

传承与探新 王建国

城市和建筑设计研究成果选

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内容提要

本书架构分论述和案例研究两部分。论述部分按照综论、传承和探新三方面组织，反应了作者近三十多年来学术思想的成长过程。案例研究部分分为城市设计、建筑设计两部分，其组织和遴选主要从是否具有研究意义和价值的角度来安排。全书涵盖理论与案例实践，图文并茂，适合于建筑设计、城市设计、城市规划等专业设计人员及其相关领域的人士阅读。

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序

王建国是东南大学1978届本科生，1985年免试攻读我的博士生。他学习刻苦努力、善于分析，先后跟我参加过河南博物院设计和冰心文学馆的建筑设计，此二项作品均得到好评并先后获得大奖。此外，他还参加和主持了常熟市政府人大和政协楼的设计，表现出相当的设计水平。

城市设计是城市规划的重要组成部分，是城市建设的重要环节，对城市建设起到指导和控制作用。

1950年代，我参加了北京城市总图设计，那时我就开始了城市设计的研究。1985年，在王建国读我的博士生期间，我将他的研究方向定位于城市设计，他的博士论文的题为《现代城市设计理论和方法研究》，后不断完善，出版了《现代城市设计理论和方法》和《城市设计》并被不少高校选用作为教材，十余次重印而且还获得出版方面的图书奖。

王建国在工作中以身作则，在建筑教学中循循善诱，培养了许多优秀人才。

他注重国际学术交流，多次出国讲学并获得好评，与美国麻省理工学院和哈佛大学、瑞士苏黎世高工和英国AA等院校建立了友好的学术关系。

他主持或参加过包括南京、北京、上海、广州、沈阳、郑州等在内的大城市的城市设计，也开展了不少中小城市的城市规划和设计。近年，王建国将城市设计拓展到历史地段和建筑遗产保护领域，申请获准国家自然科学基金重点项目和科技部支撑计划项目，目前已经取得了阶段性的成果。在四川汶川地震灾后重建中，他和学院老师为绵竹广济镇中心区重建做出了优秀的设计并获得了大奖。

2011年年底以来，由齐康、王建国和张彤教授为主参加了北京中国国学中心国际竞赛并中标，目前正在建筑工程设计深化过程中。

我衷心祝愿他取得更大的成就。

是为序。



中国科学院院士、法国建筑科学院外籍院士
东南大学建筑研究所所长

2013年1月20日于南京到北京的飞机上

Wang Jianguo, one of the Southeast University graduates of 1978, was my doctoral student in 1985. With his hard studies and further analysis, he took part in my projects such as Henan Museum and Bingxin Literature Hall, both of which were well received and won grand prize successively. Besides this, he also participated in and took charge of the People's Congress building and the Consultative Conference building for the Changshu government, showing excellent ability.

Urban design, with its role of guidance and regulatory, plays an important part of urban planning and construction.

I began to do some research on urban design when I participated in the General Plan of Beijing in 1950s. Being his adviser, in 1985 I positioned Wang Jianguo's research direction on urban design, which finally titled Study on the *Theory and Method of Modern Urban Design*. After improving and perfecting, it has been published as *Theory and Method of Modern Urban Design* and later as *Urban Design*, They were reprinted for more than 10 times and won some awards of publication, having been used by many colleges as textbooks.

With his self-disciplined work and instructive teaching, Wang Jianguo has trained many outstanding talents.

Laying great stress on international exchange, Wang Jianguo has got well reputed on his lecture abroad, and has established many academic relations with MIT, and Harvard University of USA, ETH of Switzerland and AA of UK.

He has managed many urban design projects for such big cities as Nanjing, Beijing, Shanghai, Guangzhou, Shenyang and Zhengzhou, and also a lot for small cities. In recent years, Wang Jianguo has expanded his urban design career to historical area and architecture heritage preservation. With the key research project of National Natural Science Fund and of Ministry of Science and Technology, he has already acquired some achievements. He and his colleagues won the Grand Prize for the reconstruction of Guangji Town Center in the rehabilitation after Wenchuan Earthquake.

In the end of 2011, the international competition for Chinese Sinology Center made by Qi Kang, Wang Jianguo and Zhang Tong won the first prize and now the project is on-going.

Wish him great success.

So as prologue.



Academician of Chinese Academy of Sciences,
Foreign Academician of Architecture Academy of France,
Director of Architecture Research Institute of Southeast University,
on the Nanjing-Beijing Flight, Jan. 20, 2013

前言：城市·建筑论

从城市和建筑并联的方式切入本书是因为我多年来的研究、教学和工程实践主要与此相关。有人将城市比喻为一个生物有机体，我则曾经将城市比做一棵树，城市道路系统和基础设施是茎干，而建筑就是这棵大树的最小组成单元树叶。城市形态和建筑形态的互补共生是人们可以通过视觉、行为等来感知的城市物质空间形态的基本特征。于是，从视觉高点观察揣摩城市与建筑的关系就成为我参观游历城市的最爱，自1991年1月我第一次去美国做访问学者开始，就逐渐有了并不断增加着的从纽约帝国大厦和世贸中心、芝加哥的西尔斯大厦、纽约的洛克菲勒中心、巴黎的埃菲尔铁塔、悉尼电视塔、斯德哥尔摩电视塔、上海东方明珠电视塔、南京紫峰大厦等城市制高点观察城市的机会，从中我能够感悟到城市结构形态、路网系统、城市空间密度、街区建筑肌理和建筑地标物等之间存在一种绚烂纷繁而又扑朔迷离的关系，这种关系既是同时性维度上的实存并置，又是一种历时性的、蕴含着丰富城市形态演变历史信息和故事的物化拼贴。

通常，人们印象中的城市环境是由许许多多建筑物通过某种规划和组织方式聚集而成的，同时也是一个与建筑积聚数量较少、布局较分散的乡村环境相对峙的概念。在古代，城墙将人们所认知的城市和乡村的形态和形象划分得泾渭分明，但实际上，城市是一个由人、社会和建筑共同组成、饱含着历史文化信息的人类栖居场所。

每个人都离不开与其周边环境和所在社会之间千丝万缕的联系，即使只从常见的视觉和行为方式感知角度看也是如此。人们日常生活感知到的城镇街区外部空间、道路、广场和绿地等环境，乃至城镇的用地形态和空间结构从来都与城市和形塑这些空间的建筑密切相关。人们认识体验北京城，通常会被其雄伟壮丽的帝都宫殿建筑群、城市中轴线以及北海、中南海、什刹海等自然水体景观和众多的四合院街巷胡同格局所吸引，同时也会对极富特色的老北京市井生活和文化习俗等萌发好奇和兴趣。到过古城南京的人，则会对南京市由六朝遗存、明代城墙、民国时期建成的众多重要建筑和林荫大道、夫子庙的传统市井气氛等留下深刻印象，如果有幸获得登高鸟瞰和展望天际轮廓线的机会，人们则会进一步对浩瀚长江和钟山丘陵景观等构成的城市空间环境有更加整体而全面的认知。这

