高等学校规划教材

建筑学专业英语

JIANZHUXUE ZHUANYE YINGYU

靳慧霞 主编　　姜珂 魏健 副主编

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·北京·

本教材以建筑的风格和流派为线索，主要介绍了古典式建筑、现代建筑、绿色建筑、高技术建筑、建筑环境、城市规划、城市设计等方面内容。每个单元包括一篇正文和两篇阅读材料，阅读难度分为简单、中等和较高三个层次，形成难易不同的阶梯，以供不同读者根据需求方便地选择；书后附有常用建筑学词汇及常用建筑术语汉英对照，可供读者查阅。

本书为高等院校建筑学、城市规划专业的教材，以及广大建筑学和城市规划爱好者提高修养、丰富相关知识的阅读材料。

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前　言

专业英语练习是高等院校理工科《英语教学大纲》所要求的内容，目的是使本科生在专业内容方面进行英语阅读的系统训练。在这阶段英语学习中，主要是提高学生正确、快速地阅读英语科技文献的能力，初步学会专业英语的写作方法，掌握一定数量的科技词汇及其习惯用法，了解专业英语的特点等，把学生学到的基础英语进行专业化训练。在这种背景下，编者有了编写一部题材广泛、内容新颖的建筑学专业英语教材的想法。

本教材的主要特点如下：

（1）题材新颖，结构紧凑。本教材共分 18 个单元，18 个主题，各单元知识点自成体系，涉及古典式建筑、现代建筑、绿色建筑、高技术建筑、建筑环境、城市规划、城市设计等内容。课文均选自英美经典原版建筑学著作和英文原版书刊，题材广泛，内容新颖，紧跟时代，使学习者在学习语言的同时，了解建筑学领域的最新进展。教材语言规范，措辞友好，富于人性化，图文并茂，注重激发学习者的兴趣和思考。

（2）阶梯阅读，层次递进。每个单元由正文、阅读素材 1 和阅读素材 2 三个部分组成，其阅读难度分为简单、中等和较难三个层次，形成难易不同的阅读层次。

（3）词汇丰富，拓展技能。专业词汇的掌握是阅读专业文献的重要基础，词汇的掌握也是今后进一步学习、阅读和写作的基石。因此，本教材每篇课文后配有的词汇表按词汇在文中出现的先后顺序排列，附录提供了常用建筑学术语 1100 余条和建筑学常用词汇词组 1400 余条，作为学生在涉猎课外知识时易于检索、便于自学的助手。每篇课文后配有课文注释和专项训练，课文注释简明扼要、突出重点，专项训练则注重表达，激发思考。

本书由靳慧霞担任主编，魏健、姜珂担任副主编，参加编写的人员还有范俊杰、靳慧征、周璟璟。

作为一门发展历史较短的新课程，欲确定较为完备的科学的教学体系是较为困难的，其中肯定有许多不尽合理的地方，希望广大读者和同仁给予批评指正！

编　者

2009 年 7 月

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Unit 1

Text: 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.

According to the earliest surviving work on the subject, Vitruvius' *On Architecture*, good building should have Beauty(Venustas), Firmness(Firmitas) and Utility(Utilitas);[1] 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.

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."[2] 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.

The importance of theory in informing practice cannot be overemphasised, though many architects shun theory. Vitruvius continues: "Practice and theory are its parents. Practice is the frequent and continued contemplation 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".

The difference between architecture and building is a subject matter that has engaged the attention of many. According to Nikolaus Pevsner [3], European historian of the early 20th 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 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. [4] If like Vitruvius we consider architecture as good building, then does it mean that bad architecture does not exist? To resolve this dilemma, especially with the increasing number of buildings in the world today, architecture can also be defined as what an architect does. This would then place the emphasis on the evolution of architecture and the architect.

Architecture first evolved out of the dynamics between needs (conducive 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 formalised 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 architecture [5] today falls under this mode and still continues to be produced in many parts of the world.

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 to be followed in important works, especially religious architecture. Some examples of canons are the works of Vitruvius and Vaastu Shastra[6] 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.

With the Renaissance and its emphasis on the individual and humanity rather than religion, and with all its attendant progress and achievements, a new chapter began. Buildings were ascribed to specific architects—Michaelangelo, Brunelleschi, Leonardo da Vinci [7] —and the cult 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 level of structural calculations involved were within the scope of the generalist.

