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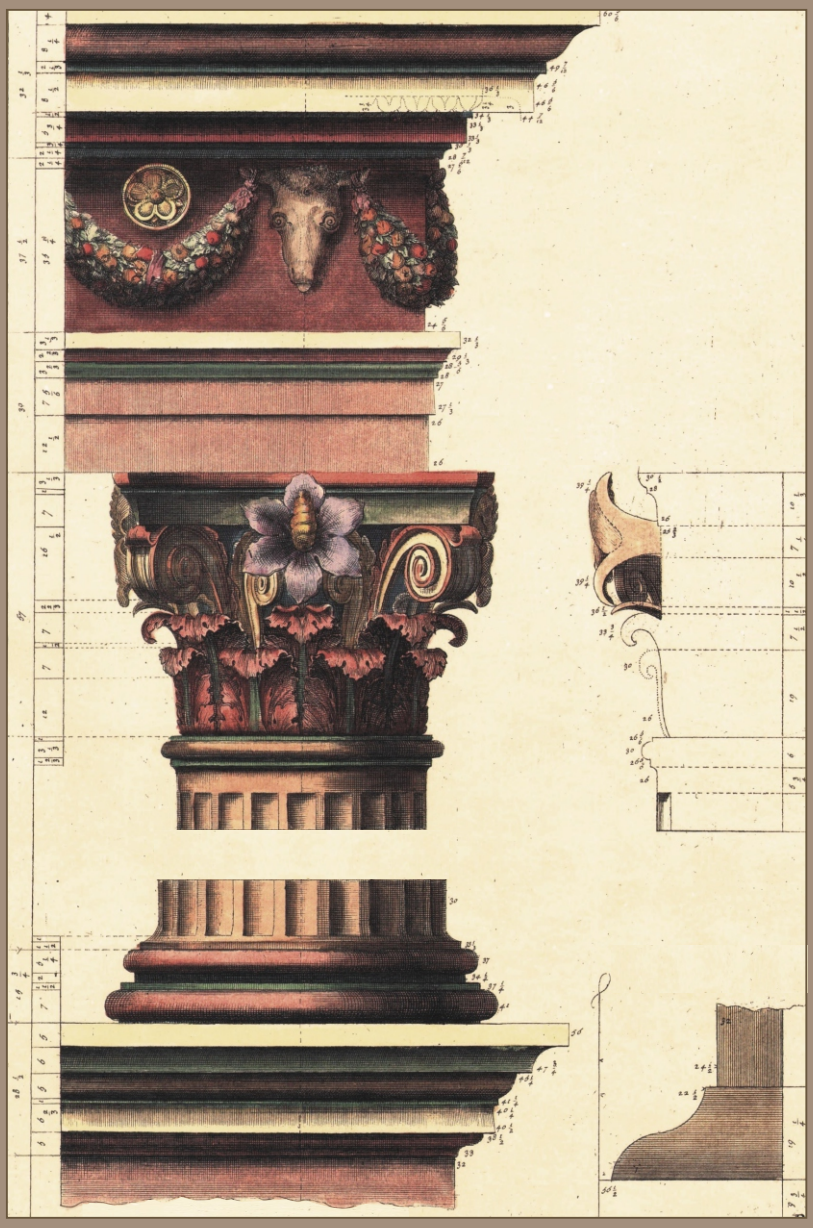

PROFESSIONAL ENGLISH IN USE:
ARCHITECTURE
Part 1

Министерство образования и науки Российской Федерации
Казанский государственный архитектурно-строительный университет

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PROFESSIONAL ENGLISH IN USE: ARCHITECTURE

Part 1

Учебное пособие для студентов архитектурно-строительных вузов

Казань
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Учебное пособие предназначено для студентов архитектурно-строительных вузов, изучающих английский язык. Пособие составлено в соответствии с программой курса «Иностранный язык», основная цель – освоение студентами терминологии, связанной с теорией и историей архитектуры, а также формирование у них умения использовать языковой материал в профессиональном общении со специалистами.

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INTRODUCTION

ВВЕДЕНИЕ

Настоящее учебное пособие предназначено авторами для студентов младших курсов архитектурных, инженерно-архитектурных и дизайнерских специальностей, изучающих английский язык. Предлагаемое учебное пособие может быть использовано не только студентами архитектурных вузов, но также всеми, кто интересуется архитектурой, имеет желание читать специальную литературу на английском языке в оригинале и профессионально общаться на архитектурные темы.

Учебное пособие представляет собой серию «Professional English in Use: Architecture», включающую в себя 3 части. Предлагаемая вниманию читателя «Professional English in Use: Architecture. Part 1» посвящена изучению вопросов теории и истории архитектуры.

Учебное пособие составлено в соответствии с основными требованиями дисциплины «Иностранный язык», которая является базовой дисциплиной гуманитарного, социального и экономического цикла образовательных программ по ФГОС-3, и предполагает продолжение обучения студентов английскому языку, опираясь на знания, приобретенные учащимися в средней школе.

- **Главными целями учебного пособия являются – формирование коммуникативной компетенции, то есть способности осуществлять общение на английском языке в рамках специальной (архитектурной) тематики, обучение различным видам чтения оригинальной литературы по специальности, а также подготовка к реферированию и аннотированию.**

Для достижения поставленных в целей авторы в своем пособии постарались решить следующие задачи:

– обучить студентов практическому владению английским языком по архитектурному направлению подготовки для активного использования полученных ими знаний в профессиональном общении со специалистами в области архитектуры, проектирования и строительства;

– сформировать и развить у учащихся навыки публичной речи перед аудиторией (сообщение, доклад, интервью, презентация, диалог, дискуссия, защита проекта) в рамках специальности;

– ознакомить студентов с основами реферирования, аннотирования и перевода специальной литературы по профилю;

– выработать у студентов умение работать с информацией на английском языке на профессиональные темы, способность критически ее осмысливать и высказывать свое мнение;

– способствовать освоению студентами терминологии на английском языке, связанной с теорией и историей архитектуры;

– ознакомить студентов с историей архитектуры, основными архитектурными стилями, наиболее известными архитекторами и памятниками архитектуры на английском языке.

- **Структура учебного пособия** включает в себя восемь уроков-тем (Units), которые тематически соотносятся с основными периодами развития европейской и мировой исторической архитектуры.

1 – Предыстория (архитектуры).

2 – Архитектура Древнего Египта.

3 – Архитектура Древней Греции.

4 – Архитектура Древнего Рима.

5 – Романская архитектура.

6 – Готическая архитектура.

7 – Архитектура Ренессанса.

8 – Архитектура барокко.

Каждый урок-тема состоит из следующих разделов, которые соответствуют основным видам речевой деятельности:

– грамматический практикум – «Grammar review»;

– чтение на английском языке – «Reading»;

– разговорный практикум – «Speaking»;

– переводческий практикум – «Translating».

Также каждый урок-тема содержит серию упражнений – «Exercises», размещенную в контексте выше перечисленных практикумов, а также задания, которые предполагают взаимосвязанное развитие всех умений: чтения, слушания, говорения, что характерно для языкового общения в реальной жизни и которые направлены на активизацию данного вида языковой деятельности.

- **Грамматический практикум** («Grammar Review») включает в себя следующие грамматические темы.

1. Глагол *to be*.
2. Глагол *to have*.
3. Оборот *there + to be*.
4. Степени сравнения прилагательных.

5. Времена группы *Indefinite Active*.
6. Времена группы *Indefinite Passive*.
7. Времена группы *Continuous.*
8. Модальные глаголы и их эквиваленты.

В каждом грамматическом разделе даны пояснительные таблицы того или иного грамматического явления с последующими упражнениями, которые построены на лексическом материале, подлежащем активному усвоению.

- **Чтение** («Reading») представлено в виде двух основных текстов: текста А и текста В, которые должны быть проработаны, что предполагает точное и полное их понимание. Перед текстами даются различные задания: задание на поиск и определение (оглавление) основных частей текста, что постепенно готовит их к аннотации и реферированию; задание на поиск ключевых слов, что имитирует реальную ситуацию, когда необходимо их определение при подготовке доклада или статьи; задание к каждому абзацу в виде незаконченного предложения, предполагающего продолжение основной мысли данного абзаца, что ведет, в конечном итоге, к неподготовленному монологическому высказыванию.

Помимо развития умений чтения на основе базовых текстов, в каждом уроке есть тексты, описывающие тот или иной период времени, а так же рубрика «Facts in Brief», где студенты знакомятся с кратко изложенными интересными фактами или событиями изучаемой эпохи.

- **Разговорный практикум** («Speaking») представляет собой упражнения на развитие умений подготовленного монологического высказывания по теме; упражнения по диалогической речи (Pairwork); задания на формирование умений выражать собственное мнение, одобрение или неодобрение чужих высказываний; упражнения на ведение дискуссий с партнерами и презентации, которая дает возможность использовать сформированные навыки и умения: говорения, слушания и чтения.
- **Переводческий практикум** («Translating») являет собой тексты на английском и русском языках, предназначенные для перевода.

Работа над архитектурными терминами начинается с их введения (Vocabulary), которые даются после текстов А и В, закрепляются и активизируются в упражнениях: подстановка слов и словосочетаний, поиск ответов на вопросы перед текстом, распознавание синонимов или антонимов, образование и перевод словосочетаний, «состыковка» вопросов с ответами и т.п. Архитектурные термины изучаются и запоминаются с помощью использования визуального компонента – цветных иллюстраций (картинок, схем, фотографий). В каждом уроке-теме даются иллюстрации, которые позволяют почувствовать среду той или иной эпохи, снижают монотонность

обучения, а качественное цветное иллюстрирование архитектурных терминов способствуют их наглядности и облегчает запоминание.

Особое внимание уделяется расширению терминологического словаря. Одним из творческих заданий настоящего учебного пособия, которое проходит через всю структуру пособия в процессе изучения его в течение всего семестра, является формирование студентами своего собственного электронного архитектурного терминологического англо-русского словаря с авторскими иллюстрациями.

По окончании изучения пособия предполагается раскрытие содержания словаря и его сдача студентами в форме презентаций. Кроме того, этот словарь даст возможность всем студентам принять участие в конкурсе на лучший архитектурный словарь по завершению работы над пособием.

Далее в учебное пособие включены приложения Appendix «A» и Appendix «B».

В приложении Appendix «A», размещенном на стр. 101–116, представлены тексты по основным урокам-темам, которые содержат дополнительную информацию по архитектуре соответствующих исторических периодов. Эти тексты предназначены как для переводов, так и для использования в подготовке сообщений, бесед, презентаций.

В содержание приложения «B», размещенного на стр. 117–121, включены контрольные задания по английскому языку, основанные на архитектурной лексике терминологического характера. Контрольные задания сформированы последовательно в соответствии с логикой изложения материала в уроках-темах.

В заключение, авторы выражают благодарность авторам рецензий, изучившим работу, и давшим ценные замечания, которые оказали самое положительное влияние на качество пособия; а также всем сотрудникам КГАСУ, оказавшим содействие в разработке и публикации учебного пособия.

А более всего авторы надеются, что их труд окажется полезным для своей целевой аудитории, для студентов-архитекторов, в освоении особенностей и тонкостей **профессионального английского языка** в области истории архитектуры, проектирования и строительства.

UNIT 1

PREHISTORY OF ARCHITECTURE

1.1. GRAMMAR REVIEW

- **Глагол *to be* в Indefinite Active.**

Present	Past	Future
am (I) I **am** an architect. **is** (he, she, it) He **is** an architect. **are** (we, you, they) They **are** architects.	**was** (ед.ч.) She **was** an architect. **were** (мн.ч.) We **were** architects.	**shall be** (1-е л.) I **shall be** an architect. **will be** You **will be** an architect.

- **Put the verb *to be* in the appropriate form:**

1. The Stone Age ..… a period of progress of the human technology.
2. The Neolithic people in the Syria, northern Mesopotamia and Central Asia ….. great builders.
3. Houses ….. plastered and then painted with elaborate scenes of humans and animals.
4. Brick ..… the main material used for the construction.
5. Elaborate tomb for the dead ….. example of Neolithic architecture.
6. Stonehenge ….. obviously an important site in the religious observances of the Bronze Age culture.
7. The roof of each room ….. conical structure of branches and mud.
8. Jericho ..… the earliest known town.

- **Choose the correct answer:**

1. Early Neolithic houses ….. huts.
   a) was **b) am** **c) were**
2. Water ….. vital to the lifestyle of the ancient people.
   a) is **b) not to be** **c) was**
3. The major prehistoric monuments ….. in Britain.
   a) will be **b) was** **c) are**
4. Henges ..… a form of religious and ceremonial gathering place.
   a) will be **b) isn't** **c) are**

5. The best preserved and perhaps the most archaeologically important camp ..… Windmill Hill in England.
a) aren't **b) to be** **c) is**

6. The tombs ..… centers of religious activity focusing on a cult of the dead.
a) were **b) was** **c) is**

7. The most visitable stone circles ..… Rollright Stones in Britain.
a) was **b) is** **c) are**

1.2. READING

- **Read the brief description of prehistoric period:**

NEOLITHIC ARCHITECTURE 9500 B.C.

Also known as The New Stone Age, dated beginning about 9500 B.C. (до нашей эры) in the Middle East, it was a period of progress of the human technology.

Pottery (керамика) was first introduced in this age, as well as the development of tools for hunting, building and cooking. The Neolithic people in Syria, northern Mesopotamia and Central Asia were great builders, utilizing mud-brick (кирпич из ила) to construct houses and villages. Houses were plastered (штукатурить) and then painted with elaborate scenes of humans and animals.

The Mediterranean Neolithic cultures of Malta worshiped (поклоняться) in megalithic temples. Elaborate tombs (могилы) for the dead were also built. These tombs are particularly numerous in Ireland, where there are many thousand of them still in existence. This period shows the start of human civilizations, spiritual beliefs, and the human ambition to make life easier.

- **Read the text and give the headline to each paragraph:**

TEXT A

FROM ROUND HOUSES TO STRAIGHT WALLS: 8000–6500 B.C.
(abridged from «Prehistoric Britain» by David Ross)

Once human beings settle down to the business of agriculture, instead of hunting and gathering, permanent settlements became a factor of life. The history of architecture can begin. The **tent-like** structures of early times evolve now into **round** houses. Jericho is usually quoted as the earliest known town. A small settlement here evolves in about 8000 B.C. into a town covering 10 acres. And the builders of Jericho have a new technology - brick, shaped from mud and baked hard in the sun. Keeping with a circular tradition, each brick is curved on its outer edge.

Most of the round houses in Jericho consist of a single room, but a few have as many as three rooms, which show the arrival of the social and economic distinctions which have been a

feature of all developed societies. The floor of each house is excavated some way down into the ground; then both the floor and the brick walls are plastered in mud. The roof of each room is a **conical** structure of branches and mud.

The round tent-like houses reach a more complete form in Khirokitia[1], a settlement of about 6500 B.C. in Cyprus[2]. Most of the rooms here have a **dome-like** roof in corbelled stone (зубчатый камень) or brick. One step up from outside, to keep out the rain, leads to several steps down into each room; seats and storage spaces are shaped into walls; and in at least one house there is a ladder to an upper sleeping platform. And there is another striking innovation at Khirokitia. A paved road runs through the village, with paths leading off to the courtyards around which the houses are built.

The round house has remained a traditional shape. Buildings very similar to those in Khirokitia are still lived in today southern Italy, where they are known as *trully*. Whether it is a mud hut with a thatched roof in tribal Africa, or an igloo[3] of the Eskimo[4], the **circle** remains the obvious form in which to build a roofed house from the majority of natural materials. But **straight lines and rectangles** have proved of more practical use.

One of the best preserved Neolithic towns is Catal Huyuk[5], covering some 32 acres in southern Turkey. Here the houses are **rectangular**, with windows but no doors. They adjoin each other, like cells in the honeycomb[6], and entrance to each is through the roof. Each house projects a little above its neighbour, providing space for the window. In a walled village or town, on a flat site, windows require the introduction of lanes and courtyards. They too will become standard features in most human settlements.

Notes to the text:

[1] **Khirokitia –** поселение на Кипре; археологический объект, включенный в список культурного и природного наследия ЮНЕСКО.

[2] **Cyprus –** Кипр.

[3] **An igloo** – иглу, зимнее жилище эскимосов.

[4] **Eskimo** – народ, который составляет коренное население территории от Гренландии до Аляски (США).

[5] **Catal Huyuk** – Чатал-Хююк, поселение эпохи неолита.

[6] **honeycomb –** соты.

VOCABULARY

to adjoin – примыкать
architecture – архитектура
to bake – обжигать
to build – строить
business – дело
brick – кирпич
cell – ячейка
circular – круглый
conical – конический
courtyard – двор
to curve – вырезать
dome – купол
edge – край
to evolve – развиваться
to excavate – выкапывать
feature – особенность
flat – плоский
lane – проход, дорожка
mud – грязь, ил
to pave – мостить
to plaster – штукатурить
rectangle – прямоугольник
road – дорога
roof – крыша
round – круглый
settlement – поселение

shape – форма
to shape – формировать, создавать
similar – похожий
single – единственный
straight – прямой
structure – постройка
thatched roof – соломенная или тростниковая крыша

1.3. EXERCISES

- **Insert English words instead of Russian ones:**

1. A small (поселение) evolves into a big town.
2. Most of the (круглые) houses consist of a single room.
3. The brick walls are plastered in (ил).
4. The roof of each room is (коническая) structure of branches and mud.
5. Most of the rooms have a (купол)-like roof in corbelled stone or brick.
6. The round house has remained a traditional (форма).
7. There were mud huts with a (тростниковая крыша) in tribal Africa.
8. (Прямые) lines and (прямоугольники) have proved of practical use.

- **Replace the underlined words (A) by their contextual synonyms (B):**

(A)

1. Most of the round houses consisted of a single room.
2. The social and economic distinctions have been features of all developed societies.
3. The builders had a new technology – brick, shaped from mud and baked hard in the sun.
4. The tent-like structures of early times evolve into round houses.
5. Each brick is curved on its outer edge.
6. In geometry there are many different shapes.

(B)

develop, circular, characteristics, forms, end, burned

- **Using the vocabulary:**

- give English equivalents to the following:

большое поселение, соломенная крыша, обжигать кирпич, похожие черты, круглый купол, плоская форма, прямая линия, маленький прямоугольник, выкапывать фундамент, штукатурить стену, мостить дорогу, коническая фигура.

- give Russian equivalents to the following:

to be plastered in mud, straight shape, round structure, gold dome, conical roof, ancient settlement, to be evolved into a big city, similar examples, round edge, to be baked in the sun, a paved road, circular form, to be covered with thatched roof, big rectangle, flat surface.

- **Comprehension.**
  Are the following statements concerning the Text A true or false?

		True	False
1	The tent-like structures of early times evolve into square houses.		
2	The builders of Jericho have a new technology - brick, shaped from mud and burnt hard in the sun.		
3	The roof of each room is a cylindrical structure of branches and mud.		
4	The round tent-like houses reach a more complete form in a settlement in Cyprus.		
5	Most of the rooms here have an egg-like roof in corbelled stone or brick.		
6	Seats and storage spaces are shaped into walls.		
7	There was a mud hut with a thatched roof in tribal Africa.		
8	In Catal Huyuk the houses are rectangular, without windows.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Did the history of architecture begin with permanent settlements?
2. Is Jericho quoted as the latest known town?
3. Is the floor of each house excavated some way down into the ground?
4. Do the round tent-like houses reach a more complete form in Khirokitia?
5. Has the round house remained a traditional shape?
6. Have straight lines and rectangles proved of more practical use?
7. Are houses rectangular in Catal Huyuk?
8. Will courtyards become standard features in most human settlements?

a. Yes, they are.
b. Yes, it is.
c. No, it isn't.
d. Yes, it did.
e. Yes, they will.
f. Yes, it has.
g. Yes, they do.
h. Yes, they have.

- **Find in the text the sentences containing:**

1. **…** with a circular tradition… .
2. **…** as many as three… .
3. **…** in corbelled stone or brick.
4. **…** leading off to the courtyards… .
5. **…** with a thatched roof… .
6. **…** the obvious form… .
7. **…** like cells in the honeycomb… .
8. **…** made possible by… .

- **Pay attention to the highlighted words in the Text A. All of them describe different shapes.**
- **Match the terms and shapes shown below:**

Terms:
rectangle, ellipse, horizontal broken line, cube, octagon, triangle, circle, sphere, pentagon, cylinder, trapezium, thin vertical line, cone, hexagon, curve, pyramid, cuboid, thick line

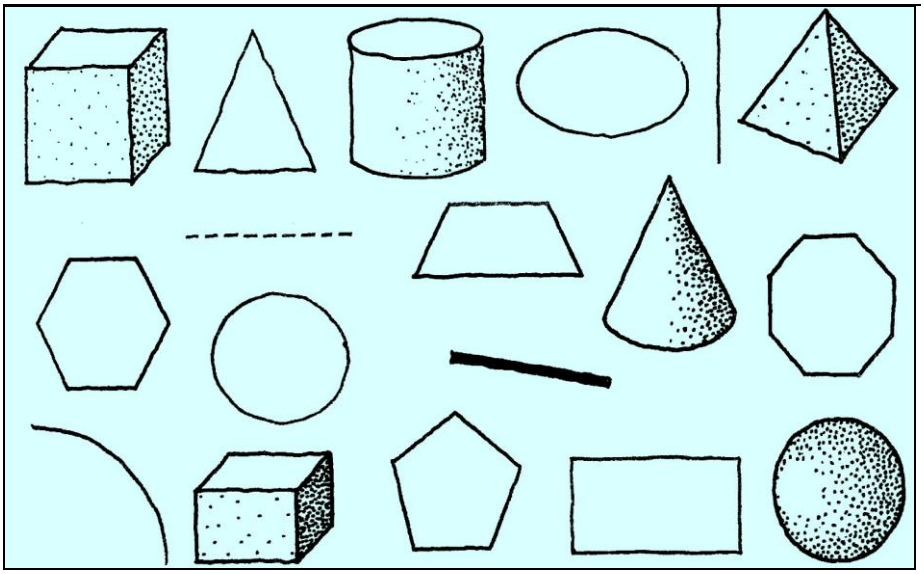


Fig. 1. Shapes

- **Develop the following ideas. Use the words from Text A.**

1. The history of architecture has begun with permanent settlements.
2. The builders of the earliest known town had a new technology of construction.
3. Straight lines and rectangles have proved of more practical use.
4. Lanes and courtyards have become standard features in most human settlements.
5. The social and economic distinctions have been a feature of all developed societies.

