

教育部大学英语教改示范点建设项目成果  
大学专业基础英语系列教材

总主编 © 蒙兴灿

# Architecture Basic English

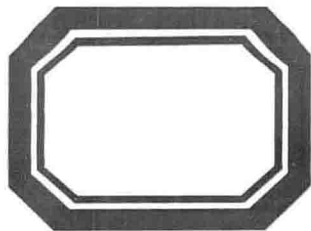
## 建工基础英语

► 主 编 马自奋 蒙兴灿  
► 副主编 周红燕 黄 翔 刘小林



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# 前言

## Preamble

《大学英语课程教学要求》指出：“将综合英语类、语言技能类、语言应用类、语言文化类和专业英语类等必修课程和选修课程有机结合，以确保不同层次的学生在英语应用能力方面得到充分的训练和提高；既要保证学生在整个大学期间的英语语言水平稳步提高，又要有利于学生个性化的学习，以满足他们各自不同专业的发展要求”。为适应新时期人才培养的需求，浙江理工大学依托教育部大学英语教学改革示范点建设项目，组织编写了本套大学专业英语系列教材。

本系列教材共6册，即《纺织基础英语》、《服装基础英语》、《机械基础英语》、《建工基础英语》、《商务基础英语》、《生物基础英语》。本系列教材在内容上突出基础性，强调专业性与应用性的有机结合，适合本科二、三、四年级非英语专业学生在完成基础英语学习之后作为专业英语教材使用，以了解和掌握本专业的相关英语术语及知识。

本册教材《建工基础英语》编写目的是以实际应用能力为本，全面提高学生的听、说、读、写、译技能，尤其是专业阅读能力。全书共分八个单元，内容涵盖建筑概述与建筑历史、建筑师及其作品、绿色与高科技建筑、城市规划、园林设计、土木工程、建筑环境与设备工程、建筑工程管理等。每单元由两部分构成，第一部分安排了非常丰富的视、听、说活动，第二部分提供的是三篇视点不同的文章，并配有多种形式的练习，所有练习紧扣主题和课文。

本书主要特色：

1. 选材广泛、语言真实。本书所选文章大都选自当代英美各大网络杂志、图书资料，内容真实，贴近学生专业学习及今后工作实际。通过学习，学生不但能积累丰富的有关建筑理论与设计、工程施工与管理方面的英语词汇和知识，而且能以英语为工具领略与分享世界建筑领域独特的艺术与文化。

2. 体裁多样、内容丰富。本书设计了多种形式的视、听、说、读、写、译等交互式教学活动，且活动内容信息多、容量大，融语言能力发展与专业知识学习为一体，确保学生通过参与各种活动锤炼和提高其实际语言运用能力，为高年级的专业英语学习夯实基础，也为人才现代化国际化做好准备。

承蒙浙江理工大学外国语学院、建筑工程学院和浙江大学出版社的大力支持以及教材编写组全体成员的精诚合作和辛勤劳动，本书得以顺利出版，谨此深表谢意。由于编者水平有限，本教材的不足和错误之处，敬请各位同仁批评指正。

编者

2012年6月

# 目 录

# Contents

Unit 1	Architecture .....	1
Passage 1	What Is Architecture? .....	4
Passage 2	Chinese Architecture .....	12
Passage 3	Greek Architecture .....	19
Unit 2	Architects and Their Works .....	25
Passage 1	Frank Lloyd Wright; the 20th Century's Greatest Architect .....	29
Passage 2	Liang Sicheng—Father of Modern Chinese Architecture .....	37
Passage 3	Design: Pei's Pyramid Perplexes Paris .....	43
Unit 3	Green & High-tech Architecture .....	48
Passage 1	Systematic Centre Pompidou .....	51
Passage 2	London's Most Eco-friendly Building .....	60
Passage 3	Watsonville Water Resources Center .....	69
Unit 4	Urban Planning and Design .....	76
Passage 1	Masdar City—a Glimpse of the Future in the Desert .....	79
Passage 2	Urban Design and Principles .....	86
Passage 3	Tianjin Eco-City .....	94
Unit 5	Landscape Design .....	102
Passage 1	Residential Landscape Design .....	104
Passage 2	Manhattan's Newest River .....	112
Passage 3	Louisiana Pavilion Wins International Innovation Award .....	119
Unit 6	Civil Engineering .....	126
Passage 1	Civil Engineering .....	130
Passage 2	Jack Chapman Obituary .....	139
Passage 3	Spanning the Centuries .....	144