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 19th century Ecole des Beaux Arts in France, the training was toward producing quick sketch schemes involving beautiful drawings without much emphasis on context . [8]

Meanwhile, the Industrial Revolution laid open the door for mass consumption and aesthetics started becoming a criterion even for the middle class as ornamented products, once

within the province of expensive craftmanship, became cheaper under machine production. Such products lacked the beauty and honesty associated with the expression of the process in the product.

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 to Modern Architecture. Notable among these is the Deutscher Werkbund [9], 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.

When Modern architecture first began to be practiced, it was an avant garde[10] 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.

However, a reductive 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 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.

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.

As many other concerns began to be recognised 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 for new experiments in style: today Deconstructivism, tomorrow maybe something else.

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 standardised 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 political symbols. And this is what the public perceives 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.

Selected From *Encyclopedia of Knowledge Rush*

Words and Expressions

overpowering [əuvə'pauəriŋ] *a.* 无法抵抗的，压倒性的
adorn [ə'dɔ:n] *v.* 装饰
versed [və:st] *a.* 精通的
shun [ʃʌn] *vt.* 避开，避免
wrought [rɔ:t] work 的过去式和过去分词；*a.* 做成的，形成的，精炼的
wherefore ['(h) wɛəfɔ:] *conj.* 为什么，因此；*ad.* 为此
realm [relm] *n.* 领域
dilemma [di'lemə dai-] *n.* 进退两难的局面，困难的选择
trial and error *n.* 反复试验
improvisation [ˌimprəvai'zeiʃən] *n.* 即席创作
canon ['kænən] *n.* 教会法教规，教规，(基督教的) 正典圣经 (简称正经)，一个作家的真作
anonymous [ə'nɔniməs] *a.* 匿名的
guild [gild] *n.* (中世纪的) 行会，同业公会，协会，行业协会
cult [kʌlt] *n.* 礼拜，祭仪，一群信徒，礼拜式
generalist ['dʒenərəlist] *n.* 多面手，通才
aesthetics [i:s'θetiks] *n.* 美学，美术理论，审美学，美的哲学
prototype ['prəutətaip] *n.* 原型
precursory [pri (:) 'kə:səri] *a.* 先驱的
underpinning ['ʌndəˌpiniŋ] *n.* 基础，支柱，支撑
sterility [ste'riliti] *n.* 不毛，不育，中性，无结果，无菌状态，思想贫乏
embellish [im'beliʃ] *v.* 修饰
Postmodernism *n.* 后现代主义
Deconstructivism *n.* 结构主义，构成主义，构成派
autonomous [ɔ:'tɔnəməs] *a.* 自治的

Notes

[1] **Marcus Vitruvius Pollio**: a Roman writer, architect and engineer, active in the 1st century BC (Before Christ). He is the author of **De Architectura**, the *Ten Books of*

Architecture, an ancient Roman treatise on architecture and perhaps the first work about this discipline.

[2] In Vitruvius' words, "Architecture is... those works which are the result of other arts."

在上面这个句子中，arising out of many other sciences 是现在分词短语，作 science 的后置定语；adorned with much and varied learning 是过去分词短语，也作 science 的后置定语；by the help of which 引导一个非限定性定语从句，修饰 much and varied learning；而定语从句 which are the result of other arts 则用来修饰 those works。

Vitruvius 认为，"建筑学是产生于多种学科的一门科学，充满了深邃且丰富的学问：（建筑学）是人们借助于多学科融合而成的知识体系而形成的一种判断体系，是其他艺术成果发展的结晶。"

[3] **Nikolaus Pevsner**: (January 30, 1902-August 18, 1983) a German-born British historian of art and, especially, architecture.

[4] 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.

对历史追溯得越久远，人们会发现对建筑学定义的一致看法更为趋同，这可能是因为时间是一个有效的过滤器。

[5] **Vernacular architecture**: a term used to categorise methods of construction which use locally available resources and traditions to address local needs. Vernacular architecture tends to evolve over time to reflect the environmental, cultural and historical context in which it exists. It has often been dismissed as crude and unrefined, but also has proponents who highlight its importance in current design.

[6] **Vaastu Shastra**: one of the ancient Hindu canons of town planning and architecture.