- **Draw the sketch of the early Neolithic building and describe it.**

1.4. READING

TEXT B

- **Read the Text B and find underlined words which have these meanings:**

1) a cupola of a building
2) something (as a building) that is constructed
3) the distance from the base of something to the top
4) a curved structure
5) the art or practice of designing
6) a building devoted to the worship of god or gods
7) a vertical construction made of stone, brick, wood, that used to enclose, divide an area
8) a sculpture representing a human or an animal

- **Express the main idea of each passage of the Text B:**

PREHISTORIC TEMPLES OF MALTA

(abridged from «The Prehistoric Antiquities of the Maltese Islands» by Evans, J. D.)

Fig. 2. Prehistoric temple of Malta

They are unique all over the world. They are the oldest standing stone structures which remain to us from ancient times. The temples date from 4000-2500 B.C. They are older than Stonehenge, older than Pyramids. Their architecture is beautiful and inspiring, their scale is impressive yet human (fig. 2). Excellently preserved, they were covered with soil from early times and ignored by the long march of history. They were rediscovered and carefully restored by European and native Maltese archaeologists beginning in XIX century. Because of their uniqueness and beauty, the major temple complexes are deservedly designated as UNESCO World Heritage Sites.

Little is known about the people who built these megalithic[1] temples. They were farmers who grew cereals and raised domestic livestock. They worshipped the mother goddess whose type is known from early statuettes found scattered around the Mediterranean. Similar statues are also found on Malta, several being of uniquely large size.

The Maltese temples are constructed of stone, in a cloverleaf [2] (trefoil) floor plan. Their typical architectural elements include the incomplete dome and the horizontal arch, or post-and-lintel[3] trilithon[4]. The curvatures of the temples perhaps elaborate the circular plan of ordinary dwellings of the time, but are also reminiscent of underground burial chambers.

The basic temple plan consists of a variable number of hemispheric chambers, or apses, branching off from a narrow entrance path. The apses are incomplete domes, built of ingeniously corbelled stone (зубчатый камень, кладка из обработанных камней) broad at the base and curving in towards the top. However, a full dome could not be constructed using this technique; after the walls had been built up, the apse was roofed in animal hides which were suspended from timber poles. Pole-and-hide construction was also used for doors.

At major sites, two or more temples would be built next to each other, the whole complex being encircled by a common outer wall. The size of the temples varies, but an apse might measure fifteen or so feet in diameter, with outer temple walls rising well over twice the height of a person. Due to the size and complexity of the temples, and the extensive resources which must have been required to build and maintain them, they must have played a very important part in the ongoing life of the community.

Notes to the text:

[1] **megalithic** – мегалитический, мегалит – большой камень.

[2] **in a cloverleaf** – в форме листа клевера.

[3] **post-and-lintel** – стоечно-балочный.

[4] **trilithon** – трилитон – три колоссальных мегалитических блока, именуемые «Чудо трех камней».

VOCABULARY

apse – апсида
arch – арка
burial – захоронение
chamber – камера
to construct – строить
curvature – изгиб
dwelling – жилище, дом
to elaborate – зд. дополнять
to encircle – окружать
height – высота
to maintain – обслуживать
to measure – измерять
path – путь, дорожка
pole – столб
to preserve – сохранять
to require – требовать
soil – почва
stone – камень
to suspend – подвешивать
temple – храм
timber – древесина
to worship – поклоняться

1.5. EXERCISES

- **Choose words above to put into the sentences below:**

1. A striking group of megalithic ..… is found in Malta.
2. The most famous standing ….. is Stonehenge in Wiltshire.
3. The typical architectural elements include the incomplete dome and the horizontal ..… .
4. The ordinary ….. of that time were circular in plan.
5. The ….. are incomplete domes.
6. The whole complex was ..… by a common outer wall.
7. The people ..… the mother goddess.

- **Increase your vocabulary. Make some sentences of your own using the words above.**

- **Find in the text and put down some words and word combinations which can be used to speak about the special features of megalithic temples.**

- **Find evidence in Text B to support these statements:**

1. The prehistoric temples of Malta are unique all over the world.
2. The architecture of Maltese temples has its typical features.
3. The extensive resources were required to build the temples.

- **Translate the text into English:**

Мегалитические храмы Мальты являются уникальными памятниками архитектуры доисторического периода. Они включены в список объектов Всемирного наследия ЮНЕСКО. Возраст самых древних из них считается большим, чем возраст египетских пирамид. Некоторые храмы довольно примитивны, другие имеют особый орнамент и украшены резьбой.

Храмы построены из каменных глыб, размер которых достигает восемь метров в длину, а вес – десятков тонн, и по своей планировке храмовый комплекс напоминает листок клевера.

Древние строители разработали целые технологии. Сначала выкапывалась яма под фундамент храма с одной вертикальной стороной и другой противоположной – покатой. Котлован укрепляли с вертикальной стороны бревнами, затем туда на валиках подкатывали крупные камни и переваливали в фундамент с помощью примитивных рычагов. Храм состоял из некоторого количества полусферических камер или апсид. Типичными архитектурными элементами храма являлись полукупол и горизонтальная арка. После возведения стен апсиды покрывались шкурами животных. Весь храмовый комплекс был огражден общей стеной. Храмы играли важную роль в жизни сообщества того времени.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

HILL FIGURES

Here and there throughout England, usually on the slopes of the chalk hills of the south, are incised figures of huge proportions cut into the earth. Often visible for miles around, these hill figures give off an air of ancient sanctity (святыня). Well, don't sniff that sanctified air too closely, you may find it rancid (протухший). Many of the hill figures you see are recent copies, laid out in the past 150 years. Of the legitimate hill figures, the most famous are, unfortunately, of an indeterminate age. The Giant of Cerne Abbas, in Dorset, and the Long Man of Wilmington, in East Sussex, have defied the best efforts (не поддаваться усилиям) of archaeologists to date them. Conjecture (догадка) ranges from the Iron Age to Saxon time. The White Horse of Uffington has recently been dated to 2000 B.C., a good millennium older than had been thought.

Fig. 3. Hill figures:
a – White Horse in Uffington; b – The Giant of Cerne Abbas

1.6. SPEAKING

- **Work with a partner – find ways of completing these sentences:**

1. If we didn't get inspiration from architectural past ..... .
2. The history of architecture begins with ..... .
3. Neolithic architecture shows ..... .
4. Neolithic people were great builders because ..... .
5. Large slabs of stone, or megaliths ..... .
6. Buildings known as *truly* ..... .
7. The major temple complexes ..... .
8. Due to the size and complexity of the temples ..... .
9. Here and there throughout England ..... .
10. The most famous hill figures are ..... .

- **Discussion:**

Now you begin a university course of the History of architecture. It is very important what you know about it. Is it necessary for a future architect to study the History of architecture?

- **Read pros and cons of studying the course given below. Think of some more which are important in your opinion:**

For	Against
1. I can get inspiration from architectural past.	1. It takes a lot of time to learn the History of architecture.
2. The learning of the History of architecture allows to broad one's mind.	2. I think it is very difficult to learn the History of architecture.
3.	3.

- **Discuss the problem in groups. Give your reasons for your decision.**

- **You may find the following expressions helpful:**

- to express your opinion:

I think… I suppose…
Speaking for myself… I'm sure…
I believe… In my opinion…

- to agree with somebody:

Yes, I agree (with you)	I think so too
That's true	You are quite right

- to disagree with somebody:

On the other hand…	It's not (entirely) true
I don't agree (with you)	I don't think so

1.7. TRANSLATING

НАЧАЛО ВСЕХ НАЧАЛ

История первобытного общества связана с применением различных материалов и техник изготовления орудий труда. Принято делить ее на три эпохи: каменную, бронзовую и железную. Начало строительной деятельности относится к эпохе палеолита. Примитивная строительная деятельность человека была связана с возведением жилищ.

Зарождение архитектуры состоялось в эпоху позднего палеолита. В это же время возникла новая сфера человеческой деятельности – изобразительное искусство.

В период неолита появляются каменные орудия труда, которые переводят технические возможности человека на более высокий уровень. Этот период известен строительством деревянных жилищ. Наиболее развитым типом жилища были деревянные дома на сваях над реками.

В бронзовом веке человек осваивает металлические орудия. К этому времени получают широкое распространение мегалитические сооружения – постройки из каменных глыб. Назначение этих сооружений, прежде всего, было связано с религиозными обрядами.

В целом, первобытная архитектура явилась основой архитектуры государств Древнего Востока. Географические рамки древних восточных государств обширны: это страны Азии, Африки, Средиземноморья.

Одним из самых значительных среди многих является Древний Египет. Наиболее известные памятники архитектуры Древнего Египта – монументальные пирамиды, храмы с лотосовидными и папирусовидными колоннами.

В культурном наследии древних цивилизаций особое место занимает греко-римская культура в Средиземноморском бассейне. Архитектуру этого периода принято называть античной (лат. antiquus – древний).

- **Compile your own English-Russian Glossary of architectural terms concerning Prehistoric architecture with your own illustrations. Use not only the terms from the Unit but consult the dictionary for architects.**

UNIT 2

ANCIENT MEDITERRANEAN EGYPTIAN ARCHITECTURE

2.1. GRAMMAR REVIEW

- **Глагол *to have* в Indefinite Active.**

Present	Past	Future
Have Dwelling houses **have** many rooms. В жилых домах много комнат. **Has** Dwelling house **has** many rooms. В жилом доме много комнат.	**Had** Dwelling house (houses**)** **had** many rooms. В жилом доме (домах) было много комнат.	**Shall have** **Will have** Dwelling house **will have** many rooms. В жилом доме будет много комнат.

- **Put the verb *to have* in the correct form:**

1. Alexandria ….. a number of outstanding monuments.
2. Every week I ..… the lecture of the History of architecture.
3. Next year Museum of Modern Egyptian Art ….. new ornamental works.
4. This self-taught artist ..… a distinctive style of painting.
5. The big cities of Cairo and Alexandria ..… many private galleries.
6. The emperors ..… their images depicted on the walls of the shrines.
7. The fountain in the middle of the courtyard ..… a dome.
8. The first pharaoh of the Fifth Dynasty ….. a temple of the sun.

- ***To be / to have* – choose the answer you think is correct:**

1. Egyptian culture … connections with folklore.
   a) have **b) is** **c) had** **d) are**

2. Outstanding figures in the art world … Seif Wanli and his brother Adham.
   a) have **b) were** **c) was** **d) is**

3. In future this temple… plain facade.
   a) will be **b) will have** **c) is** **d) has**

4. Cleopatra … a woman of outstanding intelligence and education.
a) wasn't **b) have** **c) are** **d) was**

5. The main entrance to the complex … at the eastern corner of the arcade.
a) aren't **b) weren't** **c) is** **d) are**

6. The sphinx figure of Ramesses II … human hands.
a) has **b) is** **c) was** **d) weren't**

7. This Mosque …one of the finest Islamic buildings.
a) will b **b) had** **c) has** **d) is**

8. The courtyard … walls bearing extremely interesting relief.
a) has **b) are** **c) haven't** **d) have**

9. Each tomb … an underground part for the mummy.
a) was **b) were** **c) had** **d) will be**

2.2. READING

- **Read the brief description of the period «Ancient Mediterranean»:**

This period covers the Ancient Civilizations of Mesopotamia, Ancient Egypt, Greece, Rome and Byzantine Empire around the time from 3000 B.C. up to 300 B.C. The ancient Mediterranean civilization, from ancient time to the beginning of the Middle Ages, is a result of significant historical events, and it is one of the most notable empires which gave a progressive influence to the growth of human cultures. The mild and healthful climate, and the heritage (наследие) of important civilizations of Mesopotamia, India and China, the facile communication by maritime routes, as well as the invention (изобретение) of writing, supporting columns, doors, windows, arches, sculpture, painting, engineering, the alphabet, agriculture, metal work, and logistics were born in this era. The Ancient Mediterranean civilization was a result of the continuous process of advancement, enhanced by the exchange of ideas through migration and colonization.

- **Read the Text A and give the headline to each paragraph:**

TEXT A

DOMESTIC LIFE IN ANCIENT EGYPT
(abridged from «Egypt: Art and Architecture» by Matthias Seidel)

Mighty pyramids, magnificent shrines dedicated to the kings and gods, and the immense wealth of the pharaohs dominate our ideas of ancient Egyptian culture today. The emphasis is on official monuments and royal decrees. But what was daily life like for the subjects of the divine rulers of the land by the Nile? In what kinds of **domestic** conditions did people live?

Unlike the stone-built temples, **the ordinary buildings** of Egypt were principally made of mud brick, which the climate favored, and timber: these materials did not survive the millennia so well, for they were always being built over, and had to contend with a rising groundwater level. In the New Kingdom, a more or less standard form of dwelling had developed, with its size and furnishings reflecting the social position of the master of the house.

There were **large villas** for high-ranking administrative officials, with an area of up to 400 m^2 and **small houses** of only 25 to 30 m^2. The outside walls were usually plastered and then painted in a shade of white or yellow. The roof was generally used as a living area, and a high wall around the property was also common, to shelter the family from the wind and the prying eyes of outsiders.

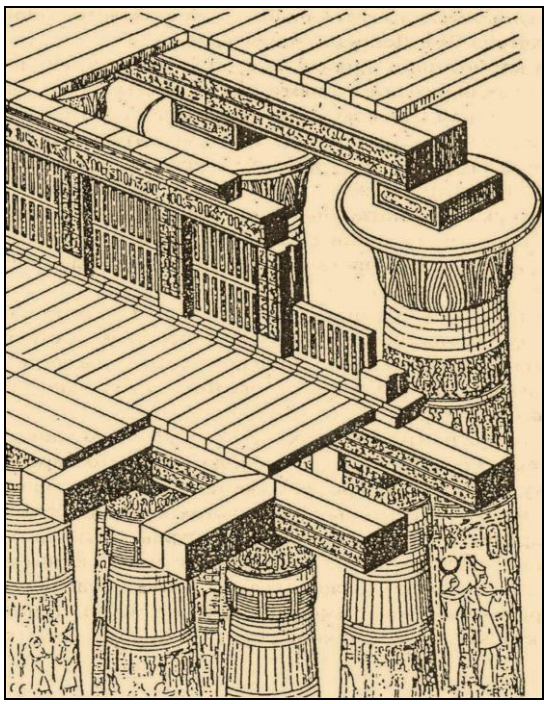


Fig. 4. The fragment of Egyptian architecture

A house of good size in el-Amarna, for instance, typically built on a slightly raised masonry base, was entered through a small anteroom[1], leading into a broad hall supported on four wooden columns and with rooms on both sides of it. From here one would gain access to the main and central room of the property, used principally for formal purposes. Its roof was higher than that of the other rooms around it, and spaces left open in the top part of the wall admitted light and air. At the back of the house lay such private living rooms as a sitting room, a bedroom with a niche to take the bed, and a bathroom with a wash basin and lavatory seat**. The dwelling house** itself could be surrounded by courtyards and gardens, or by such domestic buildings as barns, sheds and stables for animals, ovens, and workshops, so that the whole extensive layout had the character of a manor house and farm.

Note to the text:
[1] **anteroom** – прихожая.

VOCABULARY

barn – амбар
column – колонна
to contend – бороться
divine – священный
domestic – домашний
dwelling – жилище
furnishing – отделка
masonry – каменная кладка
mud – грязь, ил
niche – ниша
to plaster – штукатурить
property – собственность
shade – оттенок
shed – сарай
to shelter – укрывать
shrine – гробница
to support – поддерживать
temple – храм
timber – строительный лес
wood – дерево

2.3. EXERCISES

- **Insert English words instead of Russian ones:**

1. A high wall (укрывать) the family from the wind and the prying eyes of outsiders.
2. The ordinary buildings of Egypt were principally made of (древесина).
3. Magnificent (гробницы) were dedicated to the kings and gods.
4. The outside walls were usually (оштукатурить).
5. There was an access to the main and central room of the (собственность), used principally for formal purposes.
6. A house of good size was typically built on a slightly raised (каменный) base.
7. (Обстановка) of the dwelling reflected the social position of the master of the house.
8. A broad hall was supported on four wooden (колонны).

- **Using the vocabulary:**

- give English equivalents to the following:

деревянная колонна, ниша в стене, использовать строительный лес, отделка здания, обычный дом, священный храм, домашняя жизнь, штукатурить стену, гробница фараона, укрывать от ветра, красивая отделка;

- give Russian equivalents to the following:

different shades, magnificent shrine, divine animal, ordinary life, made of timber, mud brick, dwelling house, to support column, big barn, wooden shed, shade of the colour, light workshop, to shelter from the rain, ordinary people, large niche, divine shrine, to contend with.

- **Make up the sentences of your own with the words from the Vocabulary:**

- **Comprehension:**
  Are the following statements concerning the Text A true or false?

		True	**False**
1	The ordinary buildings of Egypt were principally made of stone.		
2	The size and furnishing of the dwelling reflected the social position of the master of the house.		
3	There were only small houses in Egypt.		
4	The outside walls were painted in a shade of white or blue.		
5	A high wall sheltered the family from the wind.		
6	A house of good size was typically built on a slightly raised masonry base.		
7	At the back of the house lay such private living rooms as the sitting room and a kitchen.		
8	The dwelling house itself could be surrounded by courtyards and gardens.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Do mighty pyramids dominate our ideas of ancient Egyptian culture today?
2. Were domestic conditions poor in Egypt?
3. Were there large villas in Egypt?
4. Did a high wall shelter the family from the prying eyes of outsiders?
5. Was the roof generally used as a living area?
6. Does the layout have the character of a manor house and farm?

a. Yes, there were.
b. No, they weren't.
c. Yes, it did.
d. Yes they do.
e. Yes, it does.
f. Yes, it was.

- **Arrange the following words in pairs of synonyms:**

barn, work with stone, dwelling house, wealthy, immense, dirty, domestic, timber, manor, big, territory, to draw, swimming pool, home, wood, rich, masonry, farm, basin, muddy, villa, shed, to paint, area

- **Look through the Text A again to find the words concerning architecture. Which words are associated with *Religious Architecture* and which are associated with *Domestic Architecture*? Add any other words that you can think of.**

Religious Architecture	Domestic Architecture
1. Temple	1. Shed
2.	2.
3.	3.

- **Find in the text the passages describing the ordinary dwelling house in Egypt and translate them into Russian.**

- **Make up the list of the following aspects concerning Egyptian architecture:**

- types of the buildings
- building materials
- parts of the house
- rooms in the house

- **Draw the plan of a large villa, a small house or a house of good size using the information above.**

2.4. READING

- **Read the text to find answers to the questions given before the paragraphs.**

TEXT B

THE LIGHTHOUSE AT PHAROS

(abridged from «Egypt: Art and Architecture» by Matthias Seidel)

What outstanding institutions were there in Alexandria?

Under the Ptolemaic[1] kings Alexandria had a number of outstanding institutions, like the Museion[2] with its great library, the grave of Alexander the Great, that has never been discovered, and the Sarapeion[3], the shrine to the new god of the realm Sarapis[4]. But none of these structures achieved the renown of the lighthouse on the island of Pharos, for this was the latest of the seven wonders of the world in antiquity.

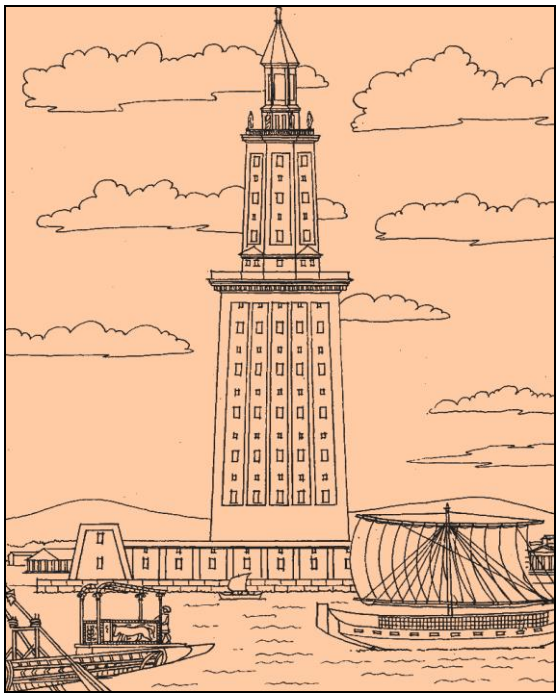


Fig. 5. The lighthouse on the island of Pharos

Who was the architect of the lighthouse?

The architect of this unique monument, which was larger than any lighthouse subsequently built, is believed to be Sostratos of Knidos[5].

The dedicatory inscription was in huge letters on the front entrance, and according to the version recorded by the Greek satirist Lucian (2nd century A.D.) it read: «Sostratos of Knidos, son of Dexiphanes, (dedicates this lighthouse) to the gods of salvation for the benefit of those who go to sea».

What building materials were used for the construction?

The sum of money expended, 800 talents, accorded with the mighty structure, for it was the equivalent of around 20,800 kilograms of silver. But the height of the tower can be estimated. It may have been over 429 feet (130 metres). The building material used was «white stone», so probably they were limestone and marble.

Where was the main entrance?

The lighthouse had three stories and it did not stand on the island of Pharos itself but on an outcrop of rock to the east of it. It was surrounded by a rectangular terrace with fortified towers at each of the four corners. A huge cistern was located in the foundations to supply water for general use. The bottom storey was on a square ground plan and extended

to a height of around 230 feet (71 meters). The main entrance was on the second storey and could only be reached up a ramp. The next stage consisted of an octagon of around 110 feet (34 meters), with a round structure rising from its platform. This in turn, bore the small superstructure with a conical roof crowned with a statue of Zeus[6]. How strong the light emitted by the fire in the upper part of the Pharos was, and how it was directed, remain open questions, concave mirrors were probably used.