Unit 7 Architectural Environment & Equipment Engineering	151
Passage 1 What LEED Measures	154
Passage 2 Center for Neighborhood Technology	163
Passage 3 Recycling Construction Debris	170
Unit 8 Construction Management	178
Passage 1 Construction Management Overview	180
Passage 2 Top 10 Qualities Of Effective Construction Managers	186
Passage 3 Construction Project Management Process	190
Glossary	195
New Words	195
Phrases and Expressions	215
Acknowledgements	217

# Unit 1

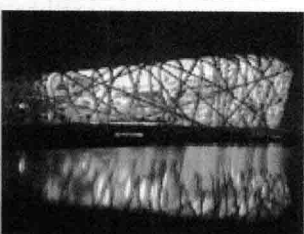
## Architecture

### PART ONE

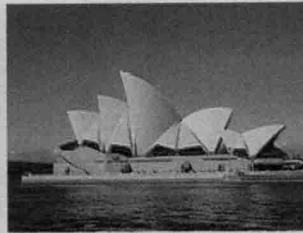
#### Warming-up Activities

1 Do you know the following famous buildings?

**Directions:** Here are pictures of some world famous buildings. Work in groups and talk about how these buildings amaze the world. You may use the words listed below the pictures.







Burj Dubai	Great Pyramid	Chicago Spire	Great Sphinx of Giza
Colosseum	Stonehenge	Eiffel Tower	Beijing National Stadium
Great Wall	Taj Mahal	Sydney Opera	Buij Al Arab Hotel Dubai

## 2 Learn about the history of architecture

### Step 1

**Directions:** You are going to watch a video about the History of Architecture. Read the following words carefully, which will help you to understand the video.

lavishly	慷慨地, 铺张地	monumental	纪念的, 不朽的
ceremonial	礼仪上的	pharaoh	法老
Parthenon	帕提农神庙	medieval	同 mediaeval, 中世纪的
sentiment	情绪, 情感	anonymity	匿名, 无名
spire	螺旋, 螺旋形上升	Renaissance	文艺复兴
girder	纵梁, 大梁	emblem	标志, 象征

### Step 2

**Directions:** Watch the video and decide whether the following statements are true or false. Put "T" for True on "F" for False in the following space provided.

- \_\_\_\_ 1. Shelters are the most important places for people.
- \_\_\_\_ 2. Today, homes are built in many styles and materials and are usually designed by artists and architects.
- \_\_\_\_ 3. Some of the greatest surviving examples of historical architecture are not monumental buildings but rather ordinary houses.
- \_\_\_\_ 4. The system of architectural proportion and decoration developed in Greece inspired later Roman building.
- \_\_\_\_ 5. Since Ancient times, special materials and organization of labour are needed for large public buildings.
- \_\_\_\_ 6. Skyscrapers have become the dominant structures in the center of almost each city in the world.
- \_\_\_\_ 7. The ground area surrounding buildings is often designed specially by landscape architects.
- \_\_\_\_ 8. Contemporary architects cannot stretch their imaginations freely in any direction.

## Step 3

**Directions:** Watch the video again and fill in the blanks with the exact words you hear.

1. People have always needed special places to \_\_\_\_\_ them from the weather, places for \_\_\_\_\_ and eating, places for \_\_\_\_\_ and safety.
2. The first shelters were caves, our homes built with available \_\_\_\_\_ like tree branches, animal skins or even \_\_\_\_\_.
3. As cultures became more sophisticated, spaces were \_\_\_\_\_ into different rooms, each one having a \_\_\_\_\_.
4. The \_\_\_\_\_ of Egypt were tombs built for the pharaohs and housed the soul and its belongings on a journey into the \_\_\_\_\_.
5. The ancient Greeks built public arenas for art and temples, like the Parthenon in Athens to \_\_\_\_\_ and to provide a place of \_\_\_\_\_.
6. In renaissance cathedrals, domes tended to \_\_\_\_\_ the spires of \_\_\_\_\_.
7. Churches, art galleries and performing arts halls provide the architect with a(n) \_\_\_\_\_ to stretch \_\_\_\_\_.
8. Since the \_\_\_\_\_ in modern's towers, many traditional styles of design from around the world have been brought together in the architecture of \_\_\_\_\_.

## 3 A Special Architecture Exhibit

**Directions:** Listen to the following piece of news Some of World's Most Famous Buildings, All in One Museum and decide whether the following statements are true or false. Put "T" for True or "F" for False in the space provided and fill in the blanks.

- \_\_\_\_\_ 1. The exhibit is called "LEGO Architecture: Towering Ambition".
- \_\_\_\_\_ 2. Only in American Lego bricks are popular with children of all ages.
- \_\_\_\_\_ 3. Adam Reed Tucker was a professional architect for ten years.
- \_\_\_\_\_ 4. Adam Reed Tucker has recreated fifty of world's most famous buildings using Lego bricks.
- \_\_\_\_\_ 5. Adam Reed Tucker calls himself an "architectural artist".
- \_\_\_\_\_ 6. The buildings in the exhibit include the World Trade Center in New York that was rebuilt after the terrorist attacks.
- \_\_\_\_\_ 7. To many people, Lego bricks might seem like toys for kids, but to Adam Reed Tucker they can inspire a person's imagination.
- \_\_\_\_\_ 8. After walking through Tucker's models, visitors can create their own works at the building station.
- \_\_\_\_\_ 9. In this special exhibit Adam Reed Tucker expressed his hid feelings for the form of the tower buildings.
- \_\_\_\_\_ 10. Most visitors think that the models Adam Reed Tucker made seem like a perfect rendition of the actual buildings.

## PART TWO

### Reading Activities

#### Passage 1 What Is Architecture?

Architecture is the art of building in which human requirements and construction materials are related so as to furnish practical use as well as an aesthetic solution, thus differing from the pure utility of engineering construction.

Architecture can be a structure, a residence, a bridge, a church and a group of buildings.

As an art, architecture is essentially abstract and nonrepresentational and involves the manipulation of the relationships of spaces, volumes, planes, masses, and voids.

Some buildings are so beautiful or interesting that they become famous artworks.

Architects use shape, form, color and other art elements and principles to design buildings. Architects design buildings with different styles. You can tell a lot by looking at the building's style!

Time is also an important factor in architecture, since a building is usually comprehended in a succession of experiences rather than all at once. In most architecture there is no one vantage point from which the whole structure can be understood. The use of light and shadow, as well as surface decoration, can greatly enhance a structure.

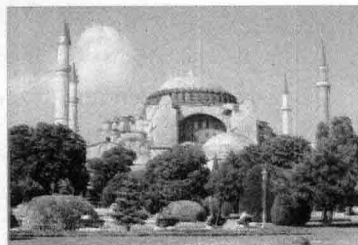
The analysis of building types provides an insight into past cultures and eras. Behind each of the greater styles lies not a casual trend nor a vogue, but a period of serious and urgent experimentation directed toward answering the needs of a specific way of life. Climate, methods of labor, available materials, and economy all impose their dictates. Each of the greater styles has been aided by the discovery of new construction methods. Once developed, a method survives tenaciously, giving way only when social changes or new building techniques have reduced it. That evolutionary process is exemplified by the history of modern architecture, which developed from the first uses of structural iron and steel in the mid-19th century.

Until the 20th century there were three great developments in architectural construction—the post-and-lintel, or trabeated system; the arch system, either the cohesive type, employing plastic materials hardening into a homogeneous mass, or the thrust type, in which the loads are received and counterbalanced at definite points; and the modern steel-skeleton system.

In Egyptian architecture, to which some of the earliest extant structures to be called architecture (erected by the Egyptians before 3000) belong, the post-and-lintel system was employed exclusively and produced the earliest stone columnar buildings in history. The architecture of Western Asia from the same era employed the same system; however, arched

construction was also known and used. The Chaldeans and Assyrians, dependent upon clay as their chief material, built vaulted roofs of damp mud bricks that adhered to form a solid shell.

The Romans and the early Christians also used the wooden truss for roofing the wide spans of their basilica halls. Byzantine architects experimented with new principles and developed the pendentive, used brilliantly in the 6th century for the Church of Hagia Sophia<sup>1</sup> in Constantinople.



The Romanesque Architecture<sup>2</sup> of the early Middle Ages was notable for strong simple massive forms and vaults executed in cut stone. In Lombard Romanesque (11th century) the Byzantine concentration of vault thrusts was improved by the device of ribs and piers to support them. In the 13th century Gothic Architecture<sup>3</sup> emerged in perfected form, as in the Amiens and Chartres Cathedrals.

The birth of Renaissance Architecture<sup>4</sup> (15th century) inaugurated a period of several hundred years in Western architecture during which the multiple and complex buildings of the modern world began to emerge, while at the same time no new and compelling structural conceptions appeared. The complex, highly decorated Baroque Style<sup>5</sup> was the chief manifestation of the 17th century architectural aesthetic. The Georgian Style<sup>6</sup> was among architecture's notable 18th century expressions. The first half of the 19th century was given over to the classic revival and the Gothic revival.

The architects of the later 19th century found themselves in a world being reshaped by science, industry, and speed. A new eclecticism arose, such as the architecture based on the Ecole des Beaux-Arts<sup>7</sup>, and what is commonly called Victorian Architecture<sup>8</sup> in Britain and the United States. The needs of a new society pressed them, while steel, reinforced concrete, and electricity were among the many new technical means at their disposal.

After more than a half-century of assimilation and experimentation, modern architecture, often called the International style, produced an astonishing variety of daring and original buildings, often steel substructures sheathed in glass. The Bauhaus<sup>10</sup> was a strong influence on modern architecture. As the line between architecture and engineering became a shadow, 20th century architecture often approached engineering. More recently, postmodern architecture, which exploits and expands the technical innovations of modernism while often incorporating stylistic elements from other architectural styles or periods, has become an international movement.

(758 words)

## Proper Names

Constantinople /ˌkɒnstəntɪˈnəʊpl/ *n.* 君士坦丁堡(土耳其城市, 现称 Istanbul)

Chaldean /kælˈdiːən/ *n.* 迦勒底人

*adj.* 迦勒底人的

Assyrian /ə'sɪriən/ *n.* 亚述人; 亚述语

*adj.* 亚述的; 亚述人的; 亚述语的; 亚述文化的

Amiens and Chartres Cathedrals 亚眠和夏特尔多大教堂

Byzantine /bɪ'zæntaɪn; bɪzəntaɪn/ *adj.* 拜占庭式的; 东罗马帝国的

*n.* 拜占庭人, 拜占庭派的建筑师

## New Words

aesthetic /i:s'θetɪk/ *adj.* 美的; 美学的; 审美的, 具有审美趣味的

arch /ɑ:tʃ/ *n.* 弓 (或拱) 形结构; 拱桥, 拱顶; 类似弓形结构的建筑 (如纪念碑)

assimilation /ə,sɪmɪ'leɪʃən/ *n.* 吸收; 同化

basilica /bə'zɪlɪkə/ *n.* “巴西利卡”, 早期基督教堂的形式, 也指“会堂”

cohesive /kəu'hi:sɪv/ *adj.* 有黏着力的, 有聚和性的; 紧密结合的; 内聚性的

compelling /kəm'pelɪŋ/ *adj.* 引人注目的; 强制的; 激发兴趣的

dictate /dɪk'tet, 'dɪkter/ *vt.* 命令; 口述; 使听写

*vi.* 口述; 听写

*n.* 命令; 指示

exemplify /ɪg'zemplɪfaɪ/ *vt.* 例证; 例示

extant /ek'stænt; 'ekstənt/ *adj.* 现存的, 未丢失的; 未毁的; 未废的

evolutionary /i:və'lʊ:ʃənəri/ *adj.* 进化的; 发展的; 渐进的

furnish /'fɜ:nɪʃ/ *vt.* 提供; 供应; 装备

homogeneous /həmə'dʒi:nɪəs/ *adj.* 同种类的, 同性质的; 均匀的, 均质的

inaugurate /ɪ'nə:gjʊreɪt/ *vt.* 创新, 开辟, 开创

manipulation /mə'nɪpjʊ'leɪʃən/ *n.* 操纵; 操作; 处理; 篡改

manifestation /mænɪfe'steɪʃən/ *n.* 表现; 显示; 示威运动; 表现形式

nonrepresentational /nonreprɪzen'teɪʃənəl/ *adj.* 抽象的; 非写实的

pendentive /pen'dentɪv/ *n.* 帆拱, 穹隅 (圆屋顶过渡到支柱之间的渐变曲面)

sheathed /ʃi:θt/ *adj.* 覆盖的; 封装的; 装有护套的

*v.* 使入鞘; 为……备鞘; 覆盖 (sheathe 的过去分词)

trabeated /'treɪbreɪtɪd/ *adj.* 柱顶横檐梁式的; 有横梁的

tenaciously /tɪ'neiʃəsli/ *adv.* 坚持地

utility /ju:'tɪlətɪ/ *n.* 实用; 效用; 公共设施; 功用

*adj.* 实用的; 通用的; 有多种用途的

vantage /'vɑ:ntɪdʒ/ *n.* 优势; 有利情况

vault /vɔ:lt/ *n.* 拱顶; 穹隆; 拱顶室; (尤指) 地下拱顶室

vogue /vəʊg/ *n.* 时尚; 流行, 时髦

*adj.* 时髦的, 流行的

volume /'vɒljʊ:m/ *n.* 量; 体积; 卷; 音量; 大量; 册

## Phrases and Expressions

adhere to...	遵守; 坚持; 固执; 墨守
a succession of	一连串; 一系列
at one's disposal	由……支配、处置
give way	让路; 撤退; 倒塌; 失去控制

## Notes

1. The Church of Hagia Sophia (literally “Holy Wisdom”) in Constantinople, now Istanbul, is the most beautiful Christian Church in the World from Byzantine Times. Today Hagia Sophia is a museum, honoring both the Christian and Muslim religions.
2. Romanesque Architecture is an architectural style of Medieval Europe, characterized by semi-circular arches, and evolving into the Gothic style, characterized by pointed arches, beginning in the 12th century.
3. Gothic Architecture, originating in 12th century France and lasting into the 16th century, is a style of architecture that flourished during the high and late medieval period. It evolved from Romanesque architecture and was succeeded by Renaissance architecture.
4. Renaissance Architecture is the architecture of the period between the early 15th and early 17th centuries in different regions of Europe, demonstrating a conscious revival and development of certain elements of ancient Greek and Roman thought and material culture.
5. Baroque style is a kind of Architecture style rich in ornament, evolved out of Renaissance architecture in Italy in the 1600's when the architects began to make curving facades and used the double curve on many different buildings. Marble, gilt and bronze were the materials the Baroque architects used in abundance. Oval was the most distinct shape of the Baroque style and was a very common shape among the Baroque buildings.
6. Georgian style was named after the English Kings George I, II, & III whose ruling periods were from 1714–1820. Building during this period closely adheres to English precedents, which were made accessible through printed books on architecture. The Georgian style was relatively homogeneous from Maine.
7. Ecole des Beaux-Arts refers to a number of influential art schools in France. The most famous is the École nationale supérieure des Beaux-Arts, now located on the left bank in Paris, across the Seine from the Louvre, in the 6th arrondissement. The school has a history spanning more than 350 years, training many of the great artists in Europe. Beaux Arts style was modeled on classical “antiquities,” preserving these idealized forms and passing the style on to future generations.
8. Victorian Architecture is a style of architecture used in England during the reign of Queen Victoria (1837–1901) ; characterized by massive construction and elaborate ornamentation.



9. Bauhaus is the famous German school of design that had inestimable influence on modern architecture, the industrial and graphic arts, and theater design. It was founded in 1919 by the architect Walter Gropius in Weimar as a merger of an art academy and an arts and crafts school. The Bauhaus was based on the principles of the 19th century English designer William Morris and the Arts and Crafts movement that art should meet the needs of society and that no distinction should be made between fine arts and practical crafts.

## Post-Reading Exercises

### ● Reading Comprehension

#### 1. Group Discussion

**Directions:** Work in small groups to answer the following questions.

- 1) What is architecture?
- 2) How do the architects design buildings?
- 3) What were the three great developments in architectural construction?
- 4) Do you think modern architecture tends to be internationalized? Why?

**2. Directions:** Decide whether the following statements are true or false. Put "T" for True or "F" for False in the space provided. Read the following paragraph and then discuss the following questions in small groups.

- \_\_\_ 1) Architecture can furnish practical use as well as an aesthetic solution,
- \_\_\_ 2) As an art, architecture involves skillful use of spaces, volumes, planes, masses, and voids.
- \_\_\_ 3) Some buildings become famous artworks because of the influence of the architects.
- \_\_\_ 4) Architects design buildings by using shape, form, color and other art elements and principles with same styles.
- \_\_\_ 5) A building is usually comprehended from beginning to completion.
- \_\_\_ 6) Each of the greater styles has been replaced by the discovery of new construction methods.
- \_\_\_ 7) The post-and-lintel system was employed exclusively in Egyptian architecture.
- \_\_\_ 8) Byzantine architects used the pendentive brilliantly for the Church of Hagia Sophia in Constantinople.
- \_\_\_ 9) Gothic architecture emerged in perfected form after the 13th century.
- \_\_\_ 10) Postmodern architecture often incorporating stylistic elements from other architectural styles or periods, has become an international movement.

## ● Vocabulary

**1. Directions:** Complete each of the following sentences with the suitable words or phrases from the box. Change the form if necessary.

furnish	involve	influence	notable	exemplify
disposal	insight	enhance	employ	a succession of
differ...from		give...way		

- 1) Right now, the only thing the company cares about is efficient waste \_\_\_\_\_ and higher profits.
- 2) His speech gave us an \_\_\_\_\_ into the problems of education
- 3) The expectations and pressures on athletes \_\_\_\_\_ school to school and sport to sport.
- 4) The Romanesque architecture of the early Middle Ages was \_\_\_\_\_ for strong simple massive forms and vaults executed in cut stone.
- 5) Although isolated from British and American friends, he continued to have great \_\_\_\_\_ on young poets.
- 6) Once developed, a method survives tenaciously, \_\_\_\_\_ only when social changes or new building techniques have reduced it.
- 7) That evolutionary process is \_\_\_\_\_ by the history of modern architecture,
- 8) A building is usually comprehended in \_\_\_\_\_ experiences rather than all at once.
- 9) The use of light and shadow, as well as surface decoration, can greatly \_\_\_\_\_ a structure.
- 10) The first half of the 19th century was \_\_\_\_\_ to the classic revival and the Gothic revival.
- 11) Big building projects will \_\_\_\_\_ lots of people who will spend their wages in the rest of the economy.
- 12) I thought it right to \_\_\_\_\_ the fullest explanations to our sister Government.

**2. Directions:** The following words can be used both as nouns and verbs or adjectives. Complete each of the sentences with correct form of the word given.

- 1) experiment
  - a. That, together with the city's wealth, makes it a good place to \_\_\_\_\_.
  - b. Brian, Jenny and Danny are talking about their \_\_\_\_\_.
- 2) vogue
  - a. A new \_\_\_\_\_ in caps seemed to have set in.
  - b. The \_\_\_\_\_ street, how to get the skateboard less a boy a nimble figure!
- 3) design
  - a. Architects \_\_\_\_\_ buildings with different styles.
  - b. If this is the American \_\_\_\_\_, it seems doomed to fail.
- 4) abstract
  - a. As an art, architecture is essentially \_\_\_\_\_ and nonrepresentational.
  - b. The idea is not to encourage "virtue" in the \_\_\_\_\_, just to divert more household waste to recycling bins.



5) experience

- a. All children will \_\_\_\_\_ fun and excitement in learning and growing up.
- b. A building is usually comprehended in a succession of \_\_\_\_\_ rather than all at once.

6) load

- a. The footman and two porters began to \_\_\_\_\_ luggage onto the carriage.
- b. Dragging the \_\_\_\_\_ uphill was tough work for the horse.

7) shape

- a. The architects of the 19th century found themselves in a world being \_\_\_\_\_ by science, industry, and speed.
- b. Architects use \_\_\_\_\_, form, color and other art elements and principles to design buildings.

8) roof

- a. After six hours on the \_\_\_\_\_, the gunman surrendered to the police.
- b. The Romans and the early Christians used the wooden truss for \_\_\_\_\_ the wide spans of their basilica halls.

9) influence

- a. He now thinks this \_\_\_\_\_ was baleful.
- b. These considerations ought not to \_\_\_\_\_ the legislation.

10) counterbalance

- a. By this electric repulsion and attraction he was able to \_\_\_\_\_ the influence of gravity.
- b. His wife's calm nature act as a \_\_\_\_\_ to his excitability.

● Translation

**Directions:** Translate the following paragraphs from English to Chinese.

- 1) Architecture is the art of building in which human requirements and construction materials are related so as to furnish practical use as well as an aesthetic solution, thus differing from the pure utility of engineering construction.

\_\_\_\_\_

\_\_\_\_\_

Architecture can be a structure, a residence, a bridge, a church and a group of buildings.

\_\_\_\_\_

\_\_\_\_\_

As an art, architecture is essentially abstract and nonrepresentational and involves the manipulation of the relationships of spaces, volumes, planes, masses, and voids.

\_\_\_\_\_

\_\_\_\_\_