[7] **Michelangelo Buonarroti**: (March 6, 1475-February 18, 1564): a Renaissance painter, sculptor, poet and architect; **Filippo Brunelleschi** (1377-1446): the first great Florentine architect of the Italian Renaissance. His most famous works are all in Florence; **Leonardo da Vinci** (April 15, 1452-May 2, 1519): a celebrated Italian Renaissance architect, inventor, engineer, sculptor and painter.

[8] **École des Beaux-Arts**: several art schools in France. The most famous one is located in Paris, in the 6th arrondissement. Until 1897 women were barred from studying there.

[9] The **Deutscher Werkbund** (English: **German Association of Craftsmen**) was an association of artists, founded in 1907 in München by Hermann Muthesius, promoting innovation in applied arts and architecture through good design and craftmanship.

[10] **Avant garde** (sometimes ***avant-garde***; literally, *vanguard*): one of a number of French phrases used by English speakers, referring to persons or actions that are novel or experimental, particularly with respect to the arts.

Exercises

1. What is architecture?
2. What is the difference between architecture and buildings?

Reading Material 1

Architects in Practice

An architect must thoroughly understand the building and operational codes to which his or her design must conform, so that he or she is not apt to omit any necessary requirements, or produce improper, conflicting, ambiguous, or confusing requirements. Architects must also understand the various methods available to the builder for building the client's structure, so that he or she can negotiate with the client to produce a best possible compromise of the results desired within explicit cost and time boundaries.

The idea of what constitutes a result desired varies among architects, as the architectural design values which underlie modern architecture differ both between the schools of thought which influence architecture and between individual practising architects.

The practice of architecture is a business, in which technical knowledge, management skills, and an understanding of good business practice are as important as creative design. In practice, an architect accepts a commission from a client(an individual, a board of directors, a government agency or a corporation). This commission may involve the preparation of feasibility reports, building audits, the design of a single building, or the design of several buildings, structures and the spaces between them. Increasingly, the architect participates in the development of requirements the client wishes to have met in the building. Throughout the project, from planning to occupancy, the architect usually acts as the coordinator of a team of specialists(the "design team"). Structural, mechanical, and electrical engineers, as well as other specialists, are generally retained by the client or the architect. The architect must ensure that the work of all these different disciplines is coordinated and fits together in the overall design.

Working hours are typically over a standard work week, but when working to tight deadlines it is not uncommon for architects to work long hours, including evenings, weekends and all night. Architects are predominantly office-based, but their work includes frequent out-of-office visits with clients and to job sites.

Design role Architects deal with various government jurisdictions on local and federal levels, regarding numerous regulations and building codes. The architect may need to comply with local planning and zoning requirements such as required setbacks, height limitations, parking requirements, transparency requirements (windows), land use and other requirements. In many established jurisdictions, design guidelines and historic preservation guidelines must be adhered to.

Architects also prepare technical documents filed for permits(such as development permits and building permits)which require compliance with building, seismic and various other federal and local regulations. The documents(construction drawings and specifications)are also used for pricing and, ultimately, actual construction.

Construction role Architects typically put projects to tender on behalf of their clients, advise

on the award of the project to a general contractor, and review the progress of the work during construction. They typically review subcontractor shop drawings, prepare and issue site instructions, nope there lying to you and provide construction contract administration(see also Design-bid-build). In many jurisdictions, mandatory certification or assurance of the work is required.

Depending on the client's needs and the jurisdiction's requirements, the spectrum of the architect's services may be extensive(detailed document preparation and construction review) or less inclusive(such as allowing a contractor to exercise considerable design-build functions). With very large, complex projects, an independent construction manager is sometimes hired to assist in design and to manage construction. In the United Kingdom and other countries, a quantity surveyor is often part of the team to provide cost consulting.

Alternate practice and specializations Recent decades have seen the rise of specializations within the profession. Many architects and architectural firms focus on certain project types (for example health care, retail, public housing, etc.), technological expertise or project delivery methods. Some architects specialize as building code, building envelope, sustainable design, historic preservation, accessibility and other forms of specialist consultants.

Many architects elect to move into real estate(property)development, corporate facilities planning, project management, construction management, interior design and other specialized roles.