When was the lighthouse destroyed?

The Pharos lighthouse stood unharmed for several centuries, until it was almost completely destroyed in a series of violent earthquakes between the 10th and 14th A.D.

Notes to the text:

[1]**Ptolemaic** – относящийся к Птолемеям (царская династия в эллинистическом Египте).

[2]**Museion** – Мусейон, основной центр эллинистической науки, созданный в Александрии Египетской при первых Птолемеях. От него происходит слово «музей».

[3] **Sarapeion** – сарапейон, египетская гробница.

[4] **Sarapis** – Серапис, один из богов эллинистического мира.

[5]**Sostratos of Knidos** – Сострат из Книдоса, архитектор, построивший Александрийский Маяк.

[6] **Zeus** – Зевс, верховный бог греков.

VOCABULARY

to achieve renown – получить признание
benefit – выгода, польза
bottom storey – нижний этаж
to dedicate – посвящать
grave – могила
height – высота
huge – огромный
lighthouse – маяк
limestone – известняк
marble – мрамор
octagon – восьмиугольник
outstanding – выдающийся
square – квадрат
to supply – снабжать
tower – башня

2.5. EXERCISES

- **Choose words above to put into the sentences below:**

1. ..… of Alexander the Great was one of the outstanding institutions in ancient Egypt.
2. The dedicatory inscription was in ….. letters on the front entrance.
3. The building materials used in the construction were probably ..… and marble.
4. The ..… storey was on a square ground plan.
5. He ….. this building to the gods of salvation.
6. The structure was completely destroyed in a series of violent ….. .
7. A huge cistern was located in the foundations to ..… water for general use.

- **Translate the text into English:**

Маяк острова Фарос получил широкое признание в древнем мире. Это сооружение считалось последним из семи чудес света.

Маяк был построен для того, чтобы корабли могли благополучно миновать рифы на пути в Александрийскую бухту.

Фаросский маяк возвышался на 120 метров (это примерно высота 45-этажного небоскреба). Наверху маяка горел яркий костер, и его свет усиливала целая система бронзовых зеркал. Благодаря этой системе зеркал свет маяка был виден за многие километры.

При строительстве маяка использовались такие строительные материалы как известняк и мрамор. Маяк был окружен прямоугольной террасой. Его коническая крыша заканчивалась статуей Зевса.

Благодаря прочности постройки Фаросский маяк простоял почти тысячу лет, но в 796 году н.э. был сильно поврежден землетрясением.

- **Increase your vocabulary. Make some sentences of your own using the words from the vocabulary.**

- **Which of these shapes are mentioned in this Unit 2?**

SHAPES: cube, cone, square, triangle, circle, octagon, pyramid, sphere, rectangle, curve.

- **Remember all terms describing standard shapes which are used in architecture. See Unit 1, p. 12.**

Note that instead of using a noun to describe the shape of a building, an adjective is often more elegant, e.g. the building is ***an octagon*** may be changed to it's ***an octagonal*** building. But not all adjective are formed in the same way.

The house is **a rectangle**	–	**a rectangular** house
The basin is **an ellipse**	–	**an elliptical** basin
The structure is **a cube**	–	**a cubic** structure
The window is **circle**	–	**a circular** window
The roof is **a cone**	–	**a conical** roof

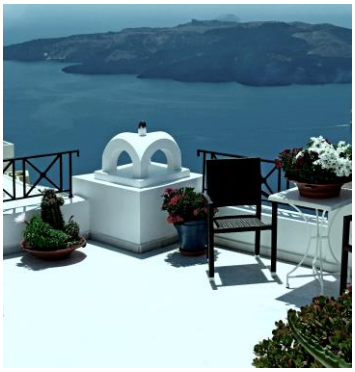
- **Where can you use these terms in ordinary life?**

- **Express the main idea of each passage of the Text B**

- **What can you tell about construction of the Pharos lighthouse?**

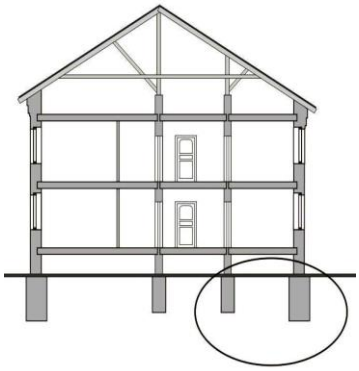
- **Match the following words with their definitions.**

Term	Picture №	Term	Picture №	Term	Picture №
lighthouse		hexagon		foundation	
shrine		terrace		tower	
roof		corner		storey	

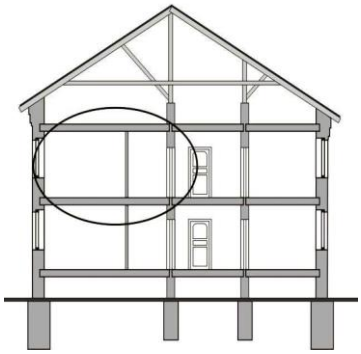


1	a paved or a brick outdoor area right next to a house or apartment

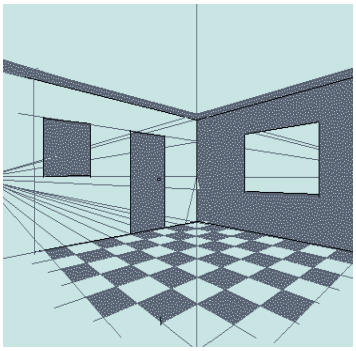
2	a building, enclosing the remains or relics of a saint or other holy person



3	part of structural system that supports the superstructure of a building



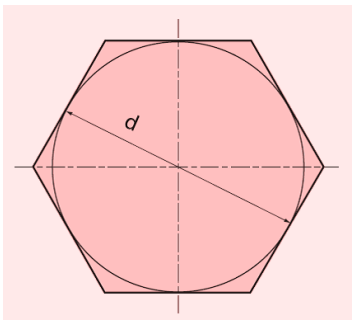
4	the space between any two floors or between the floor and the roof



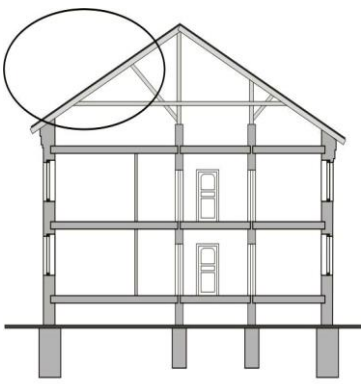
5	the place at which two converging lines or surfaces meet

6	a tall structure, intended for a stronghold, fortress, prison etc.

7	a tall structure topped by a powerful light



8	flat shape with straight sides



9	the cover of a building

- **Translate the text into Russian:**

«FACTS IN BRIEF»

MAKING BRICKS

The wall of the long hall in the tomb of Rekmire contains the famous scenes of craftsmen at work which provide us with much information about the procedures of the time. They include depictions of the making of mud bricks, the most commonly used building material in Egypt. The mass of material, which consisted of diluted Nile mud, sometimes mixed with sand, chaff, or ash, was poured into a wooden frame and smoothed flat. The frame was then removed and used for the next brick. Long rows of such bricks were set out to dry side by side, and in special cases were stamped with the royal seal.

2.6. SPEAKING

- ***Work in pairs*. Make some true sentences and some false sentences about the greatest monuments of Egyptian architecture. Say your sentences to your partner. Your partner says if they are true or false:**

Model:

A.	**B.**
- There were three stories in the lighthouse at Pharos.	- I think that's true. - I think that's false.

- **Read the part of the interview with Egyptian archeologist Dr. Zahi Hawass and say about:**

- the excavations in Giza
- the restoration work on the Sphinx
- the project of the «Grand Museum of Egypt»

- **Pay attention to the useful expressions below:**

to carry out excavations – проводить раскопки
pyramid-shaped – в форме пирамиды
to discover a necropolis – обнаружить некрополь
to our surprise – к нашему удивлению
restoration work – реставрационная работа
in close collaboration with – в тесном сотрудничестве с
to keep a careful eye on – тщательно присматривать за
in my opinion – по моему мнению
world-famous building – всемирно известное здание

- **Interview:**

Publisher: Whose examples influenced you and perhaps helped to determine your choice of career?

Dr. Hawass: First of all, my father, who taught me the principles of honor and dignity in my youth.

Publisher: What ***excavation****s* are you planning ***to carry out*** in the immediate future?

Dr. Hawass: Our next project is to continue excavations in Giza, where the tombs of the builders of the pyramids were found. Last year we established the presence of tombs there with a very unusual and unique appearance. Some are ***pyramid-shaped*** and some have a kind of causeway running up the slope, in imitation of the royal buildings in Giza.

Publisher: Could you tell us a little bit more about the significance of the tombs of *the* pyramid builders at Giza?

Dr. Hawass: ***To our surprise*** we ***discovered*** a whole ***necropolis*** with over 600 tombs so far, located on two levels. The upper tombs (around 40) are larger, more elaborated and belonged to persons of higher professional status. The majority of tombs can be attributed to the workmen and builders of the pyramids. Of more modest size they were made primarily of unfired mud bricks. Beside small mastabas, we found vault tombs and even tombs with circular structures and cupolas.

Publisher: What is ***the present state*** of conservation of the Great Sphinx of Giza?

Dr. Hawass: ***Restoration work*** on the Sphinx was concluded, ***in close collaboration with*** international colleagues, in less than ten years. But in spite of all the improvements to the condition of this ***world-famous monument***, we must continue **to *keep a careful eye on it***. We know that the old stone is very vulnerable, and even the bedrock further from the surface is not in an ideal condition. A committee has been set up to ensure that the oldest "patient" in the world gets the best possible care in future.

Publisher: When will the new National Museum in Giza be finished?

Dr. Hawass: In my opinion the museum should be specially reserved for the treasures from Tutankhamun's tomb, comprising all the objects found there, some 5000 of them, and for the royal mummies. Such a building would not just relieve the burden on the old Egyptian Museum but also offer tourists a new and very attractive site to visit. As for its interior organization and the presentation of the exhibits, I can imagine that the Anthropological Museum in Mexico City might serve as a model. However, due to the absolute priority and importance of this project we will see an international competition for the design of the new «Grand Museum of Egypt».

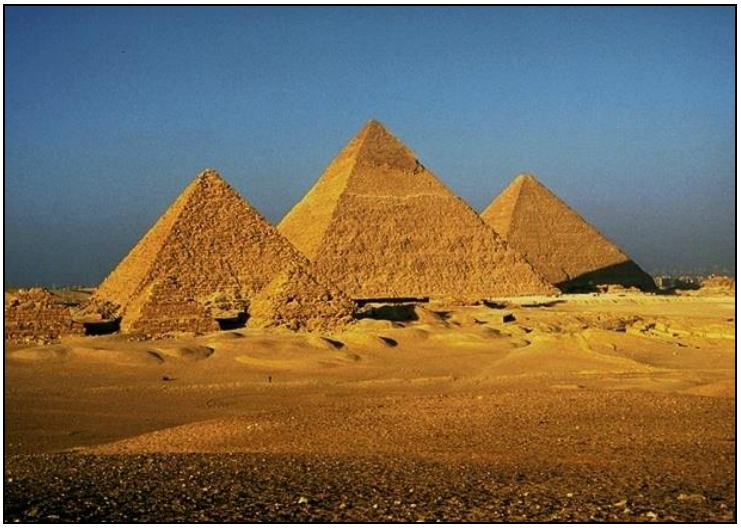
- **You came to Egypt as a tourist and you are interested in ancient Egyptian architecture. Ask the guide about:**

- the outstanding monuments, e.g. the lighthouse in Pharos
- the main features of domestic life
- the mystery of pyramids
- the theoretical bases of Egyptian art

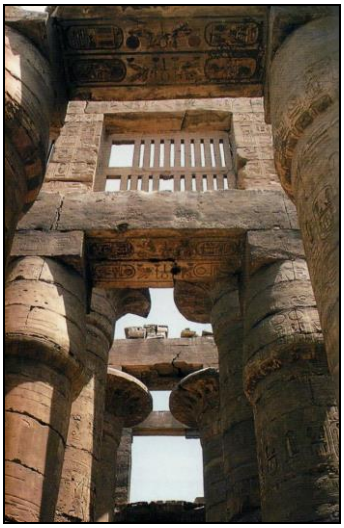
2.7. TRANSLATING

СТРОИТЕЛЬНЫЕ КОНСТРУКЦИИ ДРЕВНЕГО ЕГИПТА

Важнейшим стимулом развития строительной техники в Египте была постоянная необходимость в ирригационных сооружениях: водохранилищах, плотинах, шлюзах.



а)



б)

Рис. 6. Архитектура Древнего Египта:
а – пирамиды в Гизе; б – колонны храма Амона в Карнаке

Конструктивной основой наиболее известных каменных монументальных сооружений Египта были стена и стоечно-балочная система (post and lintel construction), в которой мощные опоры несут массивную балку, поддерживающую каменные перекрытия.

Сплошной массив кладки характерен для погребальных сооружений – пирамид. Возведение пирамид было сложной технической задачей, а методы строительства были примитивными. Массив пирамиды возводился из грубо отесанных камней, а внешняя часть облицовывалась обработанными плитами. В работах по строительству пирамид одновременно принимали участие до 100 тысяч рабов.

Стоечно-балочная система использовалась в строительстве храмов. Для устройства конструкций покрытия использовались каменные колонны диаметром до 2-3 метров, на поверхность которых резчики наносили сложные рисунки. Для формы колонн было характерно подражание формам растительного мира. На основе использования форм таких растений как лотос, папирус и пальма сформировалось несколько типов колонн.

- **Add the terms describing Egyptian architecture to your Glossary.**

UNIT 3

CLASSICAL ANTIQUITY

3.1. GRAMMAR REVIEW

- **Оборот *there + to be* в Indefinite Active.**

Present	Past	Future
There is only one window in the building. В здании есть только одно окно. **There are** many windows in the building. В здании есть много окон.	**There was** only one window in the building. В здании было только одно окно. **There were** many windows in the building. В здании было много окон.	**There will be** only one window in the building. В здании будет только одно окно. **There will be** many windows in the building. В здании будет много окон.

- **Put the verb *to be* in the appropriate form:**

1. There ….. many temples in Ancient Greece.
2. There ….. three orders in Greek architecture.
3. In future there ….. new theatre next to that building.
4. There ..… many ruins on this landscape.
5. In the Hellenic world there ..… different types of public buildings.
6. There ..… an abundance of high quality white marble both on the mainland and island.
7. There ….. two eras in the history of the Ancient Greek civilization: the Hellenic and the Hellenistic.
8. There ..… a clear division between the architecture of the preceding Mycenaean culture and that of the Ancient Greece.
9. There **..**.… many decorative elements in the facade.
10. There ….. greater diversity in the types and numbers of decorations.

- **Translate the sentences with *there + to be*:**

1. There was an absence of towers and painted glass in Greek architecture.
2. There is no feature more typically Greek than the column, with all its variations of structure and design.
3. There will be a stadium with an adjacent park, and a new theatre in the town.
4. The streets are wide and straight, there is plenty of light and air around the houses.

5. There were fires in the early times and the buildings were restored in different styles.
6. Inside the temple there are fragments of paintings and sculptures.
7. There is an entrance to the kitchen on the north side.
8. There was no distinction between the architect and the building contractors.
9. There are performances originated as religious ceremonies in Greece.
10. There were many available building materials such as stone, limestone or tufa and white marble in Greek mainland and islands.

- **Put in the words *there, their or they're* into the gaps:**

1. The temples were placed on the hilltops and ….. exteriors were richly decorated.
2. ….. constructing new temple.
3. ..… are colonnades surrounding courtyards.
4. ….. serving as treasures for specific groups of donors.
5. In Greece ….. were buildings associated with sports.
6. ….. used for both public meetings as well as dramatic performances.
7. ….. columns had magnificent forms.
8. ….. was a altar in front of the temple.
9. ….. experience was valuable.
10. In the center of the town ….. are famous monuments.

3.2. READING

- **Read the Text A. Give the headline to each paragraph:**

TEXT A

GREEK PUBLIC ARCHITECTURE

(abridged from «A World History of Architecture» by Marian Moffet)

Greek architecture in the first half of classical antiquity was not «art for art's sake» in the modern sense. The architect was a craftsman employed by the state or a wealthy private client. No distinction was made between the architect and the building contractor. The architect designed the building, hired the labourers and craftsmen who built it, and was responsible for both its budget and its timely completion. He did not enjoy any of the lofty status accorded to modern architects of public buildings. Even the names of architects are not known before 5th century. An architect like Iktinos, who designed the Parthenon, who would today be seen as a genius, was treated in his lifetime as no more than a very valuable master tradesman.

Most **Greek buildings** were rectangular and made from limestone or tufa, of which Greece had an abundance, and which was cut into large blocks and dressed. Marble was expensive material in Greece. It was used mainly for sculptural decoration.

The temple was the most common and best-known form of Greek public architecture. The temple did not serve the same function as a modern church. The altar stood under the open sky, often directly before the temple. Temples served as storage places for treasury associated with the cult of the god.

Other architectural forms used by Greeks were the tholos[1] or circular temple, the propylon[2] or porch, forming the entrance to temple sanctuaries, the fountain house, a building where women filled their vases with water from a public fountain, and the stoa[3], a long narrow hall with an open colonnade on the side, which was used to house rows of shops in the agoras (commercial centers) of Greek towns. Finally, every Greek town had **a theatre** (fig. 7). They were used for both public meetings as well as dramatic performances. These performances were originated as religious ceremonies, they went on to assume their Classical statues as the highest form of Greek culture by the 6th century BC. The theatre was usually set in a hillside outside the town, and had rows of tiered seating set in a semicircle around the central performance area, orchestra. Behind the orchestra was a low building called the skene, which served as a store-room, a dressing-room, and a backdrop to the action taking place in the orchestra. A number of Greek theatres survive almost intact, the best known being at Epidaurus[4].

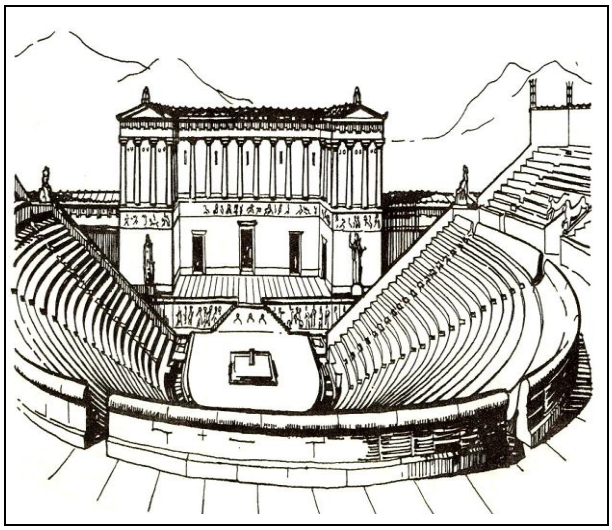


Fig. 7. Typical Greek theatre

Notes to the text:

[1] **tholos** – толос, круглое в плане сооружение.

[2] **propylon** – пропилон, парадный проход, образованный симметричными портиками и колоннадами.

[3] **stoa** – стоа, длинная галерея-портик, крытая колоннада.

[4] **Epidaurus** – Эпидавр, священная лечебница античного мира.

VOCABULARY

abundance – изобилие
altar – алтарь
to arrange – устраивать
to assume – предполагать
to carve – вырезать
completion – завершение
craftsman – ремесленник
to differ – различать
distinction – различие
to employ – предоставлять работу
to establish – устанавливать
intact – нетронутый
to hire – нанимать
labourer – чернорабочий
limestone – известняк
lofty – горделивый
marble – мрамор
narrow – узкий
to originate – порождать
performance – представление
rectangular – прямоугольный
responsible – ответственный
row – ряд
sanctuary – святилище
semicircle – полукруглый
tier – ярус
tradesman – торговец
to treat – обрабатывать
to use – использовать
valuable – ценный

3.3. EXERCISES

- **Give nouns corresponding to the following verbs adding *-er, -tion, -ment, -ence.* Translate them into Russian:**

to carve, to occupy, to arrange, to differ, to establish, to assume, to originate, to treat, to use

- **Insert English words or word combinations instead of Russian ones:**

1. The architect was (ремесленник) employed by the state or a wealthy private client.
2. Iktinos was treated in his lifetime as no more than a very (ценный) master tradesman.
3. Most Greek buildings were (прямоугольные) and made from (известняк).
4. (Храм) was the most common form of Greek (государственная архитектура).
5. (Мрамор) was used mainly for sculptural decoration.
6. (Алтарь) stood under the open sky.
7. The frieze is usually (вырезаться) with relief sculpture.
8. The theatre had rows of tiered seating set in a (полукруг) around the central (представление) area.

- **Replace the underlined words (A) with their contextual synonyms (B):**

(A)

1. A temple is the most famous type of the religious architecture.
2. There are many patterns of the ornament in this part of the building.
3. The architect was a craftsman employed by the state or a wealthy private client.
4. There were some rows in the hall of the theatre.
5. Doric order was established the earliest.
6. The sculpture was carved from a big piece of the marble.
7. There is an ornament on the frieze of the public building.
8. The architect designed the building, hired the labourers and craftsmen.

(B)

cut, tradesman, tier, shape, employed, church, arranged, scroll.

- **Using the vocabulary:**

- **give English equivalents to the following:**

святилище храма, каменное здание, узкая колонна, использовать известняк, ряд домов, белый мрамор, порождать новый стиль, вырезать орнамент, полукруглая сцена,

изобилие строительного материала, древнее святилище, различать цвета, ответственный за бюджет;

- **give Russian equivalents to the following:**

lofty status, public building, to treat as valuable master, made from limestone, rectangular form, abundance of marble, narrow hall, sculptural decoration, modern church, open colonnade, to hire labourers, intact altar, responsible tradesman, completion of the work, to assume responsibility.

- **Comprehension:**
  Are the following statements concerning the Text A true or false?