种人们能够通过视觉和生活而感知的独特城市格局和环境特色是千百年来人们苦心经营、对理想人居环境不懈追求并使之不断趋于完美的成果。

从物质空间形态的层面看，城市的设计和建筑设计存在明显的共通或者交集。根据粗略观察，无论是6000多年前两河流域的美索不达米亚文明中世界最早形成的城市，还是中国早期文明时期的城市，抑或后来美洲的阿兹台克城市文明，城市和建筑建造一直是密不可分的。由于当时的城市人口和建设规模相对较小、功能相对简单，因此规划的对象和表达内容主要与建筑实体安排相关，并因此形成了一定的城市形态范式。例如，中国公元前11世纪就形成了基于“礼制”、有关城市建设形制、规模、道路等内容的《周礼·考工记》之《营国制度》，“匠人营国方九里，旁三门，国中九经九纬，经涂九轨，左祖右社，前朝后市，市朝一夫”。其中“三”、“九”之数暗合周易“用数吉象”之意；宫城居中，尊祖重农、清晰规整的道路划分体现出尊卑有序、均衡稳定的理想城市模式，并深深影响着以后历代的城市设计实践，特别是都、州和府城设计建设。西方则同样有学者认为，大多数地中海地区的城市都是从罗马营寨的布局模式发展而来的，但在其后的发展演进中，受到了来自基督教、伊斯兰教、文艺复兴、巴洛克直到现代主义城市的影响，因而呈现出各自的“和而不同”，在布局模式、度量结构、类型结构等要素上仍然延续了古代城市的特征。历史存留的国内外大量城市形态的描绘图纸印证了这一事实，1748年由乔万尼·巴蒂斯塔·诺里完成的《罗马总体规划》（亦即著名的“诺里地图”）具有极重要的学术价值，它在形式上虽然是二维的，但却是当年最为精确的城市地图，他组织测绘了8km²，包括丘陵地区、农场、葡萄园、修道院、历史遗址等在内的罗马版图，表达了罗马各种城市和公共建筑形态的肌理组织关系，同时它使得人们可以将城市和建筑的形态密不可分地关联成一个整体来认识。

城市和建筑设计同样受到自然地形、气候条件和地方物产等要素的启示和规范。中国两千多年前的《管子·乘马》就科学地洞察到：“凡立国都，非于大山之下，必于广川之上，高毋近阜而水用足，下毋近水而沟防省。因天材，就地利。故城郭不必中规矩，道路不

必中准绳。”亦即城市建设选址要因地制宜，地势要高低适度，水源要满足生活和城壕用水，同时又不能有洪涝之患。我曾经对江苏常熟研究多年，该城市最早于唐代从长江边的福山迁址于虞山东麓缓坡区，后利用自然水系作为城壕并开筑琴川运河、修建城墙并“腾山而城”，逐渐形成“七溪流水皆通海，十里青山半入城”的城市格局，充分反映了管仲提出的城市设计思想，成为中国古代城市“自下而上”因地制宜发展成长的典范。西方同样有着因地制宜建造城市的悠久传统，西方两千多年前唯一幸存下来的建筑全书——维特鲁威所著的《建筑十书》，在“第一书”中专门论述了建筑基本原理和城市布局。维特鲁威系统论述了城市选址涉及的气候、朝向、地形地貌、街巷布局和公共空间等问题，他认为城墙建造要选取“健康的营造地点，地势应较高，无风，不受雾气侵扰，朝向应不冷不热温度适中”（维特鲁威，2012）与管子的建城学说有异曲同工之妙。欧洲众多中世纪的城市，如意大利托斯卡纳地区的山城，因其城市建筑形态与自然地形和城市生活的完美融合而具有公认的美学价值，人称“如画的城镇”（Picturesque Town），直到今天仍然是世界城市史研究的重要范本。

我的老师齐康院士曾经在1980年代初开展了系统的城市形态的案例研究，对影响城市形态演变的因素发表了精辟的论述，并建构了人为和自然两套作用力系统（齐康，1982）。

1988年，受老师启发，我在《建筑师》撰文尝试将历史上的城市设计概括成两种价值取向和方法不同的类型，即“自上而下”和“自下而上”，抑或“有规划的”和“无规划的”城市（王建国，1988）。所谓“自下而上”，是指主要遵循自然气候、地理、物产、在地性的经济活动和居民意愿等条件，遵循有机体的生长方式，通过若干个体建筑的经年累积和叠合方式来建造城镇的方法。此方法以直观朴素的功能合理、自给自足、适应社会经济、社区生活和地域自然条件为基本要点。城镇呈现的特征是不同年代、不同风格的建筑并存共生，是一种类似城市博物馆的结果。“自上而下”则主要指按社会高阶位决策者的意愿和理想模式来设计建设城镇的方法，通常它以一种人为的规划控制手段使其实施，这种方法有一套反映决策者构想的理想境界，行政和宗教因素常会通过规划设计引导控制的途径驾驭城镇建设和发展，因建设可利用的社会资源较多，故按此建设的城镇规模一般较大，形式完美度较高。比较而言，“自下而上”的城市设计和建设过程较多反映公众个体的意象叠加，比较偏情。“自上而下”城市设计和建造过程则重在体现社会组织的特点和当局决策者的意志。因其常是少数人制订标准而要求社会多数人执行，故更多地体现了理性和秩序观念。

总体说，工业革命前的城市规划和城市设计（Civic Design）在专业研究和在工作实践对象上基本接近，并附属于建筑学。18世纪以后，由于新的社会生产关系的建立和采用、新型交通和通讯工具的发明，建筑工业化发展，致使新的城市功能和运转方式产生，城市形态亦发生了巨大的变化，正如著名学者弗兰普顿所言：“在欧洲已有五百年历史的有限城市在一个世纪内完全改观了。这是由一系列前所未有的技术和社会经济发展相互影响而产生的结果”。现代建筑大师柯布西耶甚至认为人类已经进入了一个机器时代，“建筑将成为工业化的产物，像汽车或者熨斗一样被设计和制造出来”。而这种与之相关的标准化和批量生产恰恰是今天全球城市建筑“特色危机”的主要根源。

随着城市化进程的加速，城市的社会结构和体制产生巨大的变化，加之近代市政管理体制的建立和逐渐完善，使得传统的基于视觉美学原则的设计和规划不再适用，客观上要求探索新的规划设计理论。与此同时，早期粗放的工业化和城市化模式也产生了负面效果，城市出现的人口空前集聚和数量无序增长，产生了严重的环境污染、交通拥堵、环境质量急剧恶化及其相关的致命性传染病流行等一系列城市问题。例如伦敦城市无组织的蔓延产生了大批无家可归的穷人以及城市边缘地带质量低劣的住宅。现代城市规划正是在这种新的历史形势下应运而生，并成为驾驭城市发展的一种新生力量，为国家和政府权力机构所利用。作为人们观念和历史的部分延续，工业革命之初的城市规划仍然较多偏重物质空间形态以及相关工程技术；到了1960年代，城市规划学科的重点渐渐从偏重工程技术转向对经济发展和社区规划的关注；1970年代以后，城市规划已经演化到经济发展、工程技术与社会发展的三位一体。新世纪以来，城市规划更是综合了经济、技术、社会、环境四方面的内容，追求的是经济效益、社会效益、环境效益三者的平衡。也即，今天的城市规划应由经济规划、社会规划、政策确定、物质规划四方面组成，效率、公平和环境是其依循的基本准则。科学性、前瞻性、整体性是规划的本质属性，协调是核心关键词。

