创办了一些医院，这些医院形成了近代医院建筑的基本形制；第三个阶段尤其是改革开放以来，应该是现代多元化时期的发展阶段，随着医疗科学技术的发展和医疗理念的演进，医疗建筑的类型也呈多元化态势，社区医院、综合医院、专科医院等应运而生。然而，伴随人们物质、精神生活水平的日益提高，人们对医院需求不再停留在看病、治病这一简单的层面上，建筑师开始反思医院存在的更深层次意义：医院不应该是一座座人体修复的加工厂，而应该是使人们身心都能够得到呵护的场所。

孟建民是中青年建筑师中的代表，在20世纪末就开始关注医疗建筑的发展，在近期实践中运用了“医院城”这一现代综合医院的发展模式。对大规模的医院工程来说，“医院城”模式更适应当前医院建筑发展所呈现的复杂性、多样性、有序性及有机性的需求，更重要的是“医院城”模式有力地回应了人们对现代医院需要提供更多人文关怀的需求。

在之后的医疗建筑设计实践中，孟建民将创作重点放在如何解决医院严密的功能逻辑关系以及如何创造具有人文关怀的情感空间两个主要方面，发展出“全方位关怀”的设计理念，提出从整体结构、相关领域间和各领域内部三个层面解决医院复杂的流程设计和人性化空间营造等具体设计方法。

本书是孟建民对医疗建筑二十年来的创作与实践的一次总结，通过精选的设计案例毫无保留地向同行展示了他的创作与思考历程，这种开放的学术交流心态与求真务实的作风是值得提倡的。《新医疗建筑的创作与实践》具有一定的理论研究价值与设计参考价值，相信该书的出版也必将为国内医疗建筑设计注入新的活力。

是为序。

黄锡璆

中国建筑设计大师 黄锡璆

2011年7月

PREFACE 2

Reviewing the development history of the healthcare building in our country, we can divide it into three stages. Stage One should be before the modern times. At this stage, because of the impact of the then product organization "workshop" mode, barefoot doctors organized many workshops to provide medical services for people. Stage Two witnessed the growth of hospitals in the modern times. Many hospitals were built in Macao, Guangzhou, Beijing and Shanghai. These hospitals established the basic form of modern healthcare buildings and their scales were similar to those of present hospitals. Stage Three, especially since China's Opening-up and Reform, displays diversity in development. With the development of medical science and technology and the progress of healthcare concepts, healthcare buildings tend to be diversified in their styles, hence the appearance of community clinics, general hospitals, and specialty hospitals as well. However, with the improvement of people's standard of material life and spiritual life, people's demand for hospitals goes beyond merely seeking medical advice and treatment. Architects therefore started to reflect on the significance of hospitals at a deeper level. They think hospitals should not be a processing factory for body recovery only, but a place to provide people with both physical and psychological care as well.

Meng Jianmin is a representative of the young and middle-aged architects. He started to pay close attention to the development of healthcare buildings at the end of last century and put into practice the innovative concept of "Healthcare City", a development pattern for the modern general hospitals. To the construction of large hospitals, "Healthcare City" is more

adaptable to the complex, diverse, orderly and organic needs required for the development of the current hospitals. What's more important is that "Healthcare City" satisfies people's demands for more humanistic care from modern hospitals.

In his later implementation of healthcare building designs, Meng Jianmin focused his creation on two major aspects, one being how to handle the logical relationships of medical functions and the other being how to create emotional space with humanistic care. He developed the design concept of "All-round Care", and suggested concrete design method to deal with the complex flow design of hospitals and create humanistic space from three aspects, namely to set up public space in the overall structure, between function units and within the function units.

The book is a summary of Meng Jianmin's implementation of innovative healthcare designs for the past twenty years. All the cases selected here present us with no reservation his thinking and creation. This open attitude for scholarly exchange and pragmatic and realistic style are worth advocating. Implementation of Innovative Healthcare Design is valuable theoretically and serves as good references for design. I believe the book will contribute to healthcare architecture design in our country and its publication will create new dynamics in healthcare architecture design.

Huang Xiqiu
2011.7.