		True	False
1	The architects did not enjoy any of the lofty status.		
2	Most Greek buildings were circlular.		
3	Other architectural forms used by Greeks were pyramids.		
4	Greece had an abundance of white marble.		
5	The temple served the same function as a modern church.		
6	A number of Greek theatres survive almost intact.		
7	The theatres were used as storage places for treasury.		
8	The theatre had rows of tiered seating set in a semicircle in front of the central performance area.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Was the architect employed by a private client?
2. Was there a distinction between the architect and the building contractor?
3. Are the names of architects known before 5th century?
4. Did the altar stand directly before the temple?
5. Were Greek buildings square?
6. Is the stoa a long narrow hall with an open colonnade on the side?
7. Did the Greek towns have the pyramids?
8. Were the theatres used for the public meetings?

a. Yes, it did.
b. No, they aren't.
c. Yes, he was.
d. No, there wasn't.
e. No, they didn't.
f. Yes, it is.
g. Yes, they were.
h. No, they weren't.

- **Find in the Text A passages about ancient temples and theatres and translate them into Russian.**

- **Learn and memorize architectural order's elements:**

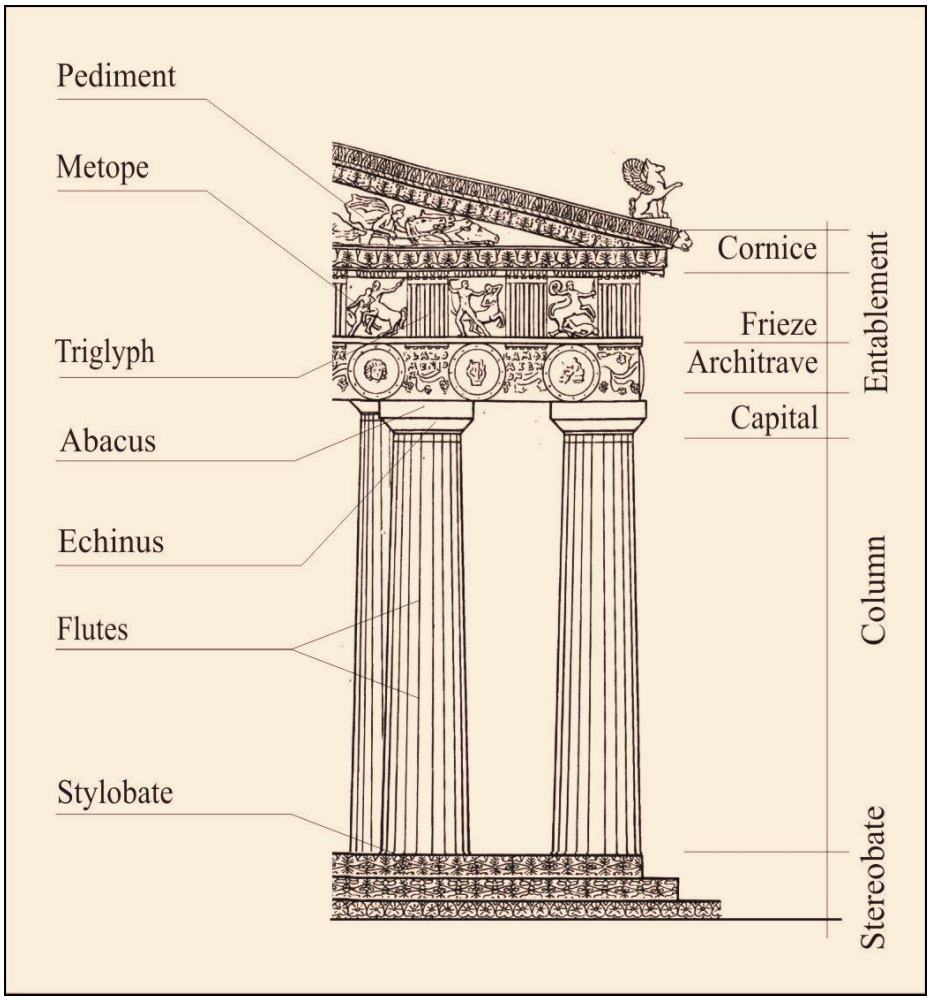


Fig. 8. Order's elements

3.4. READING

- **Read the text to find answers to the questions given before the paragraphs:**

TEXT B

ANCIENT GREEK ARCHITECTURAL STYLES

(abridged from «The Orientation of Greek Temples» by Penrose, F.C.)

An «order» in classic architecture consists of the vertical column or support, including base and capital, and the horizontal entablature, or part supported. The latter is divided into architrave, or the lowest part, frieze, or the middle part and cornice, or the upper part. The proportion of column and entablature vary in different «orders», as do also mouldings and ornaments.

1. How many orders were there in ancient Greece?

There were three main **architectural styles (or orders)** in ancient Greece: Doric, Ionic and Corinthian. While the Doric order was established the earliest, all three orders coexisted at different points during the Greco-Roman period. Each style had distinct architectural features, most notably the type of column employed.

2. Was an abacus used in the Doric style?

The Doric order was named for the Dorians, a group of tribes that settled in ancient Greece and Asia Minor around 1000 B.C. The style came into existence during the Greece's Archaic Period (700-500 B.C.). In the Doric order, the columns are fluted and stand directly on flat pavement (the stylobate) without a base. The capital (or top) of the column is composed of two parts: a flared slab called an echinus and a flat slab called an abacus. Atop the abacus rests a horizontal beam known as entablement. An important aspect of Doric entablement is the frieze (wide central section), which is composed of alternating series of triglyphes (three bars) and metopes (stone slabs often decorated with relief sculpture).

3. When did the Ionic order originate?

The Ionic order made its first appearance in the sixth century B.C. in Ionia, a coastal region in Asia Minor populated by Greek settlers. The Ionic style differs from the Doric in several aspects. Ionic columns are thinner, rest on a base and have more vertical flutes than Doric columns. The capitals of Ionic columns have large scroll-like designs called volutes atop a smaller echinus often ornamented with egg-and-dart (a design pattern featuring oval objects alternating with arrows or dart-like objects). In the Ionic order, the frieze is usually carved with relief sculpture arranged in a continuous pattern around the building.

4. What is the most distinctive feature of the Corinthian order?

Named after the Greek city of Corinth, **the Corinthian order** was first developed in the Classical Period (500-336 B.C.) but was more commonly used in the Hellenistic[1] (336-146 B.C.) and Roman periods (146 B. C. to A.D. 330). The most distinctive feature of the Corinthian order is the capital of the columns. Corinthian capitals have a bell-shaped echinus ornately decorated with plant leaves and spirals. Volutes occupy each corner, and unlike Doric or Ionian capitals, Corinthian capitals provide the same view from all four sides.

Note to the text

[1] **Hellenistic –** эллинистический (период расцвета эллинской культуры в Восточном Средиземноморье).

VOCABULARY

abacus – абака
alternating – чередующийся
architectural style – архитектурный стиль
architrave – архитрав
bar – брусок
capital – капитель
column – колонна
Corinthian order – коринфский ордер
corner – угол
cornice – карниз
Doric order – дорический ордер
echinus – эхин
entablement – антаблемент
feature – особенность
flat – плоский
flutes – каннелюры

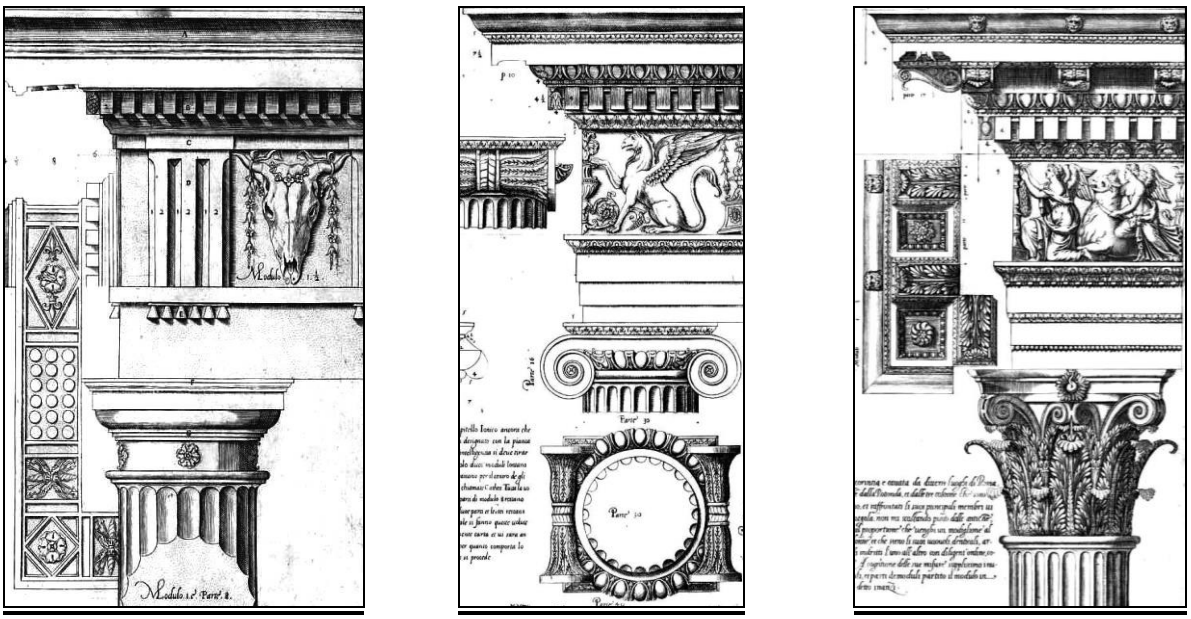
frieze – фриз
Ionic order – ионический ордер
metope – метопа
order – ордер
pavement – тротуар
pattern – рисунок, модель
pediment – фронтон
relief sculpture – рельефная скульптура
scroll – завиток
slab – плита
stereobate – стереобат
stylobate – стилобат
triglyph – триглиф
volute – волюта

3.5. EXERCISES

- **Choose words from the vocabulary to put into the sentences below:**

1. Each style had distinct architectural ..… .
2. The capitals of Ionic columns have large ..… -like designs called volutes.
3. The columns stand directly on flat ..… without a base.
4. The building has a ….. roof.
5. ….. were widely used in the construction of the ancient theatres.
6. The wall of the structure was ornamented by ….. .
7. There were many ….. windows in the temple.

- **Look at the three types of (orders). What are the differences?**



a) b) c)

Fig. 9. Architectural orders: a) Doric order; b) Ionic order; c) Corinthian order

- **Make up some sentences using some new words from the vocabulary.**
- **Find in the text and put down 10-12 words and word combinations which can be used to speak about the special features of each order. See fig. 8, 9.**

- **Look through the text again and find some facts which were quite new to you and some facts which were already known to you.**

- **There are numerous terms used to describe the various elements of architecture. Match the terms with the correct explanations:**

1	a rectangle	a	an upper section of a classical building, resting on the column
2	a temple	b	a triangular element, surmounting the facade of the building
3	a column	c	an architectural ornament
4	a pediment	d	a geometric shape
5	an entablature	e	a vertical element of the building
6	a scroll	f	a type of the religious architecture

- **Read these descriptions. Try to imagine what the buildings look like and make a sketch:**

1. The building is a rectangular, two-storey structure with a flat roof.
2. This is a temple with a marble pediment.
3. This is a public building with columns.
4. This is an ancient stone wall with many windows.
5. This structure is a circle without roof.

- **Try to write your own description of any structure. Here are some useful expressions:**

It resembles…	It is shaped like…	It has similarities with…
It looks like…	It appears as…	It is similar to a…
It is …-shaped…	It is comparable with…	It is arranged as…

3.6. TRANSLATING

- **Translate the text into English:**

ОРДЕРА ДРЕВНЕЙ ГРЕЦИИ

В древнегреческой архитектуре сложилось три ордера: дорический, ионический и коринфский. Все три ордера имеют одинаковые основные элементы, но отличаются друг от друга пропорциями и декоративной обработкой.

Ордер – это художественно осмысленный порядок связи опорных и несомых частей антаблемента в архитектурных композициях. Основные элементы ордера: колонна (с капителью), поддерживаемый ее антаблемент, состоящий из архитрава, фриза и карниза, стилобат.

Дорический ордер – наиболее простой, он массивен, монументален, нагружен, состоит из колонны и капители. Важным элементом дорического антаблемента является фриз.

Ионический ордер зародился в 6 веке до н. э. в Ионии. Он более лёгок, изящен, пластически богат. Колонна ионического ордера, в отличие от дорического, делится на три части: основание, ствол и капитель. Ионическая колонна тоньше и имеет больше каннелюр, чем дорическая.

Коринфский ордер представляет собой развитие варианта ионического ордера, более насыщенный декором. Его характерной особенностью является колоколообразная капитель, сформированная листьями аканта. Коринфская капитель имеет одинаковый вид со всех четырех сторон.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

ACROPOLIS

Acropolis means «high city» in Greek. Most city-states in ancient Greece had at their centre a rocky mound or hill where they built their important temples and where the people could retreat to if under attack. The most famous acropolis is the one in Athens.

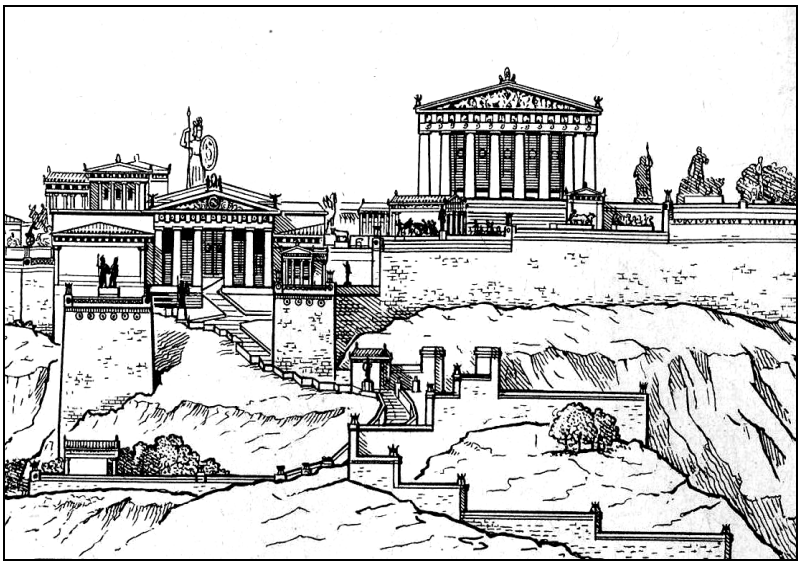


Fig. 10. Acropolis in Athens (main view)

The Athenian Acropolis is home to one of the famous buildings in the world: the Parthenon. This temple was built for the goddess Athena. It was decorated with beautiful sculptures which represent the greatest achievements of Greek artists.

The Acropolis was also home to a number of other temples and sanctuaries and was the focus for the Athenian festival for Athena, the Panathenaia.

The buildings of the Acropolis provide examples of both the Ionic and Doric styles of architecture.

3.7. SPEAKING

- **Describe each order in brief.**
  Use the information from the Text B and the pictures of the Unit.

- **Look at the dialogue given below**
  and interview your partner as an expert in Greek architecture.

A. PUBLISHER (Журналист)

- What excavations are you planning to carry out in the immediate future?

- Could you tell us a little bit more about the significance of ancient Greek architecture?

B. EXPERT (Эксперт)

- I shall pay particular attention to the investigations of the section of the ancient Greek acropolis.

- With great pleasure.

- **Use the following key words:**

A	**B**
architectural feature	to treat
valuable master tradesman	sanctuary
abundance	classical antiquity
building material	white marble
relief sculpture	made from limestone
form of the building	rectangular
public architecture	temple
to use for	theatre
to serve as	storage places for
order	column

- **Make up an oral report on one of the suggested topics:**

1. Public architecture in Ancient Greece.
2. The similarities and the differences of modern and ancient theatres.
3. Architectural features of the orders.

- **Add the terms describing Greek architecture to your Glossary.**

UNIT 4

ANCIENT ROMAN ARCHITECTURE

4.1. GRAMMAR REVIEW

- **Adjectives. Degrees of comparison.**
  Степени сравнения прилагательных.

	Положительная степень	**Сравнительная степень**	**Превосходная степень**
1	This arch is old. Эта арка старая.	That arch is old**er.** Та арка более старая.	This is **the** old**est** arch. Это самая старая арка.
2	This structure is durable. Эта постройка прочная.	That structure is **more** durable. Та постройка более прочная.	This is **the most** durable structure. Это самая прочная постройка.
3	The quality of this cement is **good**. Качество этого цемента хорошее. This project is **bad.** Этот проект плохой. The architect has **little** time for construction. У архитектора мало времени для строительства. **many, much** много	The quality of that cement is **better**. Качество того цемента лучше. That project is **worse**. Тот проект хуже. The architect has **less** time for construction. У архитектора меньше времени для строительства. **more** больше	The quality of this cement is **the best**. Качество этого цемента самое лучшее. This is **the worst** project. Это самый худший проект. The architect has **the least** time for construction. У архитектора меньше всего времени для строительства. **(the) most** самый большой, больше всего

- **Change following word combinations using comparative and superlative degrees of adjectives:**

big structure	perfect example	bad decoration
beautiful city	old building	strong concrete
good material	interesting project	important road
fine work	great invention	small arch
large area	picturesque terrain	great monument

- **Use the correct form of the adjectives:**

1. Aqueducts were built in (important) cities in the Empire.
2. Pantheon is (beautiful) example in the use of arch.
3. Ancient Roman concrete was (strong) than previously-used concrete.
4. Concrete structure was (durable) than stone building.
5. The arch is (famous) aspect of Roman architecture.
6. Unlike(creative) and (intellectual) Greeks,the Romans were essentially practical people.
7. The Colosseum is (great) arena in the Roman world.
8. The Romans preferred (ornate) columns than Greeks.
9. Buildings became (little) geometric.
10. Some of (impressive) public buildings are amphitheatres.

- **Translate the following sentences paying attention to the forms of the adjectives:**

1. The first and **the biggest** circus in Rome was the Circus Maximus.
2. The Romans built **more durable** structures than the Greeks.
3. Arch of Titus located in the Roman Forum is **the oldest** surviving arch.
4. The buildings in cities are **higher** than in towns.
5. The city of Rome had **the largest** concentration of aqueducts.
6. Hadrian's Wall is one of **the best** known Roman walls.

4.2. READING

- **Read the text. Give the headline to each paragraph:**

TEXT A

ROMAN ADVANCES
IN ARCHITECTURE AND ENGINEERING
(abridged from «Brick and mortar masonry» by Max Pfingsten)

Roman architecture is very similar to Greek architecture, in style at least. The Romans used the same sorts of columns, the same sorts of sculptural decorations and many of the same architectural forms as Greeks. Despite these similarities, no one would confuse a Roman temple with a Greek temple. So, while the Romans clearly took their inspiration from the Greeks, Roman engineering allowed Rome to create an architectural style all its own.

Rome's distinct architecture was the direct result of five main Roman **inventions.** The first of these was **cement**, a blend of lime, volcanic ash or pulverized stone, and water. Cement is, essentially, a liquid rock, which dries into a solid. Cement also bonds to any materials touching it.

Equipped with this rocky glue, it was just a small step for the Romans to make their next big invention: **brick and mortar masonry**, a building technique in which small, fried bricks are hold together by mortar. It allowed the Romans to build large, durable structures out of small, cheap, local materials.

Brick and mortar masonry was only one of the uses the Romans had for cement. The other was **concrete**, a mixture of cement, gravel and water, which can be poured into forms. Once dried, concrete was as strong and durable as stone. With these new materials at hand, the Romans began exploring new **architectural techniques.**

The greatest Roman technique is the **arch.** The arch overcomes all the problems of post and lintel construction method[1]. First, arches redistribute the weight of the load they're bearing. Instead of all that force resting on two points, the force is spread over a large area. The force is also passed from stone to stone, all the way down to the posts. The Roman arch was incredibly strong and durable. In fact, arches are often the only thing still standing in Roman ruins.

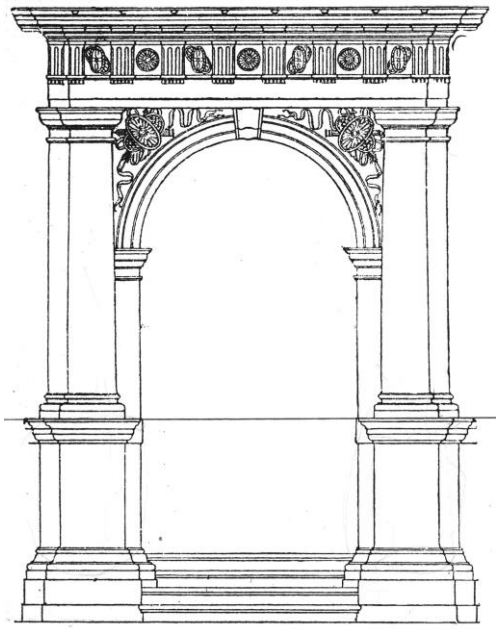


Fig. 11. Roman arch

The Romans used arches everywhere. Their obvious application was the **aqueduct**. These huge, elevated channels could carry water hundreds of miles across rolling terrain, while maintaining a steady, gradual slope from their source to their destination. Aqueducts brought fresh running water to Roman cities, allowing the Romans to build fountains and baths even in the driest regions. Roman aqueducts are among the most enduring legacies of their mighty Empire.

The Roman arch reached its apex in the **Colosseum**[2], a massive amphitheatre covering over six acres of land, over 150 feet tall and capable of seating over 50,000 spectators. The Colosseum demonstrates just how far the Romans were able to take the arch**. The dome**, in turn, reached its apex in the amazing Pantheon[3].

Even among all these wonders, the most impressive feat of Roman engineering was their network of **roads**, built by soldiers. The fact that unskilled soldiers could consistently produce structures of such quality and endurance shows that, for the Romans, architecture was no longer an art but a science.

Notes to the text:

[1]**post and lintel construction method –** стоечно-балочный метод в строительстве.

[2]**Colosseum –** Колизей, древнеримский амфитеатр.

[3]**Pantheon –** Пантеон, «храм всех богов» в Древнем Риме.