而在现代城市规划日益更多关注宏观城市社会、经济和环境发展的背景下，物质形体空间中宏观规划和具体建筑建造之间就产生了一些首尾不相顾的问题。按照哈佛大学教授 Alex Krieger 的观点：城市设计的现代概念来自20世纪中叶人们对城市边缘无序蔓延和历史城市中心区衰颓的关注，目标是探寻各个单一学科建筑学和城市规划之间的“公共领域”，以应对那些超出单一学科能够解决的复杂问题。如此，那些与城市社会、人文和艺术属性营造及与协调建筑密切相关的城市空间形态、街道、广场等特色环境就逐渐

成为城市设计所要关注的主要客体。但是，现代城市设计不再局限于传统的空间美学和视觉艺术，而是在对象范围、工作内容、设计方法乃至指导思想有了革命性的发展。城市设计不仅要考虑城市规划 and 建筑物设计建造之间的协调关系，同时也要以“人—社会—环境”为核心的城市设计的综合评价标准为准绳，综合考虑各种自然和人文要素，强调包括生态、历史和文化等在内的多维复合空间环境的营造和创造，提高城市的“宜居性”（Livability）和人的生活环境质量，从而最终达到改善城市整体空间环境与景观之目的。亦即，城市设计特别关注的是城市环境是否具有内涵和品质。协调性、过程性和创造性并举是城市设计的核心特征。城市设计既不单纯是城市规划的一部分，也不是扩大的建筑设计；城市设计致力于营造“精致、雅致、宜居、易居、乐居”的城市，同时也致力于构建历史、今天和未来具有合理时空梯度的环境，而所有这些都是现今主要关注发展属性的城市规划与主要关注个体创造和业主要求的建筑设计所难以做到的。

城市设计师从专业训练的背景看，主要来自建筑学、城市规划和风景园林学。很多建筑学背景的学者认为，既然城市设计被赋予城市空间乃至整体形态赋形的任务，那接受建筑学的训练就是必不可少的。吴良镛院士认为，城市设计应该成为建筑师了解和部分掌握的当然领域，齐康院士则认为“不懂得城市的建筑师不是一位完整的建筑师”。国外也有很多学者有类似的观点，亦即认为具有城市意识的建筑师（Urban-minded Architect）可以承担城市设计的主要工作。20世纪世界建筑大师柯布西耶一生曾经从建筑师视角对城市设计做出过很多创新设想，也曾勾画过大量城市设计草图；美国著名建筑师沙里宁甚至认为，“城市设计基本上是一个建筑问题”。一些城市规划者则认为城市物质规划中的很多问题虽然不是建筑师能够对付的，但是规划中一些日常问题，如社区、交通稳静化、邻里感和发展包容性等，通过城市设计概念去形象地表述会更加人性化、更易于为公众所理解，而不仅仅是抽象的概念。

笔者认为，城市设计既然涉及城市的形态和形象、社区和场所营造、宜居城市环境，在中国还涉及较多的城市设计实施机会，因此，城市设计师应具有一定的社会、人文和艺术禀赋和修养，同时基本的工程知识是必不可少的。这样的综合素质恰好可以通过以建筑师培养为主的训练所获得，但也并不排斥其他专业背景的研究者可以从事城市设计综合理论和概念性的研究。城市设计除了包括设计形态和空间要素对象，某种程度上也关乎社会组织构成方式和社会文化风尚，因而与改进城市人居环境的空间质量和生活质量的有关。

因此，传统建筑学科领域的拓展应在城市设计层面上得到突破和体现，进而“以城市设计为基点，发挥建筑艺术创造”（吴良镛，1999）。荷兰建筑史家仲尼斯教授曾经说，如果每一幢建筑都具有比较高的质量，且每一个开发项目都是好项目，则无需自上而下的设计建设控制，整个环境会自然而然地成为良好环境，然而几十年来的经验和事实足以证明这并没有发生，自由市场“看不见的手”造成了相反的情况。所以，仅仅依靠建筑师是无法形成良好环境的。今天的建筑设计早已离不开城市的背景和前提，建筑师眼里的设计对象不仅仅是建筑单体本身，而应是“城市空间环境的连续统一体（Continuum）”（国际建筑师协会，1980），“是建筑物与天空的关系、建筑物与地面的关系和建筑物之间的关系”（培根等，1989）。亦即，城市设计要求建筑创作在城镇建筑环境垂直层面的承上启下、水平层面的兼顾左右、内涵层面上的个性特色表达与整体和谐方面有所作为。城市设计方面知识的欠缺，会使建筑师缩小行业的范围，限制他们充分发挥特长。

近二十年来，我国建筑专业领域开始逐步从单一建筑概念走向了对包括建筑在内的城市环境的考虑，而建筑与城市设计的结合正是其中的重要内涵。随着我国城市发展进程的加速，广大建筑师开始认识到传统建筑学专业视野的局限，进而逐步突破以往以狭隘的单体建筑物为主的设计而扩大为环境的思考。许多建筑师在自己的实践中开始了以建筑设计为基点、“自下而上”的城市设计工作；城市规划领域则从我国规划编制和管理的实际需要，探讨了城市设计与法定城市规划体系的关系，并认为城市规划各个阶段和层次都应包含城市设计的内容。

国内较大规模和较为普遍的城市设计实践研究出现在1990年代中期。一个时期的广场热、步行街热、城市轴线热、滨水开发热、公园绿地热等反映了中国的这一城市发展阶段对城市公共空间的重视。通过这一过程，我们的城市建设领导决策层普遍认识到，城市设计在人居环境建设、彰显城市建设业绩、增加城市综合竞争力方面具有独特的价值和功效。近年来，中国城市建设和发展更使世界为之瞩目；同时，城市设计理论、概念和实践研究有了更加广泛的国际参与并使其设计理念不断进步。就在这一时期，国内先后出版了《广义建筑学》、《城市建筑》、《现代城市设计理论和方法》、《城市设计》、《城市设计概论》、《城市设计的机制和创作实践》和《城市设计实践论》等论著；翻译出版了国外一些城市设计名著，如西特（C. Sitte）、雅各布斯（J. Jacobs）、舒尔茨（N. Schulz）、培根（E. Bacon）、林奇（K. Lynch）、巴奈特（J. Barnett）、琼·朗（Jon Lang）等学者的城市设计研究成

果。另一方面，探讨中国城市设计理论、方法和实施特点、研究城市建筑整合一体化等方面的论文也日渐增多，特别是在城市设计与城市规划的协同实施、数字化城市设计技术方法、城市设计工程案例研究和本土建筑创作等方面取得具有显著中国特点，并可以与世界先进水平比肩的成果。

中国城市设计历经二十多年的磨砺和探索，终于在今天的城市建设中取得了重要的地位，并由于其突出的三维形象特征而逐渐成为人们的关注热点。周干峙院士在《人居环境科学导论》一书序言中，曾在总结中国人居环境科学思想的形成与发展时认为，拓展深化建筑和城市规划学科的设想在以下三个方面已经成为现实，其中之一就是“和建筑、市政等专业合体的城市设计已不只是一种学术观点，而且还渗透到各个规划阶段，为各大城市深化了规划工作，也提高了许多工程项目的设计水平”（吴良镛，2001）。