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序 一

孟建民同志为改革开放后第一批进入大学的建筑学子（南京工学院78级本科生），他师从杨廷宝、齐康等名师，专注于建筑实践与学术研究领域。在其从业近三十年来，孟建民参与了南京雨花台纪念馆、梅园周恩来纪念馆、淮安周恩来纪念馆等重大纪念性建筑的设计，并在深圳开拓其新的创作事业，主持设计了深圳基督教堂、西部通道口岸大楼等重要公共建筑项目，表现出其追求精品建筑的专业精神与能力。

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2011年7月

PREFACE 2

Reviewing the development history of the healthcare building in our country, we can divide it into three stages. Stage One should be before the modern times. At this stage, because of the impact of the then product organization "workshop" mode, barefoot doctors organized many workshops to provide medical services for people. Stage Two witnessed the growth of hospitals in the modern times. Many hospitals were built in Macao, Guangzhou, Beijing and Shanghai. These hospitals established the basic form of modern healthcare buildings and their scales were similar to those of present hospitals. Stage Three, especially since China's Opening-up and Reform, displays diversity in development. With the development of medical science and technology and the progress of healthcare concepts, healthcare buildings tend to be diversified in their styles, hence the appearance of community clinics, general hospitals, and specialty hospitals as well. However, with the improvement of people's standard of material life and spiritual life, people's demand for hospitals goes beyond merely seeking medical advice and treatment. Architects therefore started to reflect on the significance of hospitals at a deeper level. They think hospitals should not be a processing factory for body recovery only, but a place to provide people with both physical and psychological care as well.

Meng Jianmin is a representative of the young and middle-aged architects. He started to pay close attention to the development of healthcare buildings at the end of last century and put into practice the innovative concept of "Healthcare City", a development pattern for the modern general hospitals. To the construction of large hospitals, "Healthcare City" is more

adaptable to the complex, diverse, orderly and organic needs required for the development of the current hospitals. What's more important is that "Healthcare City" satisfies people's demands for more humanistic care from modern hospitals.

In his later implementation of healthcare building designs, Meng Jianmin focused his creation on two major aspects, one being how to handle the logical relationships of medical functions and the other being how to create emotional space with humanistic care. He developed the design concept of "All-round Care", and suggested concrete design method to deal with the complex flow design of hospitals and create humanistic space from three aspects, namely to set up public space in the overall structure, between function units and within the function units.

The book is a summary of Meng Jianmin's implementation of innovative healthcare designs for the past twenty years. All the cases selected here present us with no reservation his thinking and creation. This open attitude for scholarly exchange and pragmatic and realistic style are worth advocating. Implementation of Innovative Healthcare Design is valuable theoretically and serves as good references for design. I believe the book will contribute to healthcare architecture design in our country and its publication will create new dynamics in healthcare architecture design.

Huang Xiqiu
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新医疗建筑的设计观

20世纪末，中国的医疗体制改革促使医院大规模的扩张改造与新建。时至今日，新旧医院的更新换代仍不能满足快速城市化人口增长及就医需求。同时，新的大型、复合型的医疗中心正在不断兴建。由于其复杂性与专业性，以及医疗建筑作为城市公共生活中重要的组成部分，有必要对符合中国国情的医疗建筑的发展进行梳理与思考，以希望对新型医疗建筑设计起到积极的推动作用。

医疗建筑的“功能美学”

公共医疗机构区别于其他社会机构之处在于，它不仅承载社会和政府的社會功能责任，同时也是为人们提供医疗技术服务的技术机构。医疗科学技术的不断更新是医疗建筑发展的持续生命力。医院从设计到实施需要很长的周期，这需要建筑师充分把握社会的发展需求与医学技术的发展变化，两者有机结合，才能孕育出一个好的公共医疗建筑作品。

毋庸置疑，医疗建筑是所有建筑领域中最独特的类型之一：开放的公共性、全天候运作的功能性、技术与设备的复杂性。某种意义上说，医疗建筑是当今人类社会中重要的公共建筑。医疗建筑是为全民服务的，只是它服务于大部分民众生命中最特殊的时刻。作为人生的起点与终点，医疗建筑是每个人都会经历体验的建筑类型。医疗建筑也是以“功能性”为根本的建筑类型，治病救人在医院建筑运作中举足轻重。同时，医疗建筑是集合当今科技发展在建筑领域中的集约表现，错综复杂的专业设备成为医院建筑的重要载体。

随着人类医学技术的不断发展，医院建筑内部功能越来越专科化、系统化，功能布局模式也受医疗流程模式所制约，其空间模式是建立在功能基础上的。医疗建筑无论在功能组织、规划布局及地域关系上都相当复杂与矛盾。可以说，医疗建筑是体现建筑的“复杂性”与“矛盾性”的极端类型。

好的医院设计评价标准不能以简单的形式主义、风格化来加以评判。医院建筑要有一套独立的“美学价值观”。高效合理的功能布局是医院的核心：

“生命、尊严、希望”是医院建筑“以人为本”的人文价值体现。这恰恰是功能与空间两个建筑基本要素在医疗建筑中的具体体现。医疗建筑设计对于建筑师具有挑战性的意义在于在熟知医疗功能的独特需求基础上，运用专业技能创造性地解决方案，为病人创造温馨的医疗环境，并帮医患双方建立一种更为和谐的关系。建筑师在设计中要结合当地的气候景观，运用合理的材料与建造技术，并使其具有创造性与艺术性。这需要建筑师具备严谨的理性思维能力及空间美学修养。同时，好的医院设计标准也要考虑未来医院的发展趋势，要适应不断变化的计算机和先进的医疗设备。医院建筑的持久耐用性、可持续扩展性

也是医疗建筑设计必须关注的。

医疗建筑是现代人类社会生活中最基本的功能单元。一个城市可以没有美术馆、图书馆这类公共文化建筑，但绝不能没有医疗机构。毫不夸张的说，医疗建筑是延续人类文明最重要的建筑载体。从事医疗建筑设计的建筑师需要具有全面的职业修养与高度的社会使命感。

医疗建筑的形式发展

医疗建筑的发展与科学技术的进步密不可分，新的医疗技术的发明极大影响了医学模式的变革，这也直接影响到了医疗机构的发展形式。

现代医学的发展历史最早可以追溯到文艺复兴运动。解剖学的出现使科学观察和科学实验对人体的构造和机能有了比较全面的认识，但医疗机构受制于基督教神学的影响，对待病人多是以隔离、控制的方式，疾病也被看作是基督教原罪观惩戒形式的世俗表现。

伴随着工业革命，自然科学的极大进步为医学走向实验科学奠定了基础。近代医学开始出现专业分科和医护分工。医疗救治已经成为其主要的功能形式。到19世纪末20世纪初，新的科学医学出现后，进入到机械医学模式。通过医疗仪器的辅助检查，医疗活动也从对病人的控制转变到对疾病的控制。医疗机构已完全失去其宗教色彩，变成世俗建筑，医院逐步出现简单的分隔单元，并逐步发展为一种独特的建筑类型。

随着现代主义思潮的影响，医院建筑开始注重功能化。其功能必须不断适应医疗技术及设备的发展而带来的巨大变化。医院的建筑体量开始不断变大，并根据不同的医技功能出现模块单元形式。但由于过分强调医疗的功能高效性，认为医疗器械可以解决一切问题而对人的情感重视不够，医院建筑显得冰冷、无情。现代主义的医院建筑作为“医疗的机器”恰恰是现代主义机械美学的典型代表。

二战后现代科学技术的发展，人们意识到人类疾病与人体生物细胞结构变化的关系，医学模式进入了现代生物学、整体医学模式。随着“人本主义”思想的兴起，“人本主义”医疗观念逐步使当代医学从生物医学模式向生物心理社会医学模式转变。1977年美国罗彻斯特大学精神病学、内科学教授恩格尔（George L. Engel）正式提了生物——心理——社会医学模式新概念。生物心理社会医学模式的提出是以人类的疾病谱以及健康观念的变化为依据的。这一模式认为导致人类疾病的不只是生物因素，而且还有社会因素和心理因素。医学必须建立在人与其生存环境的和谐适应基础上，改善人的生存状态，而不仅仅是简单的治病、防病和促进健康。医疗机构的服务观念由

此悄然转变，由“以病为本”这种单纯依靠医疗系器械治病救人的“机器理论”变成“以人为本”的，为人们提供医疗技术服务的新型医疗建筑。

商业时代消费观念的改变，人们对物质生活品质的提高与追求，大量商业建筑类型呈复合化发展，医疗建筑也受其概念影响。一站式服务理念的出现，类似购物中心的空间模式组织医疗空间，室内空间呈家居化的回归……医疗建筑类型开始变得多元化。

我们正处在全球化的时代，这是一个变革的社会。未来医疗建筑如何发展取决于诸多因素：政府医疗制度的改革、医疗技术的革新、网络数字化技术的革命、城市化发展的进程等。医疗建筑是建筑学中最重视技术表现的建筑类型。同时受社会人文思想的影响，医院的发展越来越闪耀着人性的光辉。