VOCABULARY

aqueduct – акведук, водопровод
arch – арка
ash – зола
blend – смесь
cement – цемент
concrete – бетон
to create – создавать
durable – прочный
to equip – оснащать
to explore – изучать
gravel – гравий
invention – изобретение
liquid – жидкий
lintel – перемычка
load – груз
masonry – каменная кладка
mortar – раствор
to overcome – преодолевать
post – столб, свая
pulverized stone – размельченный камень
solid – твердый
strength – сила
terrain – местность
weight – вес

4.3. EXERCISES

- **Read and remember following verbs describing the process of construction:**

to build	–	строить
to produce	–	производить
to bond	–	скреплять
to pour into shape	–	отливать в форму
to distribute the weight	–	распределять вес
to elevate	–	поднимать
to lift	–	поднимать
to crush	–	давить
to crack	–	раскалывать
to reconstruct	–	перестраивать, реконструировать
to fill	–	заполнять
to plaster	–	штукатурить
to supply	–	снабжать
to treat	–	обрабатывать

- **Make up 10 sentences using 10 new vocabulary words and verbs from the table.**

- **Insert English words or word combinations instead of Russian ones:**

1. Roman engineering allowed Rome (создать) its own architectural style.
2. There were five main Roman (изобретения).
3. Cement is a (жидкий) rock, which dries into a (твердое тело).
4. The Romans built large, (прочные) structures out of small, cheap, local materials.

5. The Roman began (исследовать) new architectural techniques.
6. The Roman (арка) reached its apex in the Colosseum.
7. **(**Бетон) is a mixture of cement, (гравий) and water.
8. You can (раскалывать) a rock easily.

- **Replace the underlined words (A) with their contextual synonyms (B):**

(A)

1. Cement was a mixture of lime, volcanic ash or pulverized stone, and water.
2. The ancient building was cracked during the war.
3. These huge, elevated channels could carry water hundreds of miles across rolling terrain.
4. The force is spread over a large area.
5. The Roman began exploring new architectural techniques.
6. The post is one of the main elements in construction.

(B) ***area, studying, strength, blend, damaged, column***

- **Using the vocabulary:**

- give English equivalents to the following:

самый твердый бетон, смесь золы и размельченного камня, использовать раствор, изучать архитектуру, зависеть от местности, известное изобретение, создавать новый стиль, тяжелый груз, самый длинный столб, более древняя арка, заливать в форму;

- give Russian equivalents to the following:

volcanic ash, more durable concrete, invention of the arch, to create image, the most solid rock, the biggest load, ordinary terrain, a blend of lime and water, brick and mortar masonry, a mixture of cement and gravel, durable as stone, to explore new techniques, to overcome all problems, post and lintel construction, to crack a rock.

- **Comprehension:**
  Are the following statements concerning the Text A true or false?

		True	**False**
1	Roman architecture is very different to Greek architecture.		
2	Cement is, essentially, solid rock, which dries into a liquid.		
3	Brick and mortar masonry is a building technique in which small, fried bricks are hold together by mortar.		
4	The Romans built large, durable structures out of small, cheap, local materials.		
5	Concrete wasn't as strong as stone.		
6	Aqueducts allowed the Romans to build fountains and baths even in the driest regions.		
7	The Colosseum is a massive amphitheatre covering over sixty acres of land, over 150 feet tall and capable of seating over 50,000 spectators.		
8	The most impressive feat of Roman engineering was their network of roads, built by soldiers.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Did the Romans use the same sorts of sculptural decorations as Greek?
2. Does cement bond to any materials touching it?
3. Was concrete, a mixture of cement and volcanic ash?
4. Is the arch the greatest Roman invention?
5. Do arches redistribute the weight of the load?
6. Were there many aqueducts in Rome?
7. Did the Roman arch reach its apex in the Colosseum?
8. Is the Roman architecture an art?

a. Yes, it does.
b. No, it wasn't.
c. Yes, there were.
d. Yes, they did.
e. No, it isn't.
f. Yes, it did.
g. Yes, it is.
h. Yes, they do.

- **Answer the following questions:**

1. Is concrete as strong and durable as stone?
2. Which is the greatest and most distinct Roman architectural technique?
3. What monuments are among the most enduring legacies of the Roman Empire?
4. What is the most obvious application of the arch?
5. What is the most famous example of using the arch?
6. What is the most famous example of using the dome?

- **There are numerous terms which describe various types of building materials and their components used in ancient Rome. Match the terms with the correct definitions:**

1	**blend**	a	finely pulverized lava thrown out by a volcano in eruption
2	**cement**	b	irregular fragments of rock crushed to smaller sizes
3	**volcanic ash**	c	a mixture used to bind together bricks or stones
4	**pulverized stone**	d	a mixture of cement, gravel and water
5	**mortar**	e	a mixture of different substances or other things
6	**concrete**	f	a small stones and pebbles, or a mixture of rock pieces or small rocks
7	**gravel**	g	a powder, used as ingredient of mortar and concrete

- **Look through the Text A and find information about new architectural techniques used by Romans and translate it.**

- **Answer the following questions about text A:**

1. What is the aqueduct?
2. For what purpose was the aqueduct used?
3. What is the Colosseum?
4. What is its area?
5. How many spectators was it capable of seating?
6. What is the height of the Colosseum?

4.4. READING

TEXT B

- **Read the Text B and complete the sentences with brief information from the text:**

PANTHEON
(abridged from «Ancient Rome from the Earliest Times Down to 476 AD» by Robert F.Pennell)

PANTHEON – brief information

A. The Pantheon is the best preserved building from ancient Rome and one of the few buildings from the ancient world that looks pretty much the same today as it did in its time (nearly 2,000 years ago).First built in 27 BC by Agrippa[1]'s order it was torn down and then reconstructed in 119 A.D. by Hadrian[2] who may have designed it. The Pantheon was dedicated to all gods, most notably the seven planetary gods. Its name means «Place of all the gods».

The Pantheon has been preserved till nowadays in spite of the fact that..…

The Romans worshipped the gods, that's why ..…

B. It is crowned with massive brick and concrete dome that was the first great dome ever built and an incredible achievement at the time.

The huge dome is supported on eight thick pillars arranged in a circle underneath it, with the entrance occupying one of the spaces between the pillars. Between the other pillars are seven niches, which were originally occupied by a planetary god. The pillars are out of view behind the wall of the interior. The thickness of the dome increases from seven feet at the base to 20 feet at the top.

The Pantheon was erected as a round building with the dome on its top, which ..…

The columns under the dome not only support it but also ..…

C. While the exterior looks like a linebacker the interior soars like a ballerina, as one writer put it. The only source of light is a 27 foot wide window at the top of the 142 foot-moves across the interior during the day. Around the round window are coffered panels and below them are arches and pillars. Slits have been placed in the marble floor to drain off the rainwater that pours in through the hole.

On the top of the dome there is a window which ..…

Rainfall which penetrates through the window …..

D. Nine tenths of the Pantheon is concrete. The dome was poured over «hemispherical dome of wood» with negative molds to impress the shape of the coffer. The concrete was carried up by laborers on ramps and bricks were lifted with cranes. This was all supported the dome consisted of brick walls filled in with concrete.

While constructing the Pantheon the builders used concrete with different aggregates which …..

Notes to the text:
[1]**Agrippa –** римский правитель.
[2]**Hadrian –** Адриан, римский император.

VOCABULARY

achievement – достижение
aggregate – заполнитель
coffer – кессон
coffered panel – кессонная панель
to crown – покрывать
to dedicate – посвящать
to deify – обожествлять
dome – купол
to drain – стекать
exterior – внешний
huge – огромный
incredible – невероятный
to increase – увеличивать
interior – внутренний
laborer – рабочий
to lift – поднимать
linebacker – покровитель
mold – форма
niche – ниша
pillar – колонна
to pour – заливать
ramp – скат, уклон
to reconstruct – перестраивать
slit – щель
to soar – парить
space – пространство
to support – поддерживать
thickness – толщина

4.5. EXERCISES

- **Choose words above to put into the sentences below:**

1. The Pantheon was ..… to the seven planetary gods.
2. The massive brick and concrete dome was an incredible ….. at the time.
3. This monument originally housed images of….. emperors.
4. The huge dome is ….. on eight thick pillars.
5. The entrance occupied one of the spaces between the ….. .
6. While the exterior looks like a linebacker the ..… soars like a ballerina.
7. Slits have been placed in the ….. floor.

- **Learn and remember architectural elements of Pantheon:**

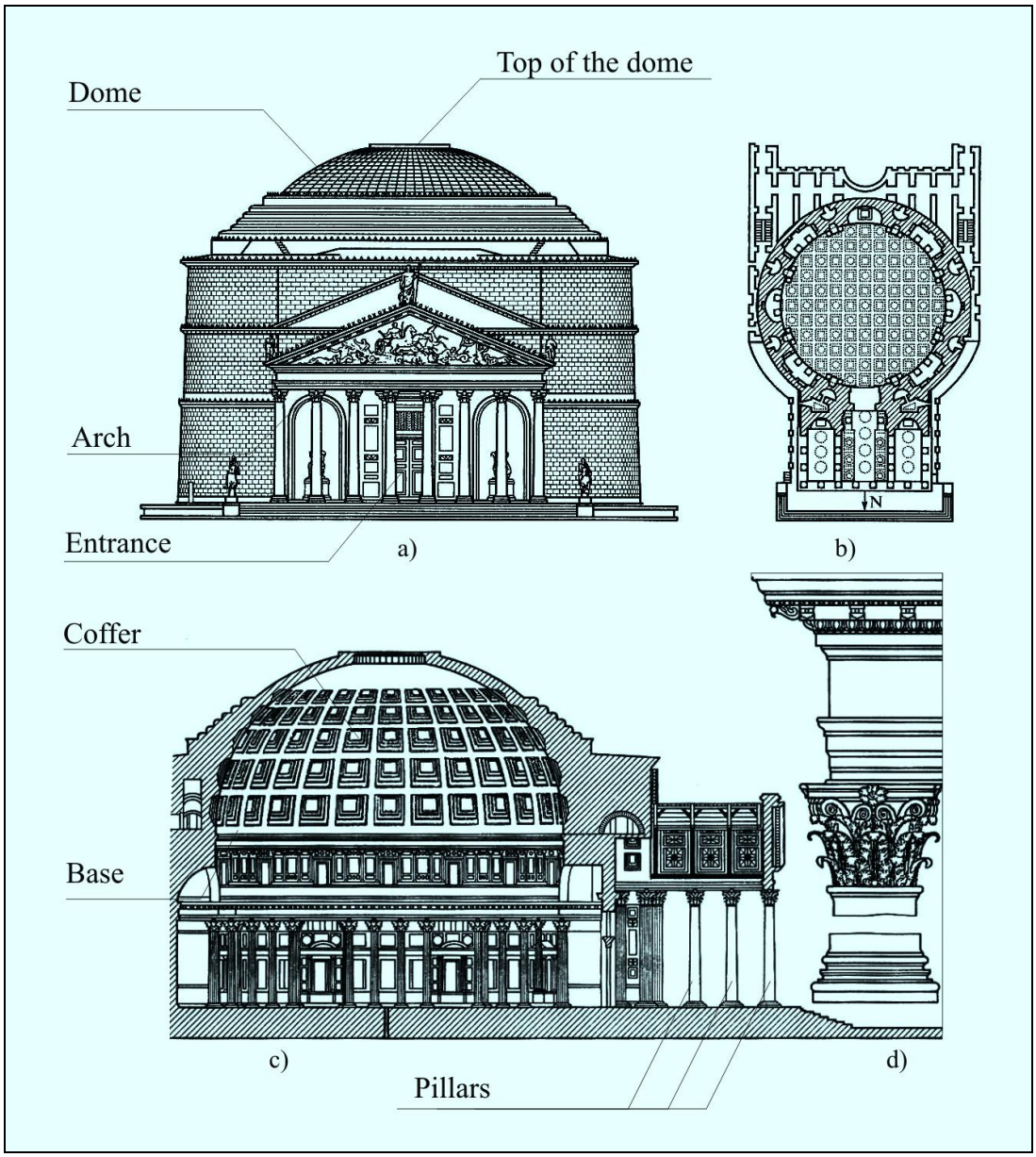


Fig. 12. Pantheon and its architectural elements:
a) facade; b) plan; c) cut; d) order

- **Write a questionnaire of five or more questions, asking about the Pantheon. (e.g. What does the exterior of the Pantheon look like?)**

- **Describe the architectural features of the Pantheon. Use additional information.**

  - the dimensions of the monument;
  - the features of the dome;
  - the source of the light;
  - the function of the dome**.**

4.6. TRANSLATING

- **Translate the text into English:**

ПАНТЕОН – ХРАМ ВСЕХ БОГОВ

В Древнем Риме было построено уникальное сооружение – Пантеон, который является одним из немногих построек древнего мира, сохранившихся до наших дней. Он расположен на Марсовом поле. Пантеон был посвящен всем богам и его название означает «место всех богов».

Первое здание Пантеона было построено в 27 году до н.э Августом Марком Агриппой. После этого Пантеон дважды горел. Окончательный вид сооружение приобрело в 125 году.

Пантеон возведен в виде круглого здания – ротонды – и перекрыт огромным куполом. Купол поддерживается 8 толстыми колоннами, расположенными по кругу. Соорудить столь сложную конструкцию римляне смогли только благодаря точным расчетам и умелому использованию бетона. Бетон передавался рабочими по скату, а кирпичи поднимались с помощью подъемных устройств.

Пропорции храма близки к идеальным: диаметр купола, составляющий 43,5 метра, почти равен высоте храма, равной 42,7 метра. Толщина стен превышает шесть метров. Бетонный купол весом 46 тонн имеет форму полусферы. В вершине купола сделано отверстие диаметром около девяти метров. Оно называется окулюс – «Глаз Пантеона», через который в храм проникает солнечный свет. Окулюс символизировал всевидящее небесное око.

На протяжении 200 лет купол Пантеона оставался самым большим в мире.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

ROMAN MOSAICS

The ancient Roman used mosaics mostly to decorate the floors of palaces and villas. Generally, only the wealthy could afford them. Some have also been found on public sidewalks, walls, ceilings and table tops at public baths.

Early Roman mosaics contained monochromatic designs. As the art form developed they used increasingly smaller pieces to create increasingly more elaborate designs in an increasingly wide variety of colors. The human figures have flesh tones, shading and musculature made with a wide variety of pebbles (галька) gathered from the sea and local quarries.

Roman mosaics were made mostly of finger-nail size stones, many of which were naturally colored. Mosaics were made with teensy-weensy tiles (крохотная плитка), and often contained a lot of gold and precious (драгоценный) and semi-precious stones. It is no surprise that they were placed on walls, where people couldn’t walk on them.

4.7. SPEAKING

- **How do you think, what inventions have most influenced the architecture of that time? What are the histories of these inventions?**

- **Make a presentation about outstanding inventions and famous monuments of the Ancient Civilizations of Egypt, Greece or Rome.**

- **The following information will help you to prepare presentations.**
  Presentation language:

So what makes a presentation successful? Complete the following list of features using the words from the box.

humor / voice / structure / appearance / language / contact / attitude

To be a good presenter you need:

1) a simple and clear …..…….
2) a smart and professional …..…….
3) a good sense of …..…….
4) good eye …..…….
5) an enthusiastic …..…….
6) a strong …..…….
7) expressive body …..…….
8) careful …..…….

The introduction is perhaps the most important part of a presentation-it is the first impression the audience has of the presenter. The introduction should be used to:

1) welcome the audience and introduce yourself;
2) introduce the project;
3) outline the structure of the presentation.

The table below lists useful expressions that you can use to introduce the various parts of your presentations.

Function	**Language**
Welcome the audience	Good morning/afternoon ladies and gentlemen ….. Hello/Hi everyone ….. First of all I'd like to thank you for coming here today ….. It's good to see you here …..
Introducing yourself	Let me start by introducing myself. My name is ….. For those of you who don't know me, my name is …..

Introducing the project	I'm here today to present …..
	The subject of my talk is ..…
	I'd like to start by …..
	Starting with ..…
	Let's begin with …..
	First of all, I'll …..
Moving on the next phase	We'll now move on to …..
	Another important aspect is ..…
	I'd like to continue with ..…
	I'd like to expand on …..
	Let's now look at …..
	I'd like to emphasize the importance of …..
Sequence of events	Firstly ..… secondly ..… thirdly….. lastly ..…
	First of all ..… then ….. next ..… after that ..… finally ..…
	To start with ….. later ..… to finish up ..…
Referring back	As I mentioned earlier ..…
	Let's go back to what we were discussing before ..…
Reference to visuals	Let's take a look at ..…
	As you can see ..…
	I'd like to point out …..
	If you take a look at ….., you will see …..
	Here you can see ..…
	This drawing shows ..…
	This diagram points out …
Conclusion	In conclusion, I'd like to ..…
	Let's summarize briefly what we've looked at ..…
	Finally, I'd like to point out …..
	If I can just sum up the main points …..
Dealing with questions	I'll come back to this question later …..
	We'll be examining this question in more detail later on …..
	Are there any questions?
	Would anybody like to comment on ..…?
	I'm afraid I'm not in a position to answer that question at the moment …..
	That's a good question. So, you'd like to know whether …..
	Does that answer your question?
	I hope that answers your question.

- **Add the terms describing Roman architecture to your Glossary.**

UNIT 5

ROMANESQUE ARCHITECTURE

5.1. GRAMMAR REVIEW

- **Времена группы Indefinite Active.**

Present	Past	Future
I, You, We, They **create** a new style.	I, You, He, She, We, They **created** a new style.	I, We **shall/will create** a new style.
He, She, It **creates** a new style.		You, He, She, They **will overcome** the difficulty.
I, You, We, They **overcome** the difficulty.	I, You, He, She, We, They **overcame** the difficulty.	
He, She, It **overcomes** the difficulty.		

- **Write the past form of these irregular verbs and translate them:**

to arise –	to build –	to see –	to stand –
to get –	to give –	to make –	to come –
to meet –	to undergo –	to take –	to forget –
to lead –	to begin –	to go –	to know –

- **Refer the events in the sentences to the future and to the past:**

1. All architects make use of this technique.
2. In Pisa we see one of the best examples of the Romanesque arcade.
3. The architecture arises independently in a variety of locations.
4. The love to columns leads the architects to alternate piers with columns.
5. Some common exterior decorations include sculptural decoration and arcades.
6. The famous tower serves as a bell tower or campanile.
7. The tower acquires a lean.
8. The designer succeeds in harmonizing the elements of different styles.

- **Put the verbs in the brackets in the correct form of the Indefinite Active:**

1. Cathedrals in the Medieval times (to occupy) the place of first importance in national life.
2. In the Norman period the great stone fortress (to reach) the climax of its development.
3. Now architects (to mix) many materials, and (to create) different forms of ornaments.
4. Domestic buildings (to differ) in function, importance, and architecture in different periods.
5. This heavy masonry ceiling (to require) a heavier construction.
6. Romanesque architects (to love) the semicircular arch, and (to use) it everywhere.
7. Next year workers (to build) a new cathedral in the center of the city.
8. An arch (to allow) you to build unsupported openings out of masonry.

5.2. READING

- **Read the brief description of Medieval period:**

Medieval period 500 A.D. to 1600s is also known as «The Middle Ages». It is a term used to represent various forms of architecture common in Medieval Europe. The basic characteristics of this style of architecture were influenced by religion (latin cross style churches), military (castle and fortified walls). Pre-Romanesque, Gothic and Renaissance Era divide this period.

These are characterized by a use of round or slightly pointed arches, cruciform piers supporting vaults, featuring almost skeletal stone structure with great expanses of glass, windows containing beautiful stained glass, depicting biblical stories, rosette windows, pared-down wall surfaces supported by external flying buttresses, pointed arches using the ogive shape (стрельчатые формы), ribbed stone vaults, clustered columns (кластерные колонны), pinnacles and sharply pointed spires.

- **Read the text. Give the headline to each paragraph.**

TEXT A

TRENDS IN ROMANESQUE ARCHITECTURE

(abridged from «Romanesque Architecture: Characteristics, Examples and History» by Max Pfingston)

Romanesque architecture was not centralized like many of the architectural movements before it. Instead, it arose independently in a variety of locations. As a result, it is rather difficult to characterize Romanesque architecture. However, there are some trends that persist throughout these regional styles. The central fixation of Romanesque architecture is the semicircular or Roman arch from which this movement gets its name. This semicircular arch was expanded to roof over entire buildings in a process called **vaulting**.

Vaulting went through several refinements during the Romanesque age. It started with the simple **barrel vault.** Where two barrel vaults met at a right angle, Romanesque architects used **groin vaults** to vault the intersection. The limitations of groin vaults led to the development of the **ribbed vault**, allowing Romanesque architects to build ever taller and wider cathedrals.

These heavy vaulted ceilings required heavier-duty construction. The simple solution was to build big heavy walls with very few windows. A more complex solution was to replace **columns** with sturdier **piers**, which are just square columns better a handling horizontal pressure. Yet columns are much prettier than piers. The love to columns led Romanesque architects to alternate piers with columns, both vertically and horizontally. And some later architects combined the two, adding half-columns to the outside of piers, giving their piers a graceful aesthetic.

Meanwhile, the exteriors of Romanesque cathedrals were undergoing a transformation of their own. The drab exteriors of earlier churches were abandoned, and churches began to be as beautiful on the outside as they were on the inside. Some common Romanesque **exterior decorations** include sculptural decoration (especially around the main entrance and on columns), the addition of towers (both on the eastern and western end of the church and in free-standing bell towers called campaniles), and finally arcades, or rows of arches lining the exterior of the church.

VOCABULARY

to abandon – отказываться от
to alternate – чередовать
angle – угол
barrel vault – цилиндрический свод
bell – колокол
campanile – колокольня
cathedral – собор
drab – скучный, однообразный
to expand – расширять
groin vault – крестовый свод
to handle – регулировать
intersection – пересечение
to persist – сохраняться
pier – столб
pressure – давление
to require – требовать
to replace – заменять
ribbed vault – ребристый свод
semicircular – полукруглый
solution – решение
sturdy – прочный
tower – башня
to undergo – подвергаться
vault – свод

5.3. EXERCISES

- **Insert English words or word combinations instead of Russian ones:**

1. The central fixation of Romanesque architecture is (полукруглая) arch.
2. There are some trends that (сохраняться) throughout these regional styles.