Prizes and awards The most prestigious award a living architect can receive is the Pritzker Prize, often termed the "Nobel Prize for architecture." Other awards for excellence in architecture are given by national professional associations such as the American Institute of Architects(AIA) and Royal Institute of British Architects(RIBA). Architects who have made outstanding contributions to the profession through design excellence, contributions in the field of architectural education, or to the advancement of the profession are elected to the College of Fellows of the American Institute of Architects and are given the postnomial FAIA after their name. Other prestigious architectural awards are the Alvar Aalto Medal(Finland) and the Carlsberg Architecture Prize(Denmark).

Reading Material 2

Professional Requirements in English Countries

In Australia the title of architect is legally protected but architects are registered through state boards. These boards are affiliated through the Architects Accreditation Council of Australia(AACA). The Architect Registration also provides accreditation for schools and assessments for architects with overseas qualifications for the purposes of migration.

There are three key requirements for registration: a professional degree from a school of architecture accredited by the AACA; at least two years of practical experience, and; the completion of the architectural practice examination.

Architects may also belong to the Royal Australian Institute of Architects which is the

professional organization and members use the suffix RAIA after their name.

Most States have legislation which covers the use of the title "architect" and makes it an offence for abuses of the title. As this can vary, it is essential to check the relevant legislation applicable in each State.

In Canada, architects are required to meet three common requirements for registration: education, experience, and examination. Educational requirements generally consist of an M. Arch. degree and are certified by the Canadian Architectural Certification Board(CACB). For degreed candidates, the experience requirement is typically the Intern Architect Program(IAP). The provincial associations of architects, by the authority granted under their respective provincial Architects Act, require that Interns gain a minimum of 5600 hours of work experience. The fundamental purpose of the pre-registration/licensing employment period is to ensure that the Intern is provided with sufficient experience to meet the standards of practical skill and level of competence required to engage in the practice of architecture. This experience is diversified into four main categories and 16 sub-categories, and must be completed working under the direct supervision of a registered architect. At present, all jurisdictions use the Architect Registration Examination(ARE), a series of nine computerized exams administered by the National Council of Architectural Registration Boards(NCARB). As well, all jurisdictions except British Columbia recognize the Examination for Architects in Canada(ExAC), administered by the Pan Canadian ExAC Committee. Upon completion of the educational requirements, IAP, and examinations, one can apply for registration/license. An annual fee must be paid, and continuing education requirements met, in order to maintain a license to practice.

The Royal Architectural Institute of Canada(RAIC) was established in 1907 and is a voluntary national association representing more than 3600 architects and Faculty and graduates of accredited Canadian Schools of Architecture.[4] The RAIC aims to be "the voice of Architecture and its practice in Canada". Members are permitted to use the suffix MRAIC after their names. The suffix FRAIC(Fellow of the RAIC) is used by members of the RAIC College of Fellows. Not all members of the RAIC hold accredited degrees in architecture, and not all Canadian architects are members of the RAIC.

In Singapore, university study is required(such as the 5 year course of study at the National University of Singapore or certain approved foreign universities). Upon completion of university, additional training by working for a minimum of two years under a registered architect is required in order to become registered. Singaporean law governs the use of the term "architect" and prescribes the requirements to be listed in the Register of Architects. Membership in the Singapore Institute of Architects is a voluntary professional credential.

In the United Kingdom practicing under the name, style or title "architect" is restricted by law to those registered at the Architects Registration Board. It usually takes a minimum of seven years to obtain the necessary qualifications and experience for registration. Those wishing to become registered must first study at a recognized university-level school of architecture. Though there are some variations from university to university, the basic principle is that in

order to qualify as an architect a candidate must pass through three stages which are administered by the Royal Institute of British Architects:

- On completing an initial degree in architecture(usually 3 or 4 years, usually either a B. A, BSc, or B. Arch) the candidate receives exemption from RIBA Part I. There then follows a period of a minimum of one year which the candidate spends in an architect's office gaining work experience.
- The candidate must then complete a post-graduate university course, usually two years, to receive either a Post Graduate Diploma(Dip. Arch), Masters(M. Arch) or B (Arch). On completing that course, the candidate receives exemption from Part Ⅱ of the RIBA process.
- The candidate must then spend a further period of at least one year gaining experience before being allowed to take the RIBA Part Ⅲ examination in Professional Practice and Management.

In the United States, people wishing to become licensed architects are required to meet the requirements of their respective state. Each state has a registration board to oversee that state's licensure laws. In 1919, the National Council of Architectural Registration Boards(NCARB) was created to ensure parity between the states' often conflicting rules. The registration boards of each of the 50 states(and 5 territories), are NCARB member boards.