现代化“医疗城”的兴起

中国的医疗建筑变化从20世纪末的医疗改革开始进入大跃进式的发展，逐步缩短与西方国家的差距。当下的中国，医疗建筑的改建与新建规模正出现扩张局面。新兴的医院项目建筑面积动辄二十几万平方米，病床规模上千张。这一发展趋势是中国步入快速城市化发展过程中城市人口膨胀的必然结果，同时由于医疗制度改革市场化的利益驱动使新兴医疗资本介入，促成一些地区重点医疗机构在城市新区急速扩张。由于中国土地资源的稀缺，城市大型医疗中心的兴建促使医疗资源重新进行整合，不同医疗专科形成资源互补、资源共享的系统。“医疗城”的概念在近十年逐步成为中国医院发展的主流。“医疗城”的概念最早出现在西方国家后工业进程中。由于西方发达国家城市人口衰落、医疗制度不同等多方面因素，使得中国“医疗城”的发展有别于西方发达国家。

当一个医疗机构规模大到一定程度的时候，医院不再是一个简单的医疗机构，而是与城市发生密切关系的复杂系统。这要求我们必须要从更高层面去认真思考、梳理适合我们国情的医疗机构建筑设计理论。

这里需要阐述三个观点：人文观、综合观、持续观。

1. 人文观

医院的运作宛如一个城市，不同的医疗部门满足不同的人群需要。来访者、成年患者、儿童、老人、医护人员。对各类人从物理、心理、生理等全方位的关怀是一个好医院的标准。作为服务于社会中的特殊人群，人文关怀在医院设计中显得尤为重要。这需要建筑师在功能与空间处理中充分考虑私密性、领域性、便捷性、可识别性，并且落实到细节设计中，真正体现以人

为本。

尤其是作为处于迷惑紧张状态下的患者，如何让病人在面临巨大压力的情况下与医护人员进行有效的沟通与治疗。建筑师在充分把控功能的前提下有创造性地处理空间，将空间尺度、色彩、自然采光等设计因素考虑周全。对于医护人员，应有效地将院内 workflow 与病患活动区域分开，为双方提供必要的舒适、安静场所。当“医疗城”大到一定规模的时候，各部分的医疗功能之间的联系会距离变长。建筑师需要灵活地将相关功能单元重组，按照病人使用的关联性，为病人提供一站式便捷服务。同时，通过设置明晰的公共空间及相应的公共配套，根据各医疗单元由公共到私密的空间关系层层递进，会使复杂的医院在逻辑上变得比较清晰，具有易识别的空间导向性。

2. 综合观

医院建筑作为一个容纳各种人流、物流的庞大系统，人车分流、洁污分流、医患分流是维持医院良性运作的保障。这需要建筑师从更高层面对功能布局形成综合观念。要充分考虑医院系统与城市系统以及“医疗城”内部各种能量、物流的流通交换，减少对城市生活的干扰，同时避免院内感染。

医院建筑是一个设备错综复杂的网络系统。各医疗单元对设备均有不同的要求，各医疗系统又有着强弱不同的复杂关联。建筑师在处理各医疗单元关系时要宏观有机整合，避免简单机械叠加。将各医疗单元及设备形成“生态型”网络系统可以使医院更高效地运作。在布局上，“医疗城”多采用类似购物中心公共空间的形式。“医院街”可以有效联结各个医疗单元，同时高效组织人流、物流。随着规模的扩大，逐渐出现分级型、网络型及两者交错布局型。

3. 持续观

可持续性观念是现代医院必须考虑的重要因素。医疗设施的建设本身就是一个持续发展的动态过程。医院的可持续性不是仅指简单的规模扩展，而是生态的可持续性、能源的可持续性、发展的可持续性。

生态、节能的绿色医院必须建立在一个多学科的方式上，通过合理的设计手段达到自然通风、采光，在机电设备上采用合理的系统与管理模式，减少能耗。在建筑处理上，尽量采用可循环的建筑材料及利用高技术手段做到生态、节能。同时保护当地的生态环境，尽量以较低的经济成本实现医疗建筑的可持续性发展。

中国医疗资源仍然不足，医疗机构的后续发展不可避免。弹性发展、适应性发展、预见性发展是所有医疗机构即将面临的课题。同时，医疗技术革新速度与建筑形态的稳固之间存在矛盾。在医疗建筑规划布局中要有前瞻