3. Columns were much prettier than (столбы).
4. A more complex solution was to replace columns with (прочные) piers.
5. The love of columns led Romanesque architects (чередовать) piers with columns.
6. (Скучные) exteriors of earlier churches were abandoned by the architects.
7. The exteriors of Romanesque cathedrals (подвергаться) a transformation of their own.
8. The Leaning Tower of Pisa is (колокольня), or bell tower.

- **Using the vocabulary:**

- **give English equivalents to the following:**

прочный столб, подвергаться трансформации, золотой колокол, красивый свод, чередовать арки и колонны, пересечение линий, полукруглая форма, скучный силуэт, хорошо сохраниться, прямой угол, регулировать давление;

- **give Russian equivalents to the following:**

tall campanile, semicircular arch, to alternate piers and columns, intersection of roads, bell tower, drab exterior, angle of the building, persist through regional styles, process called vaulting, simple barrel vault, sturdy material, to maintain strength, development of ribbed vault.

- **Make up 10 sentences using 10 new vocabulary words.**

- **Comprehension**
  Are the following statements concerning the Text A true or false?

		True	**False**
1	Romanesque architecture was centralized like many of the architectural movements before it.		
2	The central fixation of Romanesque architecture is the circular arch.		
3	Vaulting started with the simple barrel vault.		
4	These heavy vaulted ceilings required the light-weight construction.		
5	The simple solution was to build big heavy walls with many windows.		
6	The ribbed vault allowed Romanesque architects to build ever taller and wider cathedrals.		
7	Architects added half-columns to the outside of piers.		
8	Some common Romanesque exterior decorations include sculptural decoration, the addition of towers and finally arcades.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Is it easy to characterize Romanesque architecture?
2. Did vaulting go through several refinements during the Romanesque age?
3. Was it a more complex solution to replace columns with sturdier piers?
4. Are columns much prettier than piers?
5. Did architects alternate piers with columns only vertically?
6. Were the exteriors of Romanesque cathedrals undergoing a transformation of their own?
7. Do some common Romanesque exterior decorations include rows of arches lining the exterior of the church?

a. Yes, it did.
b. No they didn't.
c. Yes, they were.
d. No, it isn't.
e. Yes, it was.
f. Yes, they do.
g. Yes, they are.

- **Translate the definitions of the terms which characterize the Romanesque architecture. Pay attention to the polysemy of the term «vault»:**

1. **The vault** is a roof in the form of an arch or a series of arches, typical of churches and other large, formal buildings.
2. **The vault** is a large room or chamber used for storage, especially an underground one: *a wine vault.*
3. **The vault** is a secure room in a bank in which valuables are stored: *the masterpieces were deposited in the vaults of Swiss banks.*
4. **Vaulted** is provided (a building or room) with an arched roof or roofs: *a vaulted arcade.*
5. **Vaulted** is constructed (a roof) in the form of a vault: *an unusual brick vaulted ceiling*.
6. **Ribbed vault** is a vault supported by or decorated with diagonal ribs.
7. A **groin vault** or **groined vault** (also sometimes known as a **double barrel vault** or **cross vault**) is produced by the intersection at right angles of two barrel vaults.
8. **Barrel vault** is a simple roof having a curved, often semicircular cross section, used to span large distances in railway stations, churches, etc, and usually supported on columns.

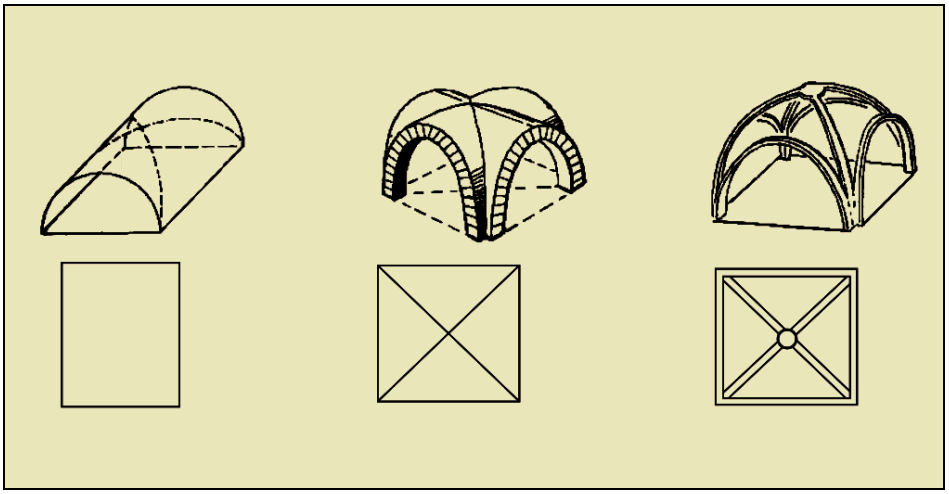
- **Think of some questions to ask your partner about each of these subjects:**

- the characteristics of Romanesque architecture
- the main elements
- the exterior decorations

- **Find evidence in the Text A to support these statements:**

- Romanesque architecture arose independently in a variety of locations.
- Vaulting went through several refinements during the Romanesque age.
- Churches began to be as beautiful on the outside as they were on the inside.

- **Look at the three types of vaults. What are the differences?**



a) b) c)

Fig. 13. Three types of vaults:
a) barrel vault; b) groin vault; c) ribbed vault

- **Develop the following ideas and express your opinion:**

1. The reasons of the emergence of Romanesque architecture.
2. The differences between the Romanesque arch and the earlier arches.
3. The technical necessity of the emergence of the groin vault.
4. The main factors which influenced the development of the ribbed vault.
5. The solutions of the Romanesque architects to support the construction with heavy vaults and ceilings.
6. The means to give the Romanesque buildings lightness and an aesthetic beauty.

5.4. READING

TEXT B

- **Read the text and put these questions in the correct order:**

1. Where is the Tower situated?
2. What is the name of the architect?

3. What is the weight of the Tower?
4. When was the third floor built?
5. When were temporarily clocks installed?
6. How many stages were there during the construction of the Tower?

PISA'S LEANING TOWER

(abridged from «The aura of power» by Valerio Neri)

The Leaning Tower of Pisa is the campanile, or bell tower, of the Italian city of Pisa's Cathedral. The tower was intended to stand vertically, to serve as a bell tower, but began leaning soon after construction started in August of 1173. It is situated behind the Cathedral and it is the third structure in Pisa's Campo dei Miracoli (field of Miracles).

There is controversy about the identity of the architect of the Leaning Tower of Pisa. For many years the design was attributed to Bonanno Pisano[1], a well known twelfth century resident artist of Pisa, famous for his bronze casting.

The height of the tower is 55,86 m from the ground on the lowest side and 56,70 m on the highest side. The thickness of the walls at the base is 4,09 m and at the top 2,48 m. Its weight is estimated at 14,500 tonnes. The tower has 294 steps.

The construction of the Tower of Pisa was performed in three stages over a period of about 200 years.

Construction of the first floor of the marble campanile began on August 9, 1173, a period of military success and prosperity. This first floor is surrounded by pillars with classical capitals, leaning against blind arches.

After the third floor was built in 1178, the tower acquired a lean, due to a mere three-meter foundation in weak, unstable subsoil. The design of this tower was flawed from the beginning.

Construction was halted for almost 100 years because the Pisans[2] were almost continually engaged in battles. This allowed for the underlying soil to settle, otherwise the tower would almost certainly have toppled. In 1198 some clocks were temporarily installed on the unfinished construction.

Fig. 14. The Leaning Tower of Pisa

In 1272 construction was resumed by the Giovanni di Simone, architect of the Camposanto[3]. Another four floors were built at an angle to compensate for the tilt. Construction again stopped in 1284, when the Pisans were defeated by the Genoans in the Battle of Meloria[4].

Only in 1372 the last floor, the bell-chamber was built by Tommasso di Andrea Pisano

and bells were installed. He succeeded in harmonizing the Gothic elements of the bell-chamber with the Romanesque style of the tower.

Notes to the text:

[1] **Bonanno Pisano** – Бонанно Пизано.
[2] **Pisans** – жители г. Пизы.
[3] **Camposanto** – Кампо Санто, монументальное кладбище в Пизе.
[4] **Battle of Meloria** – битва при Мелории, средневековое морское сражение.

VOCABULARY

bell – колокол
casting – литье
to compensate – сбалансировать
controversy – спор
to estimate – оценивать
to flaw – испортить
ground – грунт, почва
to halt – останавливать
to install – устанавливать
to intend – намереваться
leaning – наклон
to perform – выполнять
to resume – продолжать
to settle – оседать
soil – почва
to surround – окружать
thickness – толщина
tilt – наклон
to topple – падать
tower – башня

5.5. EXERCISES

- **Choose words above to put into the sentences below**:

1. The ..… Tower of Pisa is the campanile, or bell tower.
2. ….. of the tower is estimated at 14,500 tonnes.
3. There is ..… about the identity of the architect of the Leaning Tower of Pisa.
4. A well known twelfth century resident artist of Pisa is famous for his bronze ….. .
5. Construction was ….. for almost 100 years.
6. In 1272 construction was ….. by the Giovanni di Simone.
7. Another four floors were built at an angle to compensate for the ….. .

- **Think of the situations in which you can use the words from the vocabulary.**

- **Underline all the expressions in the Text B that are used to describe the architecture of the Tower.**

- **Find in the text and put down 10-12 words and word combinations which can be used to speak about the history of the Tower construction.**

- **Pay attention to the table below.**
  Which of these structure characteristics are mentioned in the Text B?

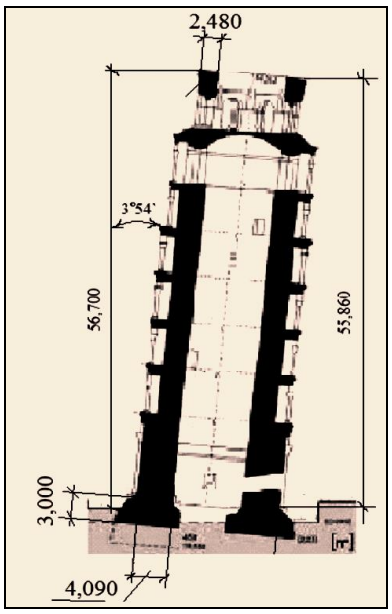
Structure characteristics	
1. Size and dimension	
Noun What's the ….. ? It's (50) cm in ….. length (длина) height (высота) width(ширина) depth (глубина) thickness (толщина) diameter (диаметр)	**Adjective** How ….. is it ? It's (50) cm ….. long high wide deep thick
2. Weight	
How much does it weight?	It weights 50 kg.
3. Materials and function	
It's made of ….. + material. It's used for …..	It's made of marble, glass, stone, etc. It's used for formal purpose.

- **Make a questionnaire of five or more questions, asking about the Pisa's Leaning Tower. Use expressions from the table.**
  Where can you use these terms in ordinary life?

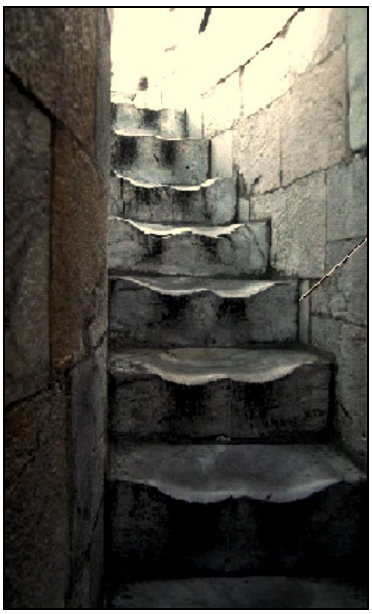
- **Complete the table below:**
  History of the Tower construction

Dates	**Process of construction**
1173 –	
1178 –	
1198 –	
1272 –	
1372 –	

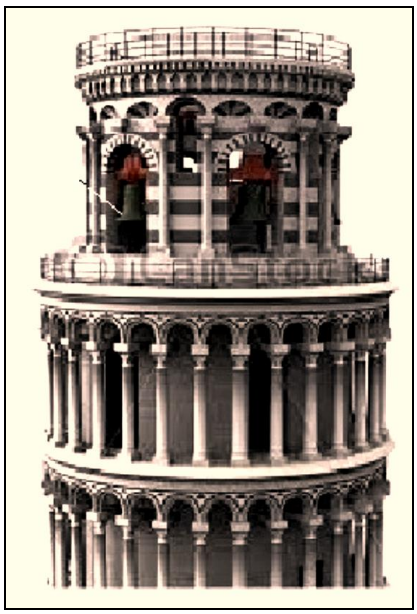
- **Speak about the characteristics of the Tower using the information from the pictures below:**



M = 14,500 t



294 steps



7 bells

a) b) c)

Fig. 15. The Leaning Tower of Pisa:
a) dimensions of the tower; b) steps of the tower; c) bells of the tower

- **Express your knowledge on these subjects and say what is your opinion about the facts you have learnt:**

- the architectural features of the Tower;
- the technical information;
- the modern reconstruction.

- **Sum up your knowledge about Romanesque style and the Tower of Pisa completing the following sentences. Express your opinion:**

1. The Tower of Pisa was included into UNESCO World Heritage List because ..… .
2. The construction of the Tower began in 1173 and continued for almost 200 years ..… .
3. The sizes of the Tower impress. They are ….. .
4. The Tower has the height of nearly 56 m.
   Comparing with a modern house it is a ….. .
5. During 100 years (after 1178) the citizens of Pisa didn't build the Tower because they were fighting and during this period of time ..… .
6. In 1272 the construction of the Tower was continued by the architect Giovanni die Simon, who had built the monumental cemetery in Pisa. He ….. .
7. The design of the Tower was wrong from the beginning. The combination of the small three-meter foundation and the soft soil led to….. .
8. The Tower is characterized by such architectural elements as ….. .
9. Tommasso di Andrea Pisano, who built the last storey with the bell, could ….. .
10. In the 12 century the architects had the necessary knowledge to prevent the fall of the Tower. The names of the architects were ….. . They used ….. .

5.6. TRANSLATING

- **Translate the text into English:**

ПОЧЕМУ ПАДАЕТ ПИЗАНСКАЯ БАШНЯ?

Известная Пизанская башня является частью ансамбля городского собора Санта-Мария Ассунта. Строительство Пизанской башни началось в 1173 году и с перерывами на войны продолжалось почти 200 лет. Ученые до сих пор спорят о том, кто является архитектором башни. Известно, однако, имя архитектора колокольни, расположенной на вершине башни. Это Томмазо ди Андреа Пизано. Он закончил ее в 1372 году.

Башня стала наклоняться сразу же после начала строительства и продолжала отклоняться со скоростью 1-2 миллиметра в год. Виною этому был ненадежный грунт, просевший при строительстве первых трех этажей. Следующие три этажа были построены под углом, чтобы компенсировать наклон.

Для спасения башни был создан специальный комитет для оценки проектов по спасению башни. С 1990 года вокруг фундамента башни начали укреплять грунт, восстановили колокольню, с помощью стальных тросов подтянули башню. В 2008 году официально было заявлено, что падение остановлено. На сегодняшний день наклон составляет около $3{,}5^0$. Пизанская башня является одним из памятников, включенных в список Всемирного наследия ЮНЕСКО.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

WHITE TOWER OF LONDON

It is a central tower, the old keep (главная башня), at the Tower of London. It was built by William the Conqueror during the late 11^{th} century, and subsequently extended.

The Chief Architect and Master Builder was Gundulf, Bishop (епископ) of Rochester. Style of the Medieval White Tower is described as Norman (Romanesque). The purpose of the White Tower was to provide a power base for Normand invaders and control and intimidate of the people of the City of London.

The white tower consisted of 3 stories. Each storey was divided by walls into separate rooms. The ground floor acted as a storeroom. The basement was believed to have housed the dungeon (темница) known as «Little Ease».

5.7. SPEAKING

- **Work in pairs. Imagine that you are Romanesque architects.**
  You have a number of problems with the design of a medieval cathedral:

1. Heavy vaulted ceilings require the heavier-duty construction.
2. How to handle horizontal pressure?
3. The drab exterior.

4. The cathedral acquired a lean.
5. Other problems.

- **How can you solve these problems? Take it in turns to tell each other about your problems and to offer advice.**
  Discuss each problem following these guidelines:

A **B**

EXPLAIN THE PROBLEM. ⇒ *SUGGEST A SOLUTION.*

⇓

REJECT THE IDEA AND GIVE A REASON.

⇓

OFFER AN ALTERNATIVE SOLUTION. ⇒ *ACCEPT THE IDEA*
Or REJECT THE IDEA
AND GIVE A REASON.
GIVE AN ALTERNATIVE
SOLUTION.

- **Definition game: you explain which word or phrase you are thinking of until your partners guess what is being described.**

Model: *a mixture of cement, water and aggregates? – It is concrete.*

Use words from following spheres:

- materials that are slightly different from others
- different kinds of buildings
- different architectural styles
- architectural elements
- some towns that are famous for their architecture

- **Imagine that you are going to take part in the scientific conference concerning Romanesque architecture. Choose one of the topics given below. Explain your choice and tell about it.**

- The Romanesque churches and cathedrals and their exterior decoration.
- Temple is a compositional center of the monastery.
- The origin of the term «Romanesque style».
- The main features of Romanesque architecture: vaults, increasing height of the temple, massive walls, columns and arches.
- The building materials for the construction in the Romanesque style.
- The décor of the early and late Romanesque period.
- The appearance of the Romanesque church.

- **Add the terms describing Romanesque architecture to your Glossary**.

UNIT 6

GOTHIC STYLE
(MID 12th CENTURY – 16th CENTURY)

6.1. GRAMMAR REVIEW

- **Времена группы Indefinite Passive.**
  To be + Participle II.

Indefinite Passive	**to be carved** **to be rebuilt**
Present	The ornament **is carved** on the wall of the cathedral. Орнамент вырезается на стене храма. The old church **is rebuilt** by the famous architect. Старая церковь перестраивается известным архитектором.
Past	The ornament **was carved** on the wall of the cathedral. Орнамент был вырезан на стене храма. The old church **was rebuilt** by the famous architect. Старая церковь была перестроена известным архитектором.
Future	The ornament **will be carved** on the wall of the cathedral. Орнамент будет вырезан на стене храма. The old church **will be rebuilt** by the famous architect. Старая церковь будет перестроена известным архитектором.

- **Translate the following sentences paying attention to the Passive Voice:**

1. This style of art is known as Gothic.
2. Many of the world's great cathedrals and churches were built in the Gothic style between the 12th and 16th centuries.
3. Walls, columns, entrances, and doors are carved with figures and scenes from the Bible.
4. In France traceried windows were called the style rayonnant.
5. This term was used to describe a style of decorative art.

6. All valuable papers will be carefully preserved.
7. Small painting is made on panels of wood.

- **Change Active forms into Passive:**

Model: *The famous architect* ***rebuilt*** *the old church. /The old church* ***was rebuilt*** *by the famous architect .*

1. The merchants of the late Middle Ages owned many manor houses.
2. Italian architects used stone for fortification.
3. The workers face many buildings in marble.
4. The availability of timber influenced the style of architecture.
5. Lancet windows without tracery characterized Early English Gothic.
6. Richly moulded ribs support Gothic vaulting.
7. The stained glass will fill the window.

- **Put the verbs in brackets in the Passive Voice:**

1. Gothic cathedrals on the continent (to decorate) richly with sculpture and carved ornament.
2. In Gothic architecture the pointed ach (to use) in every location where a vaulted shape is called for, both structural and decorative.
3. In an ancient cathedral all windows (to fill) with stained glass.
4. At the end of the 12^{th} century Europe (to divide) into a multitude of city states and kingdoms.
5. Next week the workers (to supply) with all necessary materials.
6. The new structure (to finish) next year.
7. An English cathedral (to surmount) by an enormous tower.
8. The facade of a large church or cathedral (to design) to create a powerful impression.

- **Translate from Russian into English:**

1. В готической архитектуре широко использовались стрельчатые арки.
2. Окна собора были заполнены витражным стеклом.
3. Конструкции готических зданий устремлены ввысь.
4. Стены, колонны и детали готических зданий покрыты узорами и резьбой.
5. Ажурная работа была использована для окон.
6. Рабочие были снабжены всем необходимым материалом.
7. Некоторые образцы готических рисунков обнаружены в рукописных книгах.
8. В готической архитектуре скульптура являлась ее неотъемлемым элементом.
9. Для готики характерны перспективные порталы.
10. Колонны, собранные в пучок, использовались в готике как несущие элементы.

6.2. READING

- **Read the text. Give the headline to each paragraph:**

TEXT A

BACKGROUND OF THE GOTHIC

(abridged from «Periods and Styles in Western Art» by John Harvey)

The style of art known as Gothic developed in Europe during Middle Ages. It was mainly a method of building. **Gothic characteristics** appeared first in architecture. Many of the world's great cathedrals and churches were built in the Gothic style between the 12th and 16th centuries.

Gothic cathedrals are tall, their arches soar heavenward, and rays of sunlight pour through high, stained-glass windows and bathe the wood, masonry, and marble. Walls, columns, entrances, and doors are carved with figures and scenes from the Bible.

Three **architectural features** are typical of the Gothic. These are the pointed arch, the ribbed vault and the flying buttress. The earliest Gothic windows had been narrow, but with a pointed instead of a round top. Then they became so large that it was necessary to put stone supports inside them to hold the glass firmly. The stone pattern work inside each window is known as **tracery.** Tracery may have been introduced to England by an architect called Vaster Henry, who had worked at Riems[1]. He used tracery for windows of Westminster Abbey, which he designed in 1245. In France traceried windows like those at Reims were called the **style rayonnant** («radiant style»). This term was used to describe a style of decorative art that was based on tracery. It referred, however, to decorative objects as well as to windows.