Requirements vary between jurisdictions, and there are three common requirements for registration: education, experience and examination. About half of the States require a professional degree from a school accredited by the National Architectural Accrediting Board(NAAB) to satisfy their education requirement; this would be either a B. Arch or M. Arch degree. The experience requirement for degreed candidates is typically the Intern Development Program (IDP), a joint program of NCARB and the American Institute of Architects(AIA). IDP creates a framework to identify for the intern architect base skills and core-competencies. The intern architect needs to earn 700 training units(TUs) diversified into 16 categories; each TU is equivalent to 8 hours of experience working under the direct supervision of a licensed Architect. The states that waive the degree requirement typically require a full 10 years experience in combination with the I. D. P divesification requirements before the candidate is eligible to sit for the examination. California requires C-IDP(Comprehensive Intern Development Program) which builds upon the seat time requirement of IDP with the need to document learning having occurred. All jurisdictions use the Architect Registration Examination(ARE), a series of nine computerized exams administered by NCARB. The NCARB also has a certification for those architects meeting NCARB's model standard: NAAB degree, IDP and ARE passage. This certificate facilitates reciprocity between the member boards should an architect desire registration in a different jurisdiction. All architects licensed by their respective states have professional status as Registered Architects(RA).

Depending on the policies of the registration board for the state in question, it is sometimes possible to become licensed as an Architect in other ways: reciprocal licensure for overseas architects and working under an architect as an intern for an extended period of time.

Professionals engaged in the design and supervision of construction projects prior to the 20th century were not necessarily trained in a separate architecture program in an academic setting. Instead, they usually carried the title of Master Builder, or surveyor, after serving a number of years as an apprentice(such as Sir Christopher Wren). The formal study of architecture in academic institutions played a pivotal role in the development of the profession as a whole, serving as a focal point for advances in architectural technology and theory.

Unit 2

Text: Classical Order

A classical order is one of the ancient styles of building design in the classical tradition, distinguished by their proportions and their characteristic profiles and details, but most quickly recognizable by the type of column and capital employed. Each style also has its proper entablature, consisting of architrave, frieze and cornice. From the sixteenth century onwards, theorists recognized five order.

Ranged in the engraving, from the stockiest and most primitive to the richest and most slender, they are: Tuscan(Roman) and Doric(Greek and Roman, illustrated here in its Roman version); Ionic(Greek version) and Ionic(Roman version); Corinthian(Greek and Roman) and composite(Roman).[1] The ancient and original orders of architecture are no more than three, the Doric, Ionic and Corinthian, which were invented by the Greeks. To these the Romans added two, the Tuscan, which they made simpler than the Doric, and the Composite, which was more ornamental than the Corinthian.

The *order* of a classical building is like the mode or *key* of classical music. It is established by certain *modules* like the *intervals* of music, and it raises certain expectations in an audience attuned to its language. The orders are like the *grammar* or *rhetoric* of a written composition.

Parts of a column A column is divided into a shaft, its base and its capital. In classical buildings the horizontal structure that is supported on the columns like a beam is called an *entablature*. The entablature is commonly divided into the architrave, the frieze and the cornice. To distinguish between the different Classical orders, the capital is used, having the most distinct characteristics.[2]

A complete column and entablature consist of a number of distinct parts. The *stylobate* is the flat pavement on which the columns are placed. Standing upon the stylobate is the *plinth*, a square block-sometimes circular-which forms the lowest part of the base. The remainder of the base may be given one or many moldings with profiles. Common examples are the convex *torus* and the concave *scotia*, separated by fillets or bands.

On top of the base, the *shaft* is placed vertically. The shaft is cylindrical in shape and both long and narrow. The shaft is sometimes articulated with vertical hollow grooves or *fluting*. The shaft is wider at the bottom than at the top, because its *entasis*, beginning a third of the way up, imperceptibly makes the column slightly more slender at the top.

The *capital* rests on the shaft. It has a load-bearing function, which concentrates the weight of the entablature on the supportive column, but it primarily serves an aesthetic purpose. The simplest form of the capital is the Doric, consisting of three parts. The *necking* is the continuation of the shaft, but is visually separated by one or many grooves. The *echinus*