我对城市和建筑相关性的认识是从大学开始时的。1978年我考入南京工学院建筑系学习，当时国内的建筑实践和市场还十分有限，课程主要是按照功能设置的建筑单体设计，所关联的周边环境有限，也不是学生作业成绩评定的重点。但毕竟当时有了改革开放的机缘，国内逐渐开始出现了一些全国性的建筑设计竞赛，如全国中小型铁路旅客站站型设计竞赛、影剧院设计及城市地标物竞赛等，建筑系当时也有一些老师，如杨文俊、黎志涛、吴明伟等经常获奖。不久，国际性竞赛也开始进入国内，南京工学院建筑系曾经先后参加了日本东京国际会议中心和香港顶峰（Peak）俱乐部的国际竞赛，这些项目都开始涉及真实城市环境因素，从而就有了城市问题分析和城市设计策略的考虑。当时，我曾经片段观摩了前辈教授的设计工作，以当时的知识积累和专业基础，我还是觉得有些分析不太能看懂。

1982年，我进入硕士研究生学习阶段，师从刘光华、张致中、钟训正和许以诚教授导师指导组，这时全国建筑界开始对城镇建筑环境有了更深刻和更广泛的认识。1980年代初，《世界建筑》和《建筑师》杂志联袂在北京举行了大型系列学术讲座，刘教授当时做了关于“建筑·环境·人”的学术讲座，语惊四座。因为他从国外调研的大量建筑案例中感悟到当代的建筑设计已不再是孤立的设计，而是和环境、人的行为互动的产物，必须考虑综合的环境文脉和社会因素。恰逢其时，导师又安排我们做了几个与城市环境密切相关的建筑设计，其中之一是与顾大庆、徐雷及高我们一届的丁沃沃、单踊、范思正、黄平、陈欣等合作做金陵饭店东南侧面对新街口广场的商场设计，做的过程中调来了金陵饭店原来的设计图纸，研读后发现这块沿街的场地走向与饭店主体建筑的格网轴线有角度的偏

移，并非原先所想象的平行关系，加之建筑位置临街，设计难度不小。于是，大家动了不少脑筋将新的设计有机嵌入到场地环境中去，今天想来，当时虽然国内还不知“城市设计”这一词语，但设计考虑以及着重解决的也就是城市设计的问题。

1985年底，到建筑研究所师从齐康教授攻读博士学位是我后来与城市设计结下不解之缘的关键起点。齐先生对城市问题的敏感和高瞻远瞩，使我进一步明晰和充实了对城市的认识。此时，研究所承接了建设部“七五”重点城镇建筑环境的科研课题，齐老师嘱咐我负责其中的小城市试点研究工作。在城市遴选，正好遇上江苏省常熟市建设委员会邀请我们参与新城区发展规划设计的机会，于是，我们就以常熟案例研究作为课题攻关的突破点。在围绕城镇建筑环境（Physical Environment）的文献研究中，我们慢慢发现其在国外主要应对的专业领域就是城市设计（Urban Design），于是齐先生当即决定就以此作为博士学位论文研究的选题，这在当时尚属开拓性的工作。1989年，我完成了题为《现代城市设计理论和方法》的博士论文，其后又根据学界前辈李德华、陶松龄、蔡镇钰等答辩专家意见修改并作为学术专著于1991年出版，受到广大读者，特别是专业人士和高校相关专业师生的一致肯定。该书于1996年台湾购买版权发行繁体字版，2001年经整体修改扩充后出版简体第二版，至今总印数达30000余册。《现代城市设计理论和方法》在中国首次构建了较为完整的现代城市设计理论和方法体系提出了基于“型”、“类”、“期”概念的“城市形态—城市设计”分析理论；并在学术界首次提出城市设计是一个由“设计探寻过程”与“参与性决策过程”共构的“双重过程”和“相关线—域面”空间分析方法。其后，我日益体会到城市设计是一门实践性很强的专业工作，如果没有理论联系实际案例研究和应用理论知识普及，城市设计很难取得实效。于是，我有了再写一本城市设计书的想法，1999年《城市设计》最终付梓，出版后不仅成为高校主要的专业参考教材之一，而且成为不少省市城建市长班和区、县长班的培训教材。2004年出版《城市设计》第二版，2011年又出版了第三版，至今三版总印数为33600册。上述论著先后经多位院士、工程设计大师和教授审读，认为是“国内最为系统、完整和最具原创成分的城市设计成果”。论著先后两次获得江苏省优秀图书奖。

期间，我也主持和参加完成了五十多项重要的城市设计和建筑设计项目，包括位于北京奥林匹克综合文化区的国家重大工程中国国学中心、2010年上海世博会场地规划设计竞赛方案、南京金陵大报恩寺遗址公园规划设计、四川绵竹广济镇中心区公共建筑群等项目实践和国际竞赛，先后获得两项国际奖和多项国家和省市优秀

规划设计奖，项目曾先后在广州、南京、杭州、无锡和常州等城市专家评审后由城市政府批准实施，得到了社会的广泛认同。城市设计和城镇建筑环境设计的研究成果曾获得教育部自然科学一等奖、教育部科技进步二等奖、全国优秀规划设计奖和省级优秀工程设计奖等奖项。

建筑设计领域的研究也一直持续开展。事实上，建筑设计是我的本行和专业基础。当我1978年考进南京工学院建筑系，首先学的就是建筑设计。在建筑系一以贯之的“严、实、活、透、硬”教学思想熏陶下，建筑领悟和设计能力逐步提高。除了当年以建筑类型从小到大、从易到难的设计课题的系统学习，我接触建筑工程最深的就是住宅综合设计，记得当时作业要求完成全套工程技术图纸，包括建筑结构简单计算及结构布置。硕士研究生阶段参与了南京金陵饭店商场建筑设计和无锡太湖饭店等建筑方案设计。从中我感悟到讨论和争执对于建筑设计发展深化的重要性，好的设计其实是在多元路径优选中最终凝练的结果。1985年，我进入建筑研究所师从齐康院士攻读博士学位。研究所一直致力于探讨中国建筑设计的地域性和文化性问题。齐院士是中国第二代建筑师中的佼佼者，创作了福建武夷山庄、中国共产党代表团梅园新村纪念馆、侵华日军南京大屠杀遇难同胞纪念馆等著名建筑，在国内外建筑界具有重要的学术影响，他对城市建筑整体性的倡导和设计创新思维使我逐渐建立了建筑设计的环境意识。在研究所担任所长助理和副所长期间，我先后跟随齐先生参加了河南博物院、冰心文学馆、江苏国税大厦、南京邮政指挥中心、南京鼓楼医院急救中心、南京仪化大厦等建筑设计，并担任了冰心文学馆的建筑专业负责人和江苏国税大厦的工程负责人。

1997年我转入建筑系分管科研工作并在设计创作方面继续探索，并在博览建筑、校园建筑、工业建筑等方面的设计创作、产业遗产保护再生、既有建筑改造利用等方面取得成果并获得了一些全国和省级优秀设计奖。我先后主持完成了包括四川绵竹广济镇文化中心和便民服务中心、盱眙大云山汉墓博物馆、镇江北固山佛祖舍利陈列馆、江宁博物馆、浙江龙泉夏侯文大师馆、盐城中学新校区、盐城卫生职业技术学院、淮阴卫生职业技术学校、东南大学九龙湖校区公共教学楼、南京7316厂厂房改造和环境设计、南京压缩机厂建筑保护和功能提升改造设计、扬州市北门遗址保护规划设计在内的一批建筑作品。作为项目主创设计师之一，先后完成中国国学中心、冰心文学馆等作品。同时在建筑创作领域发表一批论文，出版《安藤忠雄》、《阿尔瓦罗·西扎》等论著和《建筑师的20岁》译著。

作为一位在高校从事建筑设计的建筑师，自己感到建筑设计的经历并不平坦，科研和课堂教学讲的主要是设计原创和真理性的设计原则，而真实的建筑设计常常是政治、经济和社会资本运作驱动下的妥协产物，探求高雅建筑文化并希冀引领进步的抱负在现实屡屡受挫。同时，高校老师在操作需要多工种协同配合的大型公建、或具有特殊功能要求的复杂建筑类型等方面，与大院专业建筑师相比明显欠缺。一则是因为专业和业余终究是有差别的，二则建筑必须依靠权力、资本等形成的系统性架构去实现，而这一点对于高校建筑师的近乎单打独斗与设计院体系内专业操作还是有距离的。因此，我后来将主要实践对象逐渐聚焦在校园建筑和中小型文化建筑两大类，实际感觉还能够基本把握。

1990年代中期，我在参与国家自然科学基金委学科发展战略研究做文献检索时，蓦然察觉正当中国新建设如火如荼之时，国外学术界已经在关注前工业时代产业遗存的去留问题，“产业遗产”（Industrial Heritage）、“棕色地带”（Brown Field）、“模糊地段”（Vague Terrain）和“适应性再利用”（Adaptive-reuse）等成为国际建协大会和建筑学术界时常论及的热门话题。于是，我随即开始组织研究生开展工业建筑遗产保护和再生的研究，完成了对国内外一系列经典案例的建模解析研究，提出了适应中国国情的改造策略和方法。2007年相关课题获得国家自然科学基金项目资助。之后，我在“既有建筑保护技术研究”科技部支撑计划项目基础上，将研究领域拓展到城镇既有建筑和遗产保护再生领域，建立了包括产业类、文化类和住宅类等多种遗产建筑类型的综合价值评估标准和定量评估方法，研制出既有建筑更新保护可视化技术软件并获得著作权；实践方面则完成了北京焦化厂地区规划、唐山焦化厂改造再利用研究、杭州重型机械厂更新改造、南京7316厂、南京压缩机厂、常州市大成三厂等项目案例的示范应用研究。2002年，我应邀参加UIA柏林大会并做成果展览；在第四届世界城市论坛等重要国际学术会议做相关的大会报告；2008年，进一步在理论和方法层面上做出凝练集成，出版《后工业时代产业建筑遗产保护更新》专著。2011年牵头获准针对建筑遗产保护主题的国家自然科学基金重点项目和科技部“十二五”支撑计划项目资助。相关成果获得2012年中国高等学校科学研究优秀成果奖（科技进步奖）一等奖。

近年来，时有友人建议我将关于城市和建筑设计研究成果整理归纳出书。对此我一直心存忐忑：我虽然出版过几本专业书，也赢得了学术界和社会的良好反响。但回想起来，那些书都是积累了多年的研究成果。现在有些出版社走市场道路，导致很多不考虑读

者需求而大量掺水的专业书籍滥竽充数。自己一直觉得出版学术类书是一件很慎重的事，没有自己的学术观点、没有充实的内容和专业养分对不起读者。近来我一直在思考，这部基本上反映个人学术思想和实践成果的书怎么架构、怎么去写？经审慎考虑，最后我还是决定出版一本综合反映分类研究成果的论文和工程实践案例的集子，其中核心理念是我多年来信守的“传承—扬弃—探新—超越”宗旨。传承、扬弃、探新三点是书中必须反映和努力达到的，超越是学术研究最终希冀达到的理想，指的是探新成果得到业界的认同，并优于先前的理论、概念及技术方法等，是一个知识新陈代谢的过程。多年来，我们在城市设计方法和遗产建筑保护再生等领域一直努力在探新基础上争取有所成就，今天仍然在坚持中。

本书架构分论述和案例研究两大部分。论述部分按照综论篇、传承篇和探新篇三方面来安排，主要反映了近三十多年来我学术思想的成长过程，回望论文中表达的思想观点和学术见解，早期的比较青涩、新锐甚至有点愤青，后来慢慢沉稳下来并更加注意实证研究的支撑；已出版的论著对学术界产生过一些影响并有较多的收录和他引；相关成果也曾经在国家自然科学基金委建筑学科战略研讨会、中国科学院学部会议以及清华、北大、同济等许多场合做过报告，并在美国麻省理工学院（MIT）、佐治亚理工大学（GIT）、科罗拉多大学丹佛分校（UCD），英国伦敦大学学院（UCL），法国巴黎拉维莱特建筑学院做过学术讲演。案例部分分为城市设计和建筑设计两大类，遴选主要从其是否具有研究意义和价值的角度安排，其中部分作品因其具有一定的创新性曾经获得过国内外一些奖项，希望读者能够从中获得些许参考启示。

我深知，我能够观察、涉及、研究并实践的城市建筑领域主要还是城市物质形体空间及其建筑环境。新世纪以来，建筑学科在世界性对可持续发展的关注、数字技术发展以及当代艺术思潮流变的共同影响下，产生了很多新的概念、新的理论和新的方法，即使是经典的功能理论、建造方法乃至构图原理也有了新的突破。这种扑朔迷离、此起彼伏、分分合合的年代，蕴含着建筑学发展的持续活力和发展能量，我庆幸能够成长在这样一个既有诸多前辈名师指点、又有很多专业研究和实践机遇的年代。

为此，我由衷感谢所有在我专业成长中给予教诲、帮助、支持和协助的老师、同学、朋友、青年学子和家人。感谢东南大学出版社的徐步政、孙惠玉老师，感谢工作室全体同仁和同学，特别是姚昕悦为本书的资料整理、编撰和校对等付出了辛勤劳动。

是为前言。

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2013年春

Preface: On Cities and Buildings

This volume begins with juxtaposing cities and buildings, which is attributed to the fact that, for many years, my research, teaching and practice have been related to this approach. One can compare city to an organism, whereas I compare the city to a tree with the road system and infrastructure of the city as the stem and buildings the leaves, the smallest units consisting of a big tree. The spatial forms of a city are characterized by the complementary and symbiotic relation between urban forms and building forms, which, through visual senses and behaviors of people, can be perceived. Therefore, viewing and reflecting the relationship between a city and its buildings from a visual vertex has always been one of my favorite things whenever visiting a city. Ever since the first time I went to the United States in January 1991 as a visiting scholar, I have accumulated every opportunity of viewing a city on its dominant point, with my footprint covering the Empire State Building and World Trade Center in New York, The Sears Tower in Chicago, The Rockefeller Center in New York, the Eiffel Tower in Paris, the Sydney Tower and Kaknas TV Tower at Stockholm, the Oriental Pearl TV Tower in Shanghai and Nanjing Zifeng Tower. From these observations, I perceived the complex and confusing relationship among urban structure morphology, road network systems, density of urban spaces, texture of neighborhood buildings and landmark buildings, which are realities juxtaposed in synchronous dimensions as well as montages embodied in abundant historical messages and stories of evolving urban forms in diachronic dimension.

In people's minds, urban environment is perceived as composed of numerous buildings gathered together by certain planning and organization, as opposed to the concept of rural environment perceived as less buildings massing with dispersed layout. In ancient times, the forms and images of city and countryside that people recognized were clearly marked off by ramparts. However, a city is actually human habitat comprising people, society and dwellings, immersed with historical and cultural information.

No one can escape from the intricate association with his or her surroundings and the society that he or she belongs to, even if

viewed from the perspective of perception through common visual and behavioral approaches. Perceived from daily life, the exterior spaces, roads, squares and green spaces of the neighborhoods in towns and cities, as well as their land use patterns and spatial structures, have always been related to buildings that shape these spaces. When experiencing the city of Beijing, as an imperial capital, people are most commonly attracted by its magnificent groups of palace buildings, the central axis of the city, and such natural water bodies and landscapes as the Beihai Park, Zhongnanhai and Shichahai, as well as the layouts of numerous courtyard houses, streets and lanes, and Hutongs. At the same time, their curiosity and interest on the characteristic street life and cultural customs of traditional Peking are always aroused. People that have ever visited the ancient city of Nanjing feel impressive on relics of the period of Six Dynasties, the city walls of Ming Dynasty and many major buildings and boulevards completed in the period of the Republic of China as well as traditional civic life at Confucius Temple district. If they have the chance of climbing up to view from bird's eye and overlook the skyline, they will further their recognition towards the spatial environment of the city consisting of the vast Yangtze River and the hilly landscape of the Purple Mountain in more holistic and comprehensive way. Such unique city patterns and characteristic landscapes perceived by visual and lived experiences are the outcomes of people's pursuit for thousands of years for ideal human habitat and its constant improvement.

From the perspective physical space morphology, there is obvious commonality or intersections between design of cities and design of buildings. According to cursory examination, cities and construction of buildings have always been inseparable, which can be seen from earliest cities shaped in Mesopotamia civilization 6000 years ago, or the cities formed during the very first civilization in China, or the Aztec civilization of its cities in America. Since there were fewer inhabitants and relatively smaller scale in city construction at that time with relatively simple functions, the objects of planning and its representations were associated with the arrangement of building entities, leading to formation

of the paradigm of urban morphology. For example, in the 11th century BC in China, based on ethical modes, *State Building System* was formed on the forms, scales, roads, etc. of city construction, which read: "The capital city built by masters covers the area of nine square miles. There are three gates on each of its four sides; there are nine north-south roads and nine east-west roads within the city; the roads are 9 tracks wide; Outside the palace, the ancestral temple lies on the left and the infield altar on the right; in front of main hall in the palace is the court and behind the north hall the market. Every market and every court cover the area of one hundred square paces". According to this system, the numbers "three" and "nine" imply "numbers for lucky signs" derived from *The Book of Changes*. Placing the court on the center, respecting ancestors and valuing agriculture, and the clear and regular road network showed the ideal mode of cities with hierarchy and order, presenting equilibrium and stability, which deeply influenced the practice of urban design for the following dynasties, especially the design and construction of capital cities, provincial cities and prefectures. In the West, some scholars also recognize that most cities in the Mediterranean areas were developed from the layout pattern of Roman Castra. During the subsequent evolvement, they were influenced by Christian, Islamic, Renaissance, baroque and modernist cities, presenting "harmonious but different" among them, which means that such elements as layout patterns, metric structure and typology have always been intact with the ancient cities. This fact is proven by numerous drawings depicting city forms inherited from different historical periods at home and abroad. "The Great Plan of Rome" (the well-known "Nolli Map") completed by Giovanni Bastista Nolli in 1748 is of great academic value. Although with two-dimensional format, it was the most accurate map at that time. He organized survey covering the area of 8 square miles, including hilly areas, farms, vineyards, monasteries, and ancient relics that formed the territory of Rome. Showing the fabric and organization of the relationship between various city forms and the forms of public buildings in Rome, the map makes it possible to integrate the forms of city and buildings as a whole.

The design of city and buildings are also inspired and regulated by such elements as natural terrain, climatic conditions and local resources. Two thousand years ago, in China, *Guan Zi – Cheng Ma* (means economic planning) observed in a scientific manner that "every capital city shall not be located on the foot of a mountain but near the vast river; the height of the city shall not close to dry areas so that the water resources will be sufficient; the lower part of the city shall not

be close to lowland so that the construction of trenches can be saved. It shall make use of natural resources and take advantage of local terrain. Therefore, the construction of the city does not necessarily obey the rules of squares and circles and the roads not satisfy the straight yardsticks." This implies that in selecting of the site for construction a city, local conditions shall be considered with appropriate height in terms of topography. The water resources shall satisfy living requirements and the defensive needs of trenches without the threat of flooding. I have researched the city of Changshu, Jiangsu Province. At its initial stage, the city moved from Fushan Town along the Yangtze River in Tang Dynasty to the gentle slope on the east side of Yushan Mountain. Afterwards, the natural water system was utilized as the moats and the Qinchuan Canal was dug. The walls around the city were erected and the city was constructed to replace the hill, forming the layout of the city as "the seven creeks leading to the sea and half of ten square mile mountains entering the town". The idea of urban design proposed by Guan Zhong was achieved here, exemplifying the evolution of Chinese ancient cities in a "bottom-top" manner according to local conditions. In the West, there is also tradition in terms of constructing cities according to local conditions. The only encyclopedia on architecture survived over two thousand years in the western world is *On Architecture* by Vitruvius. The First Book addressed the basic principles of architecture and the layout of cities. In a systematic manner, Vitruvius addressed such issues as climate, orientation, topology, street organization and public spaces related to city locations. He argued that in locating the city walls, "hygienic places shall be chosen for construction with higher altitude, not windy, not subject to mist, with appropriate orientation and temperature," (Vitruvius, 2012) which is similar to the theory for constructing cities of Guan Zi. Many Mediterranean cities in Europe, such as hilly towns in Toscana, Italy, are of great esthetic value due to perfect integration of building forms, natural terrains and urban life. Being described as "Picturesque Town", they are now still the important samples in the research field of world urban history.

As an academician, Qi Kang, my mentor, conducted systemic research on urban morphology through case studies in early 1980s, published incisive treatise on the elements that affected the evolution of city forms, and constructed two sets of agency systems as man-made and natural (Qi Kang, 1982).

In 1988, inspired by my mentor, I published an article in *The Architect* in an attempt to further summarize urban design during different historical periods as two types with different values and

approaches, i.e. “bottom-up” and “top-down”, or “planned” and “unplanned” cities (Wang Jianguo, 1988). The so-called “bottom-up” refers to the approach in accordance with the conditions of natural climate, geography, resources, local economic activities and residents’ willing and following the growth patterns of organism to build a city or town through the accumulation and juxtaposition of several individual buildings over time. It is characterized by intuition and simplicity, reasonable functions, self-sufficiency, adapting to social economy, community life and regional natural conditions. The traits of such cities are coexistence and symbiosis of buildings constructed in various times and with diverse styles, an outcome similar to a museum of the city. “Top-down” refers to the approach in accordance with the willing of decision-makers that owns higher status and ideal modals in designing and constructing a city or town. It is usually achieved by means of artificial planning and controlling instruments, reflecting the ideal world conceived by decision-makers. The construction and development of cities and towns is controlled by administrative and religious elements by means of instruction and regulation of planning. Owing to more available social resources for construction, the scale of such towns and cities are greater with higher level of perfectionism in terms of forms. In comparison, “bottom-up” approach of design and construction for cities shows more of the juxtaposition of the images of individuals of general public, inclining to emotion. “Top-down” approach shows more of the characteristics of social organizations and the will of decision-makers. The fact that its standards are set by the minority and that they are implemented by the majority of the society represents, to a greater extent, the idea of rationality and hierarchy.

In general, city planning and civic design in pre-industrial era was quite similar in terms of research field and object of practice, both affiliated to architecture. After 18th century, due to the establishment and introduction of new social relations of production, invention of new transportation and communication facilities, and the development of building industrialization, there emerged new urban functions and their operations, with huge changes in urban forms, as the well-known scholar Frampton’s words, in Europe, the constrained cities that lasted for five hundred years changed within one century, which was the result of the interaction between a series of unprecedented technologies and the development of social economy. Le Corbusier, the master of modern architecture, even deemed that the human being was entering a machine age, buildings will be the product of industrialization, and designed and produced like cars or irons. The associated standardization and mass

production was just the main causes of the “identity crisis” of buildings in global cities nowadays.

With the acceleration of the process of urbanization, there were huge changes in terms of social structure and systems in cities. Added by establishment and improvement of modern municipal management, the design and planning based on traditional principles of visual esthetics were not applicable any more, appealing new planning theory externally. At the same time, negative effects generated from extensive modes of industrialization and urbanization in early period, with unprecedented accumulation and disorderly growth of population in cities, resulting in a series of urban problems such as severe environmental contamination, traffic jams, and quick deterioration of urban environment as well as related vital prevalence of infectious diseases. For example, the disorganized urban sprawl in London resulted in large amount of homeless, poor people and housing of low quality at urban fringes. It is in this new historical situation that modern urban planning emerged as the time required and became a new force to control the development of cities, which was adopted by state and administrative authorities. As part of continuation of history and people’s conceptions, urban planning at the beginning of the industrial revolution was still inclined to the forms of physical spaces and related engineering technologies. Up to 1960s, the emphasis of the discipline of urban planning gradually shifted from engineering and technology to the planning of economic development and community. After 1970s, urban planning evolved to the triad of economic development, engineering and technology, and social development. Upon entering the new century, urban planning integrated four aspects of economy, technology, society and environment, in an attempt to achieve equilibrium among economic benefits, social benefits and environmental benefits. In other words, urban planning today consists of four components of economic planning, social planning, policy determination and physical planning, conforming to the basic principles of efficiency, equity and environment. The essential attributes of planning are scientificness, foresight and integrity, with the core keyword as harmony.

However, in the context of increasingly focusing on urban development in terms of society, economy and environment from a macro perspective in modern urban planning, there are some discrepancies emerged between macro planning and concrete constructions in the material physical spaces. According to the viewpoint of Alex Krieger, professor of Harvard University, modern conception of urban design derives from the concerns on the disorderly sprawl of

urban fringes and the deterioration of historic city centers in the mid 20th century, with the aim of searching a “public sphere” that bridges individual discipline of architecture and urban planning, in order to address the complicated problems beyond the scope that any individual discipline can solve. In doing so, such environmental characteristics as urban spatial forms, streets, and squares that associated with the establishment of attributes of society, humanity and arts in cities as well as harmonization of buildings became the main objects of urban design. Nevertheless, modern urban design has no longer been limited within the scope of spatial esthetics and visual arts. Instead, there have been revolutionary developments in terms of its scope of objects, working contents, design approaches and guiding ideology. In urban design, one shall not only consider the harmonious relationship between urban planning and the design and construction of buildings, but also conform to the multiple assessment criteria of urban design that centers on “human-society-environment”, taking into account various natural and human factors. The focus shall be put on the construction and creation of multiple spatial environment in the dimensions of ecology, history and culture and improve the “livability” of cities and the quality of living environment, so as to achieve the goals of enhancing integral spatial environment and landscapes in cities. In other words, the main focus of urban design is placed on whether the urban environment is of quality and meaning. The central characteristic of urban design lies in the coexistence of coordination, process and creativity. Urban design is not just part of city planning, nor extended architectural design. Instead, urban design is dedicated to the creation of cities of “intricate, delicate, livable, accessible, and enjoyable”, as well as to the construction of environment with reasonable spatiotemporal gradients consisting of history, present and future. However, all of the above can hardly be achieved through city planning that centers on the attributes of development or architectural design that focuses on individual creation and the requirements of clients.

From the perspective of professional training background, urban designers are usually come from the fields of architecture, city planning and landscape architecture. Many scholars with architectural background regard that since the tasks of urban design are to invest urban spaces and even the entire morphology with forms, training in the field of architecture is necessary. The academician Wu Liangyong argues that urban design shall become the obvious field that architects understand and partly deal with. The academician Qi Kang deems that “architects without the knowledge of cities are not perfect architects.”

Many overseas scholars share similar points of view, i.e. urban-minded architects can undertake major tasks of urban design. Le Corbusier, the master architect of the 20th century, in his lifetime, created lots of innovative conceptions of urban design from the perspective of an architect and illustrated numerous sketches of urban design. Saarinen, the famous American architect, even thought that urban design is basically the issue of architecture. Some city planners think that many issues related to physical planning of a city are beyond the skills of architects, however, some routine issues in planning, such as communities, traffic calming, sense of neighborhoods, and development of inclusiveness, if described visually in the perspective of urban design, will be more easily to be understood by general public, other than as abstract concepts.

The author argues that since urban design involves the forms and images of cities, the creation of communities and places, and the livable urban environment, and in China particularly involves more practice opportunities, the urban designers shall possess to some extent social, humanity and artistic endowments and cultivation as well as basic knowledge on engineering. Such attainment can be achieved through the training focusing on nurturing architects. However, researchers with other professional backgrounds are not excluded from the research on comprehensive theory and conceptual studies on urban design. In addition to the design of forms and spatial elements, urban design also involves to some extent the formation of social organizations and cultural vogue of a society, thus relating to the goals of improving the quality of spaces of human habitats in cities and the living quality as well.

Therefore, the extension of traditional field of the discipline of architecture shall be achieved on the level of urban design as a breakthrough in order to “exert the artistic creation of buildings based on urban design” (Wu Liangyong, 1999). Professor Tzonis, the Dutch architectural historian, argued that if every building was of good quality, and every development is of good quality, there is no need for top-town design and construction regulation. The whole environment would be naturally fine. However, the experience and facts for dozens of years proved that this did not happen. Otherwise, the “invisible hand” of free market resulted in the opposite effect. Thus, architects themselves can hardly shape benign environment. Nowadays, architectural design can hardly be separated from the urban context and its prerequisites. The design objects, from the perspective of architects, are not only individual building, but rather, “the continuum of environment of urban spaces” (International Union of Architects, 1980) as well as “the relation

between buildings and sky, buildings and ground and among buildings”. (Bacon, 1978). In other words, urban design appeals that architectural creation shall make difference on continuation of vertical levels, careful considerations on horizontal levels, expression of individuality and characteristics on meaning levels, and harmony as whole of the built environment in cities and towns.

In recent 20 years, the architectural professional field in China shifted from the concept of individual building to consideration of urban environment that consists of buildings, with the important implication of integration of architecture and urban design. With the acceleration of urban development in China, numerous architects begin to realize the limitation of traditional field of architectural profession, making breakthrough step by step the narrow-minded design focusing on individual building in order to expand their thinking to include environment. Many architects start to conduct “bottom-up” urban design in their own practice on the basis of architectural design. According to the practical needs of planning preparation and management in China, the relationship between urban design and legal system of city planning are explored in the field of city planning, with the recognition that urban design shall be included in every stage and level of city planning.

In the mid 1990s, China witnessed large scale and widespread practice of urban design. For some time, there were booming development on squares, pedestrian malls, urban axis, waterfronts and parks and green spaces, showing the emphasis on public spaces in cities during this stage of urban development in China. In doing so, city authorities recognized the unique value and function of urban design in terms of constructing human habitats, presenting achievements of urban construction and enhancing the comprehensive competitiveness of a city. In recent years, urban construction and development in China attracted attention worldwide. At the same time, there were more international involvement in the research field of theory, concept and practice of urban design with increasing progress on design ideas. During this period, on the one hand, such books as *A General Theory on Architecture*, *Urban Architecture*, *Theory and Approach of Modern Urban Design*, *Urban Design*, *An Introduction to Urban Design*, *Urban Design Mechanism and Practice*, *On the Practice of Urban Design* were published in China successively. Research achievements on urban design written by overseas scholars, such as C. Sitte, J. Jacobs, N. Schulz, E. Bacon, K. Lynch, J. Barnett, Jon Lang, etc were translated and introduced into China. On the other hand, the numbers of thesis on the Chinese characteristics of theory, approach and practice of urban

design as well as the integration of cities and buildings increased. In particular, research on coordinated implementation of urban design and city planning, digital techniques and approaches on urban design, case studies on the projects of urban design and indigenous architectural creation achieved world-class results with Chinese characteristics.

Urban design in China has experienced trial and exploration for more than twenty years, resulting in today an important status in urban construction. Its prominent characteristics of three-dimensional presentation attract people’s attentions. The academician Zhou Ganzhi summarized in the preface of the book *Introduction to Sciences of Human Settlements* the formation and development of the ideas of sciences of human settlements in China. He argues that the conception of extending and furthering the disciplines of architecture and city planning has been realized in three aspects, one of which is “urban design that integrates such professions as architecture, civic engineering, etc is not just an academic point of view. Rather, it penetrates into various stages of planning, furthering planning work for different major cities and improving design standard of many projects.”(Wu Liangyong, 2001)

My knowledge on the relevance of cities and buildings began form my university experience. In 1978, I was admitted by the Department of Architecture, Nanjing Institute of Technology. At that time, the practice and market for building industry in China was limited. The curriculum mainly covered individual building design with different functions, with limited association with the surroundings, which were not the focuses in assessing students’ exercises. However, the opportunities owing to the reform and opening to the outside world led gradually to several national competitions of architectural design, for example, the national design competition of medium-to-small scale railway station, design competition of cinemas, and design competition of urban landmark buildings. Some teachers at the Department of Architecture, such as Yang Wenjun, Li Zhitao, Wu Mingwei etc, often became the winners of these competitions. Soon after, international competitions were introduced into China. The Department of Architecture, Nanjing Institute of Technology took part in such international competitions as the international conference center in Tokyo, Japan, The Peak Leisure Club in Hong Kong, etc. These projects involved parameters of real urban environment, resulting in analysis of urban issues and consideration of urban design strategies. At that time, I observed these senior professors’ design work. I felt incapable to understand part of the analysis due to my limited knowledge and professional background at that time.

In 1982, I began my master degree study, apprentice to the supervisor group consisting of Professors Liu Guanghua, Zhang Zhizhong, Zhong Xunzheng, and Xu Yicheng. At that time, architectural circle in China began to recognize the built environment in cities and towns more profoundly and comprehensively. In early 1980s, *World Architecture* and *The Architects* jointly hosted a series of academic lectures in Beijing. Professor Liu delivered a lecture on “Buildings, Environment, People”, with astonishing responses. Based on numerous case investigations on overseas buildings, he realized that contemporary architectural design was not just isolated design, rather, it is the product of interaction between environment and people’s behavior, necessarily taking into account complex context and social factors. Coincidentally, my supervisor arranged several architectural designs that associated with urban environment, one of which was a shop design for Jinling Hotel. The project was located on the southeast side of the hotel, facing Xijiekou Square. Gu Daqing, Xu Lei and higher class students who are Ding Wowo, Shan Yong, Fan Sizheng, Huang Ping, Chen Xin worked together in this project. We studied original drawings of Jingling Hotel and found that the site that went along the street deviated from the grid and axis of the main building of the hotel and not the parallel relations as expected. It was quite difficult to deal with this plot that facing the street. We tried hard to embed new design into surroundings in an organic way. Although the term “urban design” was not well-known in China then, the issues considered and dealt with as our main concern was the issues of urban design as we think today.

At the end of 1985, I began my doctoral degree at the Institute of Architecture, apprentice to Professor Qi Kang, which was the important start point for the subsequent involvement of urban design. Mr. Qi was sensitive and far-sighted to the issues of cities, which furthered and enriched my knowledge on cities. At that time, the Institute was committed research tasks on physical environment of key cities and towns, as part of “the Seventh Five Year Plan” of Ministry of Construction, among which Mr. Qi asked me to be in charge of pilot research on small scale cities. Coincidentally, in the selection process among various cities, we were invited to participate the planning and design of new urban area of Changshu by Changshu Construction Committee, Jiangsu Province. Therefore, we decided to take Changshu as case study for the research task. In literature review on the physical environment of cities and towns, we identified the related professional field in foreign countries was urban design. Thus, we determined that this would be the research topic for my doctoral dissertation,

which was a pioneer work at that time. In 1989, I finished my doctoral dissertation entitled “Theory and Methods on Modern Urban Design”, which was published as a treatise in 1991 after revision according to the suggestions of the examiners such as Li Dehua, Tao Songling, Cai Zhenjue, etc, who were the pioneers in this field. The book was well accepted by readers, especially professionals and teachers and students of related discipline in universities. In 1996, the copyright was sold to a Taiwan publisher to deliver a traditional Chinese character version. In 2001, the second edition (simplified version) was published after comprehensive revision and extension, with the total print run as 30,000 issues. In *Theory and Method on Modern Urban Design*, a comprehensive system of theory and approaches of modern urban design was constructed for the first time in China, proposing the analytical theory for “urban forms – urban design” based on the concepts of “prototype”, “type” and “stage”. For the first time in academia, it argued that urban design is a “dual-process” jointly constructed in “process of design exploration” and “process of participative decision-making” as well as the approach for spatial analysis based on “relevant line – regional facet”. Afterwards, I gradually realized that as a practical professional work, urban design would not be implemented effectively without case studies that integrate theory and practice as well as the dissemination of the applied knowledge based on theory. Therefore, the idea to write another book on urban design came into my mind. Soon after its publication in 1999, the book *Urban Design* became not only one of the main textbooks and reference books for colleges and universities, but also training material for the City Cadre Class in the field of city construction in many provinces and municipalities. In 2004, the second edition of *Urban Design* was published and in 2011 the third edition, with the total print run as 33,600 issues. The above treatise was proofread and reviewed by lots of academicians, master designers and engineers, and professors and regarded as “the most systematic, comprehensive and innovative achievement on urban design in China”. These books won twice Jiangsu Province Outstanding Book Awards.

During this period, I took charge of and participate in more than 50 important projects of urban design and architectural design, including such practical projects and international competitions as the National Center of Chinese Traditional Culture located at Beijing Olympic cultural complex as one of the National Major Projects, scheme for the design competition for 2010 Shanghai World Expo site planning, planning and design for Relic Park of Jinling bao'en Temple in Nanjing, the public building complex in the central area of Guangji Town at Mianzhu,