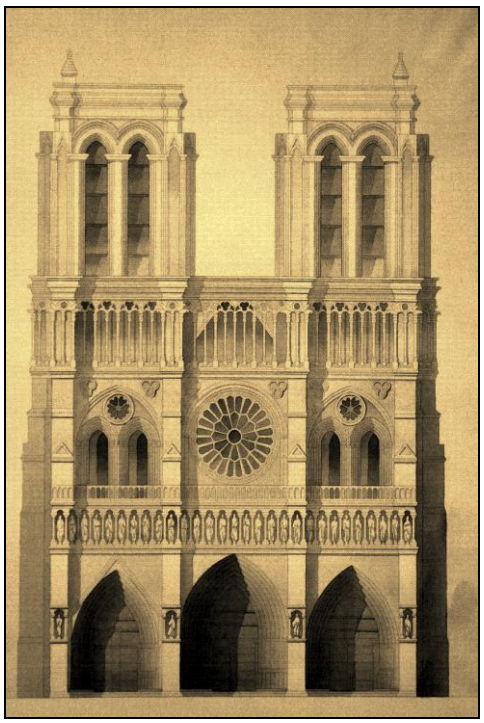


Fig. 16. Gothic cathedral – Notre Dame de Paris

Buildings in Gothic times supplied the framework into which all other arts fitted. Leaves, flowers, conventional patterns, and large statues were carved into the stonework of buildings. The statues were not made just to stand on pedestals and be admired as fine art. They were always an important part of the design of the building.

The earliest **Gothic paintings** were decorations on the walls of buildings. Later, stained-glass windows often took up much of the wall space, leaving no room for painting

on a large scale. Smaller paintings on panels of wood were made to be placed above the altars in churches. Other examples of Gothic painting are found in hand-decorated books called illuminated manuscripts. At first the paintings were mainly of religious subjects. Later the artists painted observations of real life. It was during the Gothic period that artists stopped copying older forms and started basing their designs on shapes in nature.

Note to the text:

[1]**Reims –** готический собор в Реймсе, во Франции (1211–1311 гг.), традиционное место коронации королей.

VOCABULARY

to admire – восхищаться
artist – художник
background – происхождение
to carve – вырезать, гравировать
cathedral – собор
conventional – стандартный
to fit – оборудовать
flying buttress – контрфорс
framework – каркас, основа
to introduce – вводить
mason – каменщик
masonry – каменная кладка
narrow – узкие
to paint – рисовать, писать красками
painting – рисунок
panel – панель
pattern – шаблон, узор
pedestal – пьедестал
pointed arch – стрельчатая арка
rayonnant – лучистый
ribbed vault – ребристый свод
scale – масштаб
shape – форма
stained-glass – витражное стекло
to supply – обеспечивать
tracery – ажурная работа

6.3. EXERCISES

- **Insert English words or word combinations instead of Russian ones:**

1. One of the main Gothic characteristics was (стрельчатая арка).
2. (Витражные) windows were very popular in the medieval architecture.
3. (Стандартные) patterns were carved into the stonework of buildings.
4. In France traceried windows were called the style (лучистый).
5. The statues were not made to stand on (пьедестал).
6. The stone patternwork inside each window is known as (ажурная работа).
7. Tracery may have been (вводить) to England by an architect called Vaster Henry.
8. (Художники) painted pictures of real life.

- **Replace the underlined words (A) by their contextual synonyms (B):**

A

1. Gothic style was introduced in the mid-12th century.
2. There are many new pictures of the famous artist in the exhibition.
3. The workers were supplied with all necessary building material.
4. The medieval architects used conventional pattern for their sculptures.
5. The origin of the Gothic style dates back to the 12 century.
6. The framework of the building is very durable.

(B) ***presented, traditional, skeleton, painter, appearance, provided***

- **Using the vocabulary:**

- give English equivalents to the following:

снабжать материалом, происхождение картины, использовать витражное стекло, вводить новую модель, красивая ажурная работа, средневековый художник, стоять на пьедестале, элемент ребристого свода, лучистый стиль, стандартная форма, каркас здания, длинная панель;

- give Russian equivalents to the following:

stained-glass window, famous artist, long pointed arch, background of the style, to introduce tracery, conventional model, to supply the framework, large pedestal, thick panel, many pointed arches, to use ribbed vault.

- **Make up 10 sentences using 10 new vocabulary words.**

- **Write out from the text the sentences containing Passive Voice. Explain the use of the form**.

- **Comprehension**
  Are the following statements concerning the Text A true or false?

		True	**False**
1	The style of art known as Gothic developed in Europe during Stone Ages.		
2	Three typical Gothic architectural features are the pointed arch, the ribbed vault and the flying buttress.		
3	The earliest Gothic windows had been large.		
4	The wooden patternwork inside each window is known as tracery.		
5	In France traceried windows were called the style Rayonnant.		
6	The statues were made just to stand on pedestals and be admired as fine art.		
7	Buildings in Gothic times supplied the framework into which all other arts fitted.		
8	It was during the Gothic period that artists began copying older forms.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Did Gothic develop in Europe during Middle Ages?
2. Are columns carved with figures and scenes from the Bible?
3. Is the stone patternwork inside each window known as pointed arch?
4. Were the earliest Gothic windows with a pointed instead of a round top?
5. Were smaller paintings on panels of wood made to be placed below the altars in churches?
6. Are the examples of Gothic painting found in the Bible?
7. Was the statue an important part of the design of the building?
8. Did artists start basing their designs on shapes in nature?

a. Yes, they did.
b. No, it isn't.
c. Yes, they are.
d. No, they weren't.
e. Yes, they were.
f. Yes, it did.
g. No, they aren't.
h. Yes, it was.

- **Translate the definitions of the terms which characterize the Gothic style:**

1. **The Gothic** is the dominant style during the late Middle Ages in European architecture characterized by slender towers, pointed arches, soaring ceilings, and flying buttresses. Many great cathedrals, including Chartres and Notre Dame de Paris, were built in this style.
2. A **gothic cathedral** or abbey was, prior to the 20th century, generally the landmark building in its town, rising high above all the domestic structures and often surmounted by one or more towers and pinnacles and perhaps tall spires.
3. **The flying buttress** is the defining external characteristic of gothic architecture. These buttresses effectively spread the weight of the new designs, taking the weight off the walls and transferring force directly to the ground.
4. **The pointed arch** effectively distributed the force of heavier ceilings and bulkier designs, and could support much more weight than previous, simple pillars. The stronger arches allowed for much more vertical height, too - they literally reached up to the heavens.

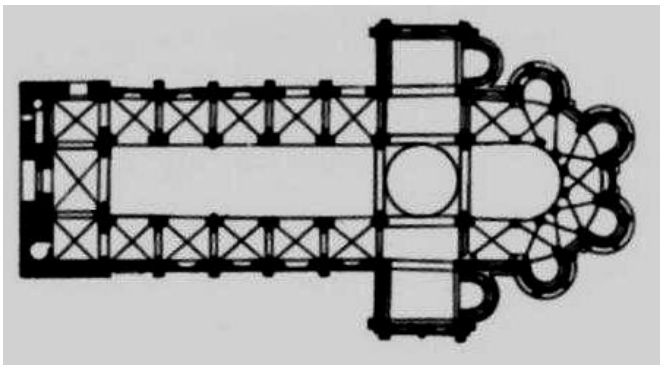
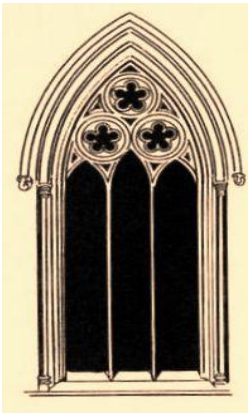
- **Find in the Text A the sentences containing:**

1. ….. on panel of wood ..… .
2. ….. their arches soar heavenward ..… .
3. ….. a style of decorative art ..… .
4. ….. supplied the framework ..… .
5. ….. placed above the altars ..… .
6. ….. found in hand-decorated books ..… .

- **Develop the following ideas. Using the words from the Text A, share your opinion with the group mates.**

1. **Gothic architecture** grew out of the previous architectural genre, Romanesque.
2. **Cathedral** is one of the most popular types of buildings in the Gothic times.
3. **Gothic characteristics** appeared first in architecture during Middle Ages.
4. **Buildings in Gothic times** supplied the framework into which all other arts fitted.

- **There are numerous pictures which show the various elements of Gothic style (plan; capital; frame system; interior; pointed window).**
  Match the pictures with the correct definitions:

<table>
<tr><td colspan="3">  </td><td colspan="3">  </td></tr>
<tr><td>1</td><td colspan="2">a narrow window with sharp pointed aches</td><td>2</td><td colspan="2">the inside part of something, especially a building</td></tr>
<tr><td colspan="2">  </td><td colspan="2">  </td><td colspan="2">  </td></tr>
<tr><td>3</td><td>a wide crown to a column or pilaster, designed to create a base offering structural support to an arch</td><td>4</td><td>a drawing to scale of a horizontal section through a building taken at a given level the Gothic cathedral</td><td>5</td><td>a structural system with an essentially complete space frame providing support of the vertical loads</td></tr>
</table>

6.4. READING NEWSPAPER AND SPECIAL LITERATURE

- **Read and translate the article, published in one of the specialist journals:**

TEXT B

GOTHIC ARCHITECTS

(abridged from «100000 Years of Beauty» by Elisabeth Azoulay)

Abbeys, castles and cathedrals called for many men to work together. The machinery-cranes and other hoisting devices, scaffolding, ladders, tools for centering arches and vaults –

had to be taken care of and operated by specialists. The organization of such work was like that of modern construction groups, even as far back as the 12th century. All were under the direction of the architect. The medieval architect was much like a modern architect. Then as now he had to make design and prepare plans and other drawings of a building before it was begun. The plans of the vaults, buttresses, and window tracery all had to be worked out with the help of geometry before the stones could be cut to their proper shape. It was architect who prepared full-size drawings of moldings that the masons used as pattern. When – as was often the case in Middle Ages – special builders were employed, it was the architect's duty to check and control all construction.

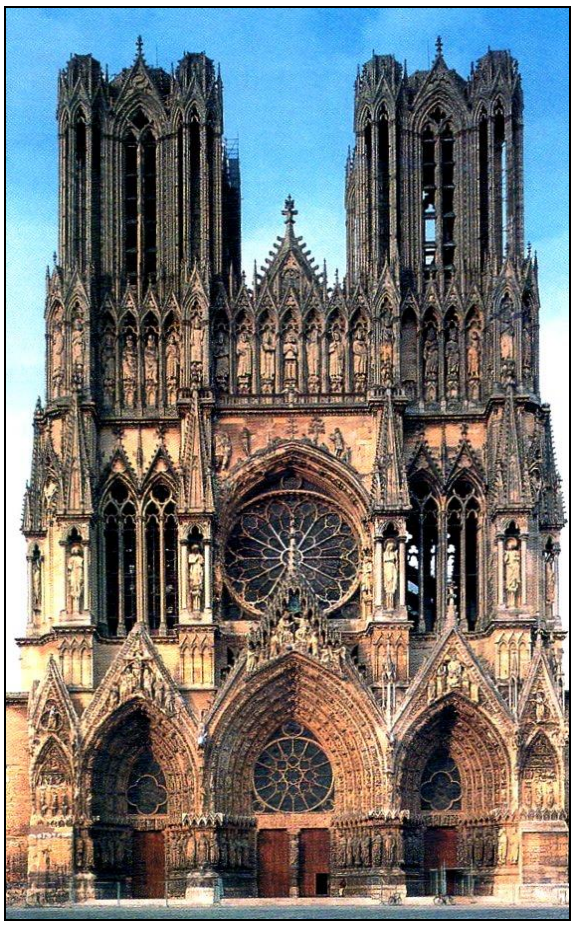


Fig. 17. The Cathedral in Reims

Who were these architects? Most of them were stonemasons by training, able to shape stones for buildings. Often they were also able to carve both decorations and statues. Most of their training took place while working on a job. Under a master they learned how to choose stone from the quarry, how to cut it, how to draw, and how to design a building according to the traditions of the period and place. They were mostly well-educated men, who could read and learn Latin as well as the language of their own country.

The best examples of an architect's skill, apart from the buildings themselves, are his drawings. Beautifully drawn on great sheets of parchment or paper, they were carefully preserved until the building was complete. Some of these drawings still exist at Cologne, at Vienna, and especially at Strasbourg.

The designers and architects of the Gothic period left little record other than their works. Noteworthy are the names of Jean d'Orbais, Jean de Loup, Gaucher de Reims, Bernard de Soisons, who designed Reims cathedral, begun in 1211. Jean d'Orbais'design for the tracery window was first of its kind.

Hans Stethaimer designed the late Gothic Franciscan church in Salzburg; Pierre de Corbie devised the choir plan at Lausanne with Villard de Honnecourt; and Peter Parler designed the Cathedral in Prague in 1353.

VOCABULARY

abbey – аббатство
castle – замок
to check – проверять
church – церковь
to cut – вырезать
device – устройство
to devise – придумывать
to draw – чертить, рисовать
to hoist – поднимать
job – работа
ladder – лестница
medieval – средневековый
molding – отливка, формовка
parchment – пергамент
pattern – узор, шаблон
to prepare – готовить
preserve – сберегать
quarry – карьер
record – запись
scaffolding – строительные леса
to shape – придавать форму
sheet – лист
skill – мастерство
stonemason – каменщик
tool – орудие
to work out – разрабатывать план

6.5. EXERCISES

- **Choose words above to put into the sentences below:**

1. The machinery-cranes and other hoisting ..… had to be taken care of and operated by specialists.
2. It was the architect duty ….. and control all construction.
3. The architect prepared full-size drawings of ….. that the masons used as pattern.
4. ..… were able to shape stones for buildings.
5. Under a master they learned how to choose stone from the quarry, how ..… , and how to design a building according to the traditions of the period and place.
6. In the medieval architecture ….. for centering arches and vaults were used.
7. The ….. architect was much like a modern architect.

- **Translate and study the words most frequently used with the word *job:***

<table>
<tr><td rowspan="2">Verbs</td><td rowspan="2">to apply for a job
to look for a job
to seek a job
to find a job
to get a job
to offer a job
to take a job
to accept a job
to leave one’s job
to lose a job
to do a job
to give up a job</td><td>Nouns</td><td>job opportunities
job prospects
job description
job satisfaction
job security</td></tr>
<tr><td>Adjectives</td><td>temporary/permanent job
part-time/full-time job</td></tr>
</table>

- **Think of situations in which you can use the above word combinations.**

- **Find in the text and put down 10-12 words and word combinations which can be used to speak about the activities of the medieval architects.**

- **Learn and memorize the following verbs which characterize the activities of the architect:**

- to organize;
- to direct;
- to make design;
- to prepare plans and drawings;
- to work out by geometry;
- to prepare full-size drawings of moldings;
- to check;
- to control;
- to devise.

- **Make a list of functions performed by an architect in the Middle Ages. Do modern architects perform similar functions?**

Medieval architect	Modern architect
1) to prepare plan 2) 3)	1) to make design 2) 3)

- **Find evidence in Text B to support these statements:**

1. The organization of construction was like that of modern construction groups.
2. The medieval architect was much like a modern architect.
3. They were mostly well-educated men.

- **Sum up your knowledge about Gothic architecture completing the sentences and using additional information:**

1. The construction of the big gothic buildings caused the necessity in the organization of construction teams because ….. .
2. The construction teams worked under the direction of an architect who ….. .
3. First an architect worked out the plan by geometry, then ….. .
4. The gothic architects derived from the masons by means of training ..… .
5. The architects drew on thin parchment or paper which ..… .
6. While modern architects use ..… .
7. The examples of other famous gothic building are ..… .
8. They are created by ..… .
9. The most famous architects were Bernard de Soison who ….. , Hans Stethaimer who ..… and Peter Parler who ..… .
10. A medieval architect was much like a modern architect. In my opinion ..… .

6.6. TRANSLATING

- **Translate the text into English:**

ДЕЯТЕЛЬНОСТЬ СРЕДНЕВЕКОВОГО АРХИТЕКТОРА

Исторически готический стиль развился на основе романской архитектуры. Для готики характерны стрельчатые арки, узкие и высокие башни и колонны, ребристые своды, контрфорсы и аркбутаны, сложные перспективные порталы и многоцветные витражные окна. Все элементы готического стиля подчёркивают устремленность ввысь.

Сложность строительных методов при возведении храмов требовала, чтобы главный создатель сооружения – архитектор – умел не только детально разрабатывать проект, вычерчивать чертежи, но мог и выполнять другие строительные и художественные работы: придавать камню соответствующую форму, используя знания в геометрии, вырезать капители, орнаменты, статуи. Чертежи, рисунки и проекты архитектора являются лучшими примерами проявления профессионального опыта средневекового архитектора. Сегодня мы бы назвали это проектной документацией. Все чертежи и рисунки возводимого объекта хранились до окончания строительства. Кроме того, именно архитектор продумывал порядок выполнения строительных работ.

В обязанность архитектора входили также проверка и контроль всего процесса строительства. Например: каменотесу отводился фрагмент скульптуры, кусок фриза или капитель и тот творил под руководством архитектора. Архитектор был высокообразованным специалистом, который кроме владения черчением и рисунком, знал математику, латынь. Во времена Возрождения происходит дифференциация работы проектировщика и строителя. Архитектор остается проектировщиком и руководителем стройки, но уже не является одним из мастеров, участвующих в работе.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

THE NEW CHURCH OF ST. DENIS

In 1137, Abbot Suger began to rebuild the Abbey Church of St.Denis. Suger was not content with the dark, bulky, haphazard style of Romanesque architecture. Suger wanted his church to be a graceful expression of geometric harmony, striving towards Heaven and flooded with miraculous light.

Years later, the new Church of St. Denis was revealed to the world. As Suger had wished, this new church was definitely unlike its Romanesque predecessors. Where Romanesque churches were short and thick, his new church was tall and elegant. Where Romanesque churches were dark and imposing, his new church was bright and inspiring. Suger called his new style of church «modern». His critics called it Gothic.

6.7. SPEAKING

- **Render an article. Use the suggested plan and the language:**

The plan for rendering a newspaper article	**The language to be used while rendering the article**
1.The title of the article	The article is headlined ..… . The article is entitle ..… . The title / headline of the article is ..… .
2.The author of the article, the newspaper, where and the article was published	The author of the article is ..… . The article is written by ….. . The article is (was) published in ..… .
3.The massage/the main idea of the article	The article is about ….. . The article is devoted to ….. . The article deals with / touch upon ….. . The article addresses the problem of ..… . The article describe / assesses the situation ..… . The aim of the article is to provide the reader with information about ….. .
4.The content of the article	The author start by telling the reader that ….. . The author goes on to say that ..… . The author writes / states / stress / underlines / emphasizes/points out that ..… .
5.Your opinion of the article / your assessment of the article	I find the article interesting / important / dull / useful / too difficult to understand and assess.

- **Imagine that you are a journalist in a scientific journal. You have visited France in a delegation. You have admired the medieval cathedrals and churches. After your trip you should prepare an article. What would you like to write about? Choose the topic you are interested in and write about it.**

1. The origin of the term «gothic».
2. The most famous monuments in gothic style.
3. Compare the Gothic in France and the Gothic in Russia.
4. Gothic cities.
5. The decorative elements in Gothic.
6. The main features of gothic churches and cathedrals.
7. Gothic style in England.
8 Building materials in Gothic.

- **Add the terms describing Gothic architecture to your Glossary.**

UNIT 7

RENAISSANCE ARCHITECTURE

7.1. GRAMMAR REVIEW

- **Времена группы Continuous.**

Tense	Active	Passive
Present	**To be +Participle I** The artist **is creating** a new pattern now. Художник создает новый узор сейчас.	**To be + being +Participle II** A new pattern **is being created** by the artist now. Новый узор создается художником сейчас.
Past	The artist **was creating** a new pattern when I entered his workshop. Художник создавал новый узор, когда я вошел в его мастерскую.	A new pattern **was being created** by the artist when I entered his workshop. Новый узор создавался художником, когда я вошел в его мастерскую.
Future	The artist **will be creating** a new pattern all day long tomorrow. Художник будет создавать новый узор весь день завтра.	*Не употребляется*

- **Find in each row of words a verb in Continuous Tense:**

a) was drawing	b) drawn	c) are drawn
a) checks	b) was checked	c) are going to check
a) were being introduced	b) introduced	c) will be introduced
a) were supplied	b) is supplying	c) supplies
a) replaces	b) will be replaced	c) is going to replace
a) was being expanded	b) were expanded	c) expanded

- **Choose the correct translation of the words in bold:**

1. The new tools **are being used** by craftsmen now.
   а) использовались
   б) используются
   в) используют

2.	The sculptor **will be carving** the ornament all day long tomorrow.	а) будет вырезан б) вырезается в) будет вырезать
3.	Drawings **were being made** by the architect.	а) делались б) делал в) делаются
4.	The old style **will be replaced** by the new one.	а) будет заменен б) заменит в) заменяется
5.	All process of construction **is being checked** by the master.	а) контролирует б) контролируется в) контролировал

- **Translate the following sentences paying attention to the form of the verb:**

1. a) Do you know who was building the cathedral?
   b) Was the cathedral built well?
   c) When the famous architect came to the city, a new cathedral was being built there.

2. a) The work on the new lifting machines is almost finished.
   b) The work on the new lifting machines is being finished.
   c) The architect is finishing the work on the new lifting machines.

3. a) The drawings are usually made at the beginning of the construction.
   b) The designers are making the drawings now.
   c) The drawings for the construction are being made by the designers.

- **Translate the following sentences into Russian:**

1. The design was being made all day long yesterday.
2. What architectural elements are being demonstrated now?
3. The pillars were being adorned with vertical lines and patterns.
4. I don’t know what structure he is designing.
5. Can you tell me who is developing the new architectural element with you?
6. A new church was being completed in London.
7. The architects are organizing this kind of work in their workshops.
8. At the end of March all specialists will be preparing for their work.
9. The frescoes are being carved on the wall now.
10. The construction of public buildings was still being performed in some parts of the city when the new year began.

7.2. READING

- **Read the text and name the typical characteristics of Renaissance architecture:**

TEXT A

RENAISSANCE ARCHITECTURE

(abridged from «Understanding Renaissance Architecture» by Rachel Hork)

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.

Renaissance style places emphasis on symmetry, proportion, geometry and the regularity of parts as they are demonstrated in the architecture of classical antiquity and in particular ancient Roman architecture, of which many examples remained.

The following characteristics are typical of this style of architecture.

Symmetrical Base Plan: The main building is usually built in symmetrical fashion, with a module as the base of the plan.

Pillars: Pillars and columns became standard parts of structure and decoration in this time of elaborate art work and emphasis on beauty. Many of these were carved or adorned with vertical lines, swirls, faces or patterns. A strong Roman influence can be found in many buildings of this era, though the pillars are usually much smaller than those found in classic Roman architecture.

Fig.18. Basilica di Sant'Andrea in Mantua

Domes: domes were often placed over square-shaped rooms and decorated with windows, or ornately painted or carved vaulting beams. The domes were decorative both inside and out. Before the Renaissance, domes were a rare feature in buildings. Renaissance domes are almost always supported by Roman-style pillars.

Arches: there is a plethora of arched entrances in Renaissance architecture. These archways are semi-circles. One of the most famous examples of the use of arches on a grand scale is the Basilica di Sant'Andrea in Mantua, Italy.

Windows: many of the windows were paired and set into arched frames. In other cases, windows adorned the level of a building under a dome, set in symmetrical and systematic format. Placement of windows throughout a building is inevitably precise, with windows appearing in parallel on opposite walls.

Artwork: at time of Renaissance, artists worked alongside architects to add beauty to the structures that were built. Renaissance architecture features art in its many forms, including murals, fountains, altars, portals, statues, engravings, frescoes and the sculpting and painting of moldings and ceilings. Michelangelo Buonarrotti, Leonardo Da Vinci and Filippo Brunelleschi are three artists known for influencing Renaissance architectural style and décor.

VOCABULARY

to adorn – украшать
archway – сводчатый проход
beam – балка
conscious – сознательный
elaborate – продуманный
engraving – гравюра
fashion – (зд.) форма
to feature – показывать
frame – рама, каркас
frescoes – фреска
influence – влияние
mural – фреска
paired – парные
pillar – столб, колонна
to place emphasis – придавать значение
revival – возрождение
plethora – изобилие
portal – главный вход
scale – масштаб
to succeed – сменять
to support – поддерживать
swirl – завиток

7.3. EXERCISES

- **Insert English words instead of Russian ones:**

1. Renaissance style places (значение) on symmetry, proportion and geometry.
2. The famous cathedral was built in symmetrical (форма).
3. The walls of the church were adorned with (завитки).
4. There is (изобилие) of arched entrances in Renaissance architecture.
5. Many of the windows were (парные) and set into arched frames.
6. (Сводчатые проходы) are semi-circles in this cathedral.
7. Domes were decorated with carved vaulting (балки).

- **Replace the underlined words (A) with their contextual synonyms (B):**

(A)

1. There is a plethora of arched entrances in Renaissance architecture.
2. In Renaissance architecture the pillars are usually much smaller than those found in classic Roman architecture.
3. The main building is usually built in symmetrical fashion.
4. Many of pillars were adorned with vertical lines and swirls.
5. Renaissance architecture features art in its many forms, including fountains, engravings and frescoes.

(B) ***column, mural, shows, portal, shape, scroll***

- **Using the vocabulary:**

- give English equivalents to the following:

эпоха Возрождения, украшать завитками, резной узор, старинная фреска, квадратная форма, бронзовая гравюра, белая колонна, длинная балка, большой масштаб, деревянная рама, полукруглый сводчатый проход, придавать значение;

- give Russian equivalents to the following:

to place emphasis on proportions, symmetrical fashion, to be adorned with swirls and patterns, small pillar, plethora of shapes, grand scale, paired windows, under a dome, famous artist, to succeed old fashion, beautiful frescoes, wooden mural, short beam, stone engraving, to influence architectural style.

- **Make up 10 sentences using 10 new vocabulary words.**

- **Comprehension.**
  Are the following statements concerning the Text A true or false:

		True	**False**
1	Renaissance architecture followed Baroque architecture.		
2	Renaissance style places emphasis on the regularity of parts.		
3	Pointed arches became standard parts of structure in this time.		
4	The Renaissance pillars are usually much bigger than those found in classic Roman architecture.		
5	Domes were often placed over square-shaped rooms.		
6	After the Renaissance, domes were a rare feature in buildings.		
7	Windows adorned the level of a building under a dome.		
8	Renaissance domes are supported by Roman-style pillars.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Was Renaissance architecture succeeded by Baroque architecture?
2. Were pillars adorned with patterns?
3. Is a module the base of the plan?
4. Did columns become standard parts of the structure?
5. Were the domes decorative only inside?
6. Is there a plethora of arched entrances in Renaissance architecture?
7. Are the archways semi-circles?
8. Is Filippo Brunelleschi the artist known for influencing Renaissance architectural style?

a. Yes, it is.
b. No, they aren't.
c. Yes, it was.
d. Yes, they are.
e. Yes, they were.
f. Yes, they did.
g. Yes, he is.
h. Yes, there is.

- **Translate the definitions of the terms which characterize the Renaissance architecture:**

1. **Renaissance architecture** is the style of building and decoration that arose in the early 15th century in Italy based on the study and adaptation of the Roman classic orders and design and that spread later through western Europe succeeding the Gothic style.
2. **Portal** is the whole architectural composition surrounding and including the doorways and porches of a church.
3. **Dome** is a large rounded roof or ceiling that is shaped like half of a ball.
4. **Arch** is a structure, especially one of masonry, forming the curved, pointed, or flat upper edge of an open space and supporting the weight above it, as in a bridge or doorway.
5. **Arch** is a structure, such as a freestanding monument, shaped like an inverted U.
6. **Arch** is a curve with the ends down and the middle up.

- **Find in the text the sentences containing:**

1. ….. a conscious revival ..… .
2. ..… with a module as the base ..… .
3. ….. emphasis on beauty ..… .
4. **..**… square-shaped rooms ….. .
5. ….. on opposite walls.
6. ….. including murals ….. .

- **Describe the following elements of Renaissance architecture:**

- pillars;
- domes;
- arches;
- windows;
- artwork.

- **Develop the following ideas.**
  Using the words from Text A and architectural terms give a short report.

1. Renaissance architecture demonstrated a conscious revival of certain elements of ancient Greek and Roman thought and material culture.
2. Pillars and columns became standard parts of structure and decoration in this time.
3. There was a plethora of arched entrances in Renaissance architecture.
4. At time of Renaissance, artists worked alongside architects to add beauty to the structures that were built.

7.4. READING

- **Read and remember the summary of Renaissance architecture:**

SUMMARY OF RENAISSANCE ARCHITECTURE		
Early Renaissance ca. 1400-1500	**High Renaissance ca. 1500-1525**	**Late Renaissance ca. 1525-1600**
Brunelleschi (churches), Alberti (facades)	Bramante (Tempietto), Palazzo Farnese	Palladio (villas)

- **Read the text to find answers to the given questions:**

TEXT B

THE GREAT RENAISSANCE ARCHITECTS
(abridged from «Man and the Renaissance» by Andrew Martindale)

1. What was Brunelleschi's invention?

Filippo Brunelleschi was the first great Renaissance architect. He was primarily a designer of churches. His most famous work is the octagonal brick dome of Florence Basilica (an Italian Gothic church), an engineering feat of such difficulty (given the dome's unprecedented size) that he also had to invent special machines to hoist each section into place. Brunelleschi's dome was the largest the pre-industrial world would ever see.

2. What design was used for the dome construction?

The building of such a masonry dome posed many technical problems. Brunelleschi looked to the great dome of the Pantheon in Rome for solutions. The dome of the Pantheon is a

single shell of concrete, the formula for which had long since been forgotten. Brunelleschi chose to follow such design and employed a double shell, made of sandstone and marble. Brunelleschi would have to build the dome out of bricks, due to its light weight compared to stone and easier to form, and with nothing under it during construction.

Fig. 19. The main church at Florence (Brunelleschi)

3. What shape did the lantern have?

Brunelleschi's ability to crown the dome with a lantern was questioned and he had to undergo the competition. He was declared the winner over his competitors. His design was for an octagonal lantern with eight radiating buttresses and eight high arched windows. Construction of the lantern was begun a few months before his death in 1446. Then, for 15 years, little progress was possible, due to alternations by several architects.

4. Why was Alberti considered a leading pioneer of classical facade design?

Leon Battista Alberti was an Italian architect, art theorist and writer who studied deeply the classic architecture, its design, proportions, decorations and projecting. He turned his attention to the traditional Latin cross plan and applied a combination of a temple front and a triumphal arch to the facade. Alberti not only produced a new facade design but abandoned the nave-and-aisles type of basilica church which Brunelleschi had used, turning instead to a Latin cross form with a barrel-vaulted nave and a series of alternating chapels and supports on either side. In terms of actual building projects, Alberti was the leading pioneer of classical facade design**.** His greatest facades include the Church of Sant'Andrea and Palazzo Rucellai.

VOCABULARY

aisle – проход, боковой неф
alternation – чередование
basilica – базилика
buttress – контрфорс
chapel – часовня
to compare – сравнивать
competition – конкурс
to crown – увенчивать
design – проект
dome – купол
to employ – использовать
feat – подвиг
to hoist – поднимать
to invent – изобретать
lantern – фонарь
marble – мрамор
masonry – каменный
nave – неф
octagonal – восьмиугольный
to pose – (зд.) задавать
projecting – проектирование
radiating – лучеобразно расходящийся
sandstone – песчаник
shell – оболочка, каркас
size – размер
support – подпора
to undergo – пройти
unprecedented – небывалый

7.5. EXERCISES

- **Choose words from vocabulary to put into the sentences below:**

1. The dome of Florence cathedral shows the engineering ….. of the great architect.
2. The building of such ….. dome posed many technical problems.
3. Brunelleschi invented a number of lifting machines for ..… the materials to the great height.
4. The ..… dome was a true masterpiece of structural engineering.
5. Brunelleschi had to build ….. out of bricks.
6. The famous architect crowned the dome with ..… .
7. Alberti was the leading pioneer of classical facade ..… .

- **Think of situations in which you can use the above words.**

- **Match these great Renaissance architects with their works.**
  Use the additional information:

Renaissance architects	Monuments of architecture
1. Filippo Brunelleschi	a. St. Peter Basilica in Rome
2. Leon Battista Alberti	b. Dormition Cathedral in Moscow
3. Aristotile Fioravanti	c. Dome of the Florence Cathedral
4. Andrea Palladio	d. Santa Maria Novella, church in Florence
5. Donato Bramante	e. Villa La Rotonda in Vichenca

- **Match the underlined adjectives in the text B with their opposites in the box:**

old, ordinary, low, smallest, insignificant, big, impossible, unusual

7.6. TRANSLATING

- **Translate the text into Russian:**

FLORENCE BASILICA DOME CONSTRUCTION

Construction of such kind of dome was a difficult technical problem. That's why Brunelleschi paid attention to the experience of the Pantheon in Rome. The dome of the Parthenon presents a single shell the project of which had been forgotten for long time.

Brunelleschi's solutions were ingenious. The spreading problem was solved by a set of four internal horizontal stone and iron chains, serving as barrel hoops, embedded within the inner dome: one each at the top and bottom, with the remaining two evenly spaced between them. A fifth chain, made of wood, was placed between the first and second of the stone chains. Since the dome was octagonal rather than round, a simple chain, squeezing the dome like a barrel hoop, would have put all its pressure on the eight corners of the dome. The chains needed to be rigid octagons, stiff enough to hold their shape, so as not to deform the dome as they held it together.

- **Translate into English and speak about famous architects – Filippo Brunelleschi and Leon Battista Alberti:**

Филиппо Брунеллески – один из величайших архитекторов эпохи Возрождения. Его самое известное архитектурное произведение – величественный восьмигранный купол Флорентийского собора. Купол является первым крупным памятником архитектуры Возрождения и самой высокой постройкой во Флоренции (114,5 м). Купол строился в течение 15 лет с помощью специальных подъемных механизмов.

Леон Баттиста Альберти – зачинатель (initiator) новой европейской архитектуры эпохи Возрождения. Вслед за Филиппо Брунеллески Альберти развивал античные мотивы в архитектуре. По его проектам был построен палаццо Ручеллаи во Флоренции (1446–1451 гг.), перестроено много церквей и зданий, которые определили основное направление в архитектуре кватроченто (quattrocento). Альберти считал, что архитектура должна быть эстетичной. Кроме того, он полагал, что пропорции необходимо использовать, чтобы придать зданию силу и прочность.

- **Translate the text into Russian:**

«FACTS IN BRIEF»

ANDREA PALLADIO

Andrea Palladio was born on November 30, 1508 in Padua. As a child he was an apprentice to a local stonecutter. In 1524 he moved to Vicenza where he met the rich scholar, nobleman and amateur architect Gian Giorgio Trissino. Count Trissino immediately recognized the boy's talent and took him under his protection. He tutored him and gave him his new classical name, Palladio, from the Greek goddess Pallas Athena. Palladio's early commissions were country mansions for the local aristocracy. Later he created numerous urban palaces and religious buildings. Vicenza is a showcase for Andrea Palladio, with 23 edifices created by him in the historic centre, and other in the suburbs. The city is located in Northern Italy. In 1994 Vicenza and its Palladian edifices were added to the UNESCO World Heritage list.

7.7. SPEAKING

- **Look at three pictures of the famous Renaissance monuments. Try to guess what these monuments are.**

a) – ?

b) – ?

c) – ?

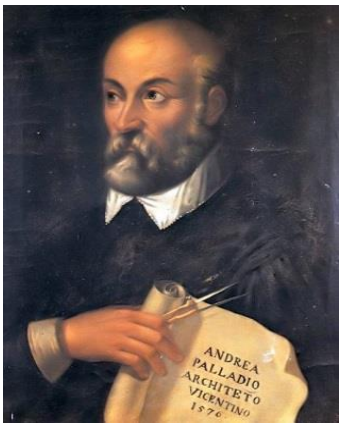
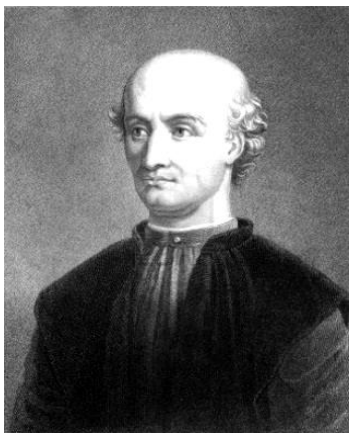
Fig. 20. The famous Renaissance monuments

- **Answer the following questions:**

1. Where were these Renaissance monuments built?
2. Who designed them?
3. What are the distinct elements of these buildings?

- **Give your own questions.**

- **Using the information you have learnt from the Unit and the information you can get from other sources make a presentation about life and creative activity of these great Renaissance architects. Follow the plan below:**

<table>
<tr><th colspan="2">Renaissance architects</th><th>Plan of the presentation</th></tr>
<tr><td rowspan="4">Andrea Palladio
 
</td><td rowspan="4">Donato Bramante
  </td><td>1. Biography.</td></tr>
<tr><td>2. Famous Palladio’s works:
Palladian Villas
(plan, construction)
Basilica Palladiana in Vicenza.</td></tr>
<tr><td>3. Famous Bramante’s works:
Tempietto of San Pietro
(plan, construction)
St. Peter’s Basilica.</td></tr>
<tr><td>4. Other facts.</td></tr>
</table>

- **Sum up what you know about Renaissance style and make up an oral report on one of the suggested topics:**

- the sources of Renaissance’s origin;
- Renaissance architecture in England;
- the differences between the Renaissance and the Gothic;
- great Renaissance architects;
- famous Renaissance monuments.

- **Add the terms describing Renaissance architecture to your Glossary.**

UNIT 8

BAROQUE ARCHITECTURE

8.1. GRAMMAR REVIEW

- **Modal verbs and their equivalents.**
  Модальные глаголы и их эквиваленты.

	Present	**Past**	**Future**
Долженствование	I **must** design a church. Я должен спроектировать церковь.	-	-
	I **have to** design a church. Мне приходится проектировать церковь.	I **had to** design a church. Мне пришлось проектировать церковь.	I **shall / will have to** design a church. Мне придется проектировать церковь.
	I **am to** design a church this year. Я должен спроектировать церковь в этом году.	I **was to** design a church last year. Я должен был спроектировать церковь в прошлом году.	-
	I **should** design a church. Мне следует спроектировать церковь.	-	-
Способность или возможность совершения действия (физическая)	He **can** create a beautiful pattern. Он может создать красивый узор.	He **could** create a beautiful pattern. Он мог создать красивый узор.	-
	He **is able to** create a beautiful pattern. Он может создать красивый узор.	He **was able to** create a beautiful pattern. Он мог создать красивый узор.	He **will be able to** create a beautiful pattern. Он сможет создать красивый узор.
Разрешение или возможность (вероятность)	I **may** use these drawings. Я могу (мне разрешено) использовать эти чертежи.	-	-
	I **am allowed to** use these drawings. Мне разрешают использовать эти чертежи.	I **was allowed to** use these drawings. Мне разрешили использовать эти чертежи.	I **will be allowed** to use these drawings. Мне разрешат использовать эти чертежи.

- **Complete the sentences with the correct modal verbs:**

1. The character of building ..… reflect its function.
2. You ….. visit the chapel by going up the staircase on the left through the door.
3. The architect or designer ..… decide, what size of walls, floors and beams will be and how they will be arranged.
4. To pay homage to the great architect and artist we ..… visit his buildings and know his work.
5. The architect ….. only to build a small part of the project.
6. You ….. be an honest workman and a good Christian to be a good architect.
7. The designer ..… to prepare a scheme of restoration.
8. The architect ..… to make some changes in his original plan.

- **Translate the following sentences paying attention to the modal verbs:**

1. We can see Baroque features in twisted columns, high domes and large curved forms.
2. The architect should combine art, advanced technology, science and economics in his work.
3. Baroque architects were to confront the task of town-planning practically rather than in theory.
4. Art can be divided into two basic types: fine art, which is simply experienced, and applied art, which is actually used.
5. Borromini's most famous and influential work may be the small church of San Carlo alle Quattro Fontane.
6. Baroque art of France can be described as a classical-Baroque compromise.
7. We should remember that before 1800 public buildings had been extremely rare.
8. A synthesis of Bernini and Borromini's architecture can be seen in the late Baroque architecture of northern Europe.
9. St. Peter's Basilica may be considered precursors to Baroque architecture.
10. Distinctive features of Baroque architecture can include oval forms, large-scale ceiling frescoes, and pear-shaped domes.

8.2. READING

- **Read the brief description of colonial period:**

COLONIAL: 16th - 20th CENTURIES

This is the time when men wanted to colonize other land masses. Bright examples are Magellan, Columbus, Lewis and Clark. This is the Colonial Period. Architecture was primarily made from things they found. With the rise of various European colonial empires from the 16th century onward through the early 20th century, the new stylistic trends of Europe were exported to or adopted by locations around the world, often evolving into new regional variations. This period is divided into the Baroque (elaborate and over-designed), Classicism (symmetry and proportion), Revivalism (revival of architectural era), Orientalism (imitation of Eastern Cultures), and Art Nouveau (organic forms and structures).

- **Read the Text A. Make the headline to each paragraph.**

TEXT A

BAROQUE ARCHITECTURE: 1600-1750

(abridged from «Architecture of Exuberance» by Jackie Craven)

European architecture of the 17th century, referred to as Baroque, is characterized by magnificence, grandeur and richness in invention, design and, usually, in scale. The word *baroque* means imperfect pearl[1], from the Portuguese word *barroco.* Baroque architecture evolved out of Renaissance in Italy. The two main architects of the Baroque era were Bernini and Borromini.

Late Roman buildings, particularly St. Peter's Basilica, may be considered precursors to Baroque architecture, as the design achieved a colossal unity that was previously unknown. In the 1600's, the Renaissance architects began to get bored with the symmetry and same old forms they had been using for the past 200 years. They started to make bold, curving, unsymmetrical buildings, with ornate decorations. The facades consisted of many curves, often using the double curve (at the sides, out in the middle). Baroque pediments (triangular area between the rooftop and the end of the roofs) were often highly decorated. The tips were sometimes turned into scrolls and gilded.

The most distinct shape of the Baroque style is the oval. The Baroque architects used marble, gilt, and bronze in abundance on the interior. One often finds the interiors surrounded by numerous gilded puttos (little angels) as well as some life sized ones. The ceilings and domes often contained large frescoes or murals using what is known as «Trompe l'oeil»[2] painting which is an art technique involving extremely realistic imagery in order to create the optical illusion that the depicted objects appear in three dimensions, instead of actually being a two-dimensional painting. The walls are often highly painted.

Fig. 21. Russian baroque:
Summer residence at Peterhof

The Baroque played into demand for an architecture that was on the one hand more accessible to the emotions and, on the other hand, a visible statement of the wealth and power of the Church. By the middle of the 17th century, the Baroque style had found its secular expression in the form of grand palaces, first in France and then throughout Europe and Russia.

Notes to the text:

[1]**imperfect pearl** – жемчужина несовершенной формы.

[2]**Trompe l'oeil** – фр. «обман зрения» – технический прием в искусстве.

VOCABULARY

abundance – изобилие
accessible – доступный
to achieve – достигать
bold – смелый
to consider – рассматривать
curve – изгиб
to depict – изображать
dimension – размер
to evolve – развиваться
gilded – позолоченный
gilt – позолота
grandeur – величие
imagery – образы, резьба
imperfect – несовершенный
to involve – включать в себя
magnificence – великолепие
mural – настенная роспись
ornate – витиеватый
pearl – жемчуг
precursor – предшественник
previously – ранее
to refer – упоминать
secular – светский
to turn – (зд.) превращаться
tip – верхушка
wealth – богатство

8.3. EXERCISES

- **Insert English words instead of Russian ones:**

1. European architecture of the 17th century is characterized by (величие).
2. The word *baroque* means (несовершенный) