

◀◀ 高等学校建筑类专业英语规划教材 ▶▶

# A rchitecture and U rban Planning

## 建筑学与城市规划专业

陈晓键 主 编

黄 磊 吕 琳 副主编

中国建筑工业出版社

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本书既适合于普通高等院校建筑、城市规划、风景园林等专业使用,也可供建筑师、城市规划师及相关从业人员参考、阅读。

\* \* \*

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# 前 言

本教材涵盖建筑学、城市规划和风景园林三个部分。为了满足应用型人才培养的要求,本教材从整体上考虑了各专业课程培养和培养计划,将各专业方向的学时和内容统一安排协调,以利于拓宽学生的专业知识、增加专业词汇量。每章含有三篇课文及相关拓展内容(以图、表、文字等不同的形式出现)。为便于查阅,每篇文章都附有关键词及主题句中文导读,词汇采用中文注释,且在当页出现。本教材内容丰富,选材广泛,在丰富学生的专业知识背景、保证专业词汇量的同时,帮助学生了解国外研究动态。在内容编排上注重科学性、实用性,以利于学生构建合理的知识结构。为增强文章的可读性,本教材还附有部分插图。本教材适用于普通高等院校建筑类、城市规划类和风景园林专业学生使用,也可作为研究生的专业参考资料,同时可供建筑师、城市规划师、风景园林以及相关从业人员阅读参考。

本教材编写及分工如下:陈晓键 [chapter1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 16, 17, chapter15(section C)], 黄磊 [chapter15(section A, Section B), 18, 19, 20, 21], 吕琳(chapter 10, 11, 12), 全书由陈晓键负责统稿。

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由于编者水平有限,书中难免会有疏漏、错误和不妥之处,敬请广大读者和同行批评指正。

编 者

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# Chapter 1 Introduction

Introduction to Architecture, Planning and Landscape Architecture

## Section A: Architecture

Architecture is the art and science of designing buildings. A wider definition would include within its scope the design of the total built environment, from the macrolevel of town planning, urban design, and landscape to the microlevel of furniture and product design. Architecture, equally importantly, also refers to the product of such a design.

建筑学的界定

According to the earliest surviving work on the subject, Vitruvius' *On Architecture*, good building should have Beauty (Venustas), Firmness (Firmitas) and Utility (Utilitas); architecture can be said to be a balance and coordination among these three elements, with none overpowering the others. A modern day definition sees architecture as addressing functional, aesthetic, and psychological considerations. However, looked at another way, function itself is seen as **encompassing** all criteria, including aesthetic and psychological ones.

好的建筑应该具有的特征

Architecture is a multi-disciplinary field, including within its **fold** mathematics, science, art, technology, social sciences, politics, history, philosophy, and so on. In Vitruvius' words, "Architecture is a science, arising out of many other sciences, and **adorned** with much and varied learning; by the help of which a judgement is formed of those works which are the result of other arts." He adds that an architect should be well **versed** in fields such as music, astronomy, etc. Philosophy is a particular favourite; in fact one frequently refers to the philosophy of each architect when one means the approach. Rationalism, empiricism, structuralism, poststructuralism, and phenomenology are some directions from philosophy influencing architecture.

建筑学涉及多学科的知识

The importance of theory in informing practice cannot be overempha-

理论和实践同样重要

- 
- ① encompass/in'kʌmpəs/v. 包含; 包围
  - ② fold/fəʊld/v. 折叠; 合拢; 笼罩
  - ③ adorn /ə'dɔ:n/v. 装饰; 使生色
  - ④ versed/vɜ:st/adj. versed in sth 精通某事物, 对某事物熟练



sised, though many architects **shun**<sup>❶</sup> theory. Vitruvius continues: “Practice and theory are its parents. Practice is the frequent and continued **contemplation**<sup>❷</sup> of the mode of executing any given work, or of the mere operation of the hands, for the conversion of the material in the best and readiest way. Theory is the result of that reasoning which demonstrates and explains that the material wrought has been so converted as to answer the end proposed. Wherefore the mere practical architect is not able to assign sufficient reasons for the forms he adopts; and the theoretic architect also fails, grasping the shadow instead of the substance. He who is theoretic as well as practical, is therefore doubly armed; able not only to prove the propriety of his design, but equally so to carry it into execution.”

“architecture”  
和“building”  
的区别

The difference between architecture and building is a subject matter that has engaged the attention of many. According to Nikolaus Pevsner, European historian of the early 20<sup>th</sup> century, “A bicycle shed is a building, Lincoln Cathedral is a piece of architecture”. In current thinking, the division is not too clear. Bernard Rudofsky’s famous *Architecture Without Architects* **consolidated**<sup>❸</sup> a whole range of structures designed by ordinary people into the realm of architecture. The further back in history one goes, the greater is the consensus on what architecture is or is not, possibly because time is an efficient **filter**<sup>❹</sup>.

建筑学的演  
进

Architecture first evolved out of the dynamics between needs (**conductive**<sup>❺</sup> environmental conditions, security, etc.) and means (available building materials and construction technology). Prehistoric and primitive architecture constitute this early stage. As humans progressed and knowledge began to be **formalized**<sup>❻</sup> through oral traditions and practices, architecture evolved into a craft. Here there is first a process of trial and error, and later improvisation or replication of a successful trial. The architect is not the sole important figure; he is merely part of a continuing tradition. What is termed as **Vernacular**<sup>❼</sup> architecture today falls under this mode and still continues to be produced in many parts of the world.

- 
- ❶ shun/ʃʌn/v. 避开; 避免; 回避
  - ❷ contemplation/kɒntemˈpleɪʃn/n. 沉思; 注视; 意图
  - ❸ consolidate/kənˈsɒlɪdeɪt/v. 巩固; 加强
  - ❹ filter/ˈfɪltə(r)/n. 滤波器; 过滤器; 筛选; 滤光镜
  - ❺ conducive/kənˈdjuːsɪv/adj. 有益的; 有助于……的
  - ❻ formalize/ˈfɔːməlaɪz/v. 使正式; 使形式化
  - ❼ vernacular/vəˈnækjələ(r)/adj. 本国的; 地方的; 用本地语写成的

Early human settlements were essentially rural. As surplus of production began to occur, rural societies transformed into urban ones. The complexity of buildings and their types increased. General civil construction such as roads and bridges began to be built. Many new building types such as schools, hospitals, and recreational facilities emerged. Religious architecture retained its primacy in most societies. Architectural styles developed and texts on architecture began to be written. These became **canons**<sup>①</sup> to be followed in important works, especially religious architecture. Some examples of canons are the works of Vitruvius and Vaastu Shastra in ancient India. In Europe in the Classical and Medieval periods, buildings were not attributed to specific individual architects who remained anonymous. Guilds were formed by craftsmen to organise their trade.

随着乡村聚落逐步转变为城市社区,建筑的复杂性增加,类型增多

With the Renaissance and its emphasis on the individual and humanity rather than religion, and with all its **attendant**<sup>②</sup> progress and achievements, a new chapter began. Buildings were ascribed to specific architects—Michaelangelo, Brunelleschi, Leonardo da Vinci—and the **cult**<sup>③</sup> of the individual had begun. But there was no dividing line between artist, architect and engineer, or any of the related vocations. At this stage, it was still possible for an artist to design a bridge as the levels of structural calculations involved were within the scope of the generalist.

伴随文艺复兴,建筑学揭开了新的篇章

With the consolidation of knowledge in scientific fields such as engineering and the rise of new materials and technology, the architect began to lose ground on the technical aspects of building. He therefore cornered for himself another playing field—that of aesthetics. There was the rise of the “gentleman architect” who usually dealt with wealthy clients and concentrated predominantly on visual qualities derived usually from historical prototypes. In the 19<sup>th</sup> century Ecole des Beaux Arts in France, the training was toward producing quick sketch schemes involving beautiful drawings without much emphasis on context.

学科细分

Meanwhile, the Industrial Revolution laid open the door for mass consumption and aesthetics started becoming a criterion even for the middle

工业革命的影响

① canon/'kænon/n. 标准

② attendant/'ətendənt/adj. 伴随的; 侍候的

③ cult/kʌlt/n. 崇拜

class as ornamented products, once within the **province**<sup>①</sup> of expensive craftsmanship, became cheaper under machine production. Such products lacked the beauty and honesty associated with the expression of the process in the product.

20 世纪初的  
建筑思潮

The dissatisfaction with such a general situation at the turn of the twentieth century gave rise to many new lines of thought that in architecture served as **precursors**<sup>②</sup> to Modern Architecture. Notable among these is the Deutscher Werkbund, formed in 1907 to produce better quality machine made objects. The rise of the profession of industrial design is usually placed here. Following this lead, the Bauhaus school, founded in Germany in 1919, consciously rejected history and looked at architecture as a synthesis of art, craft, and technology.

现代建筑运  
动

When Modern architecture first began to be practiced, it was an **avant-garde**<sup>③</sup> movement with moral, philosophical, and aesthetic underpinnings. Truth was sought by rejecting history and turning to function as the generator of form. Architects became prominent figures and were termed masters. Later modern architecture moved into the realm of mass production due to its simplicity and economy.

自 20 世纪  
60 年代以来  
的变化

However, a **reductive**<sup>④</sup> quality began to be perceived in modern architecture by the general public from the 1960s. Some reasons cited for this are its perceived lack of meaning, sterility, ugliness, uniformity, and psychological effects.

The architectural profession responded to this partly by attempting a more **populist**<sup>⑤</sup> architecture at the visual level, even if at the expense of sacrificing depth for shallowness, a direction called Postmodernism. Robert Venturi's contention that a "decorated shed" (an ordinary building which is functionally designed inside and embellished on the outside) was better than a "duck" (a building in which the whole form and its function are considered together) gives an idea of this approach.

- 
- ① province/'prɒvɪns/n. 省; 领域; 职权
  - ② precursor/'pri:kə:sə(r)/n. 先驱; 前导
  - ③ avant-garde/ævɑŋ'gɑ:d/adj. 先驱的
  - ④ reductive/'rɪdʌktɪv/adj. 还原的; 减少的
  - ⑤ populist/'pɒpjʊlɪst/adj. 平民主义的

Another part of the profession, and also some non-architects, responded by going to what they considered the root of the problem. They felt that architecture was not a personal philosophical or aesthetic pursuit by individualists; rather it had to consider everyday needs of people and use technology to give a livable environment. The Design Methodology Movement involving people such as Chris Jones, Christopher Alexander started searching for a more inclusive process of design in order to lead to a better product. Extensive studies on areas such as behavioural, environmental, and social sciences were done and started informing the design process.

设计方法运动

During the last two decades of the twentieth century and into the new millennium, the field of architecture saw the rise of specializations by project type, technological expertise or project delivery methods. In addition, there has been an increased separation of the 'design' architect from the 'project' architect. Moving the issues of environmental sustainability into the mainstream is a significant development in the architecture profession. Sustainable practices that were at the core of vernacular architecture increasingly provide inspiration for environmentally and socially sustainable contemporary techniques.

20 世纪后  
20 年直至今  
日建筑学的  
变化

As many other concerns began to be recognized and complexity of buildings began to increase in terms of aspects such as services, architecture started becoming more multi-disciplinary than ever. Architecture now required a team of professionals in its making, an architect being one among the many, sometimes the leader, sometimes not. This is the state of the profession today. However, individuality is still cherished and sought for in the design of buildings seen as cultural symbols—the museum or fine arts centre has become a **showcase**<sup>①</sup> for new experiments in style; today Deconstructivism, tomorrow maybe something else.

今天的建筑  
创作需要一  
个专业团队

Buildings are the most visible productions of man ever. However, most of them are still designed by people themselves or masons as in developing countries, or through standardized production as in developed countries. The architect remains at the fringes of building production. The skills of the architect are sought only in complex building types or those seen as cultural and po-

建筑——  
一种产品和一  
门学科

① showcase/'ʃəʊkeɪs/n. 陈列橱; 陈列柜

litical symbols. And this is what the public **perceives**<sup>❶</sup> as architecture. The role of the architect, though changing, has not been central and never autonomous. There is always a dialogue between society and the architect. And what results from this dialogue can be termed architecture—as a product and as a discipline.

This specialist role now forms the basis of most widely accepted modern definitions of architectural practice. For instance, the United States Department of Labor defines architects as licensed professionals who transform space needs into concepts, images, and plans of buildings to be constructed by others. Still, echoes of the ‘Master Builder’ remain, as architects are usually responsible for orchestrating and coordinating the work of many disciplines during the design phases. It is not unusual for architects also to be involved in the early stages of project feasibility, to help clients define a program, choose the site, and otherwise decide on highest and best uses.

## Section B: Planning

### Planning, Planners and Plans

规划难以界定

Planning is an extremely ambiguous and difficult word to define. Planners of all kinds think that they know what it means; it refers to the work they do. The difficulty is that they do all sorts of different things, and so they mean different things by the word; planning seems to be all things to all people. We need to start by defining what exactly we are discussing.

字典中的解释

The reference in the dictionary gives one clue to the confusion. Whether you go to the *Oxford English Dictionary* or the *American Webster's*, there you find that the noun ‘plan’ and the verb ‘to plan’ have several distinct meanings. In particular, the noun can either mean ‘a physical representation of something’—as for instance a drawing or a map; or it can mean ‘a method for doing something’; or ‘an orderly arrangement of parts of an objective’. The first meaning, in particular, is quite different from the others; when we talk about a street ‘plan’ of London or New York, we mean something quite different from when we talk about our ‘plan’ to visit

❶ perceive/pə'si:v/v. 意识到；注意到；观察到(某人或某事物)；~sth as sth: 理解或顿悟某事物

London or New York next year. But there is one definition that combines the others and **blurs**<sup>①</sup> the distinction, as when we talk about a 'plan' for a new building. This is simultaneously a physical design of that building as it is intended to be, and a guide to realizing our intention to build it. And it is here that the real ambiguity arises.

The verb 'to plan', and the nouns 'planning' and 'planner' that are derived from it, have in fact only the second, general group of meanings: they do not refer to the art of drawing up a physical plan or design on paper. They can mean either 'to arrange the parts of', or 'to realize the achievement of', or, more vaguely, 'to intend'. The most common meaning of 'planning' involves both the first two of these elements: planning is concerned with deliberately achieving some objective, and it proceeds by assembling actions into some orderly sequence. One dictionary definition, in fact, refers to what planning does; the other, to how planning does it.

The trouble arises because although people realize that planning has this more general meaning, they tend to remember the idea of the plan as a physical representation or design. Thus they imagine that planning must include the preparation of such a design. Now it is true that many types of planning might require a physical design, or might benefit from having one: planning often is used in the production of physical objects, such as cars or aeroplanes or buildings or whole towns, and in these cases a blueprint of the desired product will certainly be needed. But many other types of planning, though they will almost certainly require the production of many symbols on pieces of paper, in the form of words or diagrams, may never involve the production of a single exact physical representation of the entity which is being produced.

For instance, the word 'planning' is today applied to many different human activities—in fact, virtually all human activities. One almost certainly needs a plan to make war; diplomats make **contingency**<sup>②</sup> plans to keep the peace. We talk about educational planning: that does not mean that every detail of every class has to be planned by some bureaucracy (as happens, by repute, in France), but merely that advance planning is necessary if students are to find classrooms and libraries and teachers when they arrive at a cer-

作为名词和  
作为动词的  
“规划”含  
义

规划类型的  
多样性要求  
不同的规划  
结果

“规划”现  
在许多不同  
的人类活动  
中加以应用

① blur/blɜ:(r)/v. (使某事物)变得模糊不清

② contingency/kən'tɪndʒənsɪ/n. 可能发生也可能不发生的事件

tain age and seek a certain sort of education. We talk about planning the economy to minimize the swings of boom and slump, and reduce the misery of unemployment; we hear about a housing plan and social services plan. Industry now plans on a **colossal**<sup>①</sup> scale: the production of a new model of a car or a personal computer has to be worked out long in advance of its appearance in the shops. And all this is true whatever the nature of the economic system. Whether labelled free enterprise or social democratic or socialist, no society on earth today provides goods and services for its people, or schools and colleges for its children, without planning. One might regret it and wish for a simple age when perhaps things happened without forethought; but if that age ever existed, it has gone for ever.

### 规划的意义

The reason is the fact of life everybody knows: that modern society is immeasurably more complex, technically and socially, than previous societies. Centuries ago, when education involved the simple **repetition**<sup>②</sup> of a few well-understood rules which were taught to all, and when books were non-existent, the setting up of a school did not involve much elaborate plant or the training of specialized teachers. The stages of production were simpler: wood was cut in the forest, people wrought it locally into tools, the tools were used by their neighbours, all without much forethought. But today, without elaborate planning, the complex fabric of our material civilization would begin to crack up: supplies of **foodstuffs**<sup>③</sup> would disappear, essential water and power supplies would fail, and epidemics would rapidly break out. We see these things happening all too readily after natural or human disasters like earthquakes or wars or major strikes by railway or power workers. Though some of us may decide to opt out of technological civilization for a few years or for good, the prospect does not seem likely to appeal to the great mass of humankind even in the affluent world. Those in the less affluent world are in much less doubt that they want the security and dignity that planning can bring.

### 举例说明

Consider educational planning as an example. The goal has first to be fixed. It may be given externally, as a situation which has to be met: to provide education which will meet the expected demands ten years hence. Or there may be a more positive, active goal: to double the numbers of sci-

① colossal/kə'lɒsl/adj. 巨大的; 广大的; 庞大的

② repetition/,repɪ'tɪʃn/n. 重复; 反复

③ foodstuff/'fudstʌf/n. 食品; 食物

entists graduating from the universities, for instance. Whatever the aim, the first step will be a careful projection which leads from the present to the future target date, year by year. It will show the number of students in schools and colleges and the courses that will be needed to meet whatever objective is stated. From this, the implications will be traced in terms of buildings, teachers and materials. There may need to be a crash school building programme using quickly assembled **prefabricated**<sup>①</sup> components; a new or a supplementary teacher training programme, or an attempt to win back married women into teaching; a new series of textbooks or experiments in closed-circuit TV, all of which in turn will take time to set in motion and produce results. At critical points in the process, alternatives will be faced. Would it be more economical, or more effective, to increase teacher supply or concentrate on a greater supply of teaching material through the TV system? Could better use be made of existing buildings by better overall coordination, rather than by putting up new buildings? Ways will need to be found of evaluating these choices. Then, throughout the lifetime of the programme, ways will need to be found of monitoring progress very closely to take account of unexpected failures or divergences from the plan or changes in the situation. In the whole of this complex sequence the only scale models may be the designs of the new schools or of the TV system and a few other details—a small part of the whole, and one which comes at a late stage in the process, when the broad outlines of the programme are determined.

To summarize, then: planning as a general activity is the making of an orderly sequence of action that will lead to the achievement of a stated goal or goals. Its main techniques will be written statements, supplemented as appropriate by statistical projections, mathematical representations, quantified evaluations and diagrams illustrating relationships between different parts of the plan. It may, but need not necessarily, include exact physical blueprints of objects.

规划的界定

### The Definition of Modern Urban Planning

Planning, or Town and Country Planning to use its full name, is the system we have for managing changes to our environment.

现代城市规划定义

Through planning we can identify what changes we need to make: new

① prefabricated/*prɪ'fæbrɪkətɪd/adj.* (尤指建筑) 预制的; 用预制构件组装的



homes, places to work, transport and community facilities etc; and where these should be located. These changes are called development.

Planning seeks to ensure that we achieve a balance between our need for new development while conserving what we value about our environment such as green spaces, wildlife, historic buildings and places etc.

Planning can make positive changes to our environment and communities. It can create places such as cities, towns and villages that we treasure; want to live in, work in, visit and enjoy.

Planning is about our future. It aims to balance our current need for development against the needs of our children and future generations. This is called sustainable development.

## Section C: Landscape as a System

Management, planning, and design as appreciative systems and regenerative processes require that the landscape be addressed as system, and that the designer be actively engaged in integrative systems thinking. Since systems thinking is profoundly different from the **reductive**<sup>①</sup> approach of twentieth-century Western cultures and has its own language that includes some conventional terms used in non-conventional ways, it is helpful to begin with some definitions.

### 系统思考的意义

Systems (“wholes” consisting of entities and relationships) function through interrelatedness of parts, and exhibit existential properties independent of these parts. For landscape management, planning and design to effectively integrate diverse systems, landscape designers must be systems thinkers (thinking integratively and with cognizance of systems dynamics). They must be committed to landscape management, planning, and design that optimize the health and productivity of diverse physical, ecological, and human system. Landscape designers must aspire to manage, plan, and design people-environment relationships of high relevance and deep meaning that are sustainable and regenerative.

① reductive/rɪ'dʌktɪv/adj. 还原的；减少的；过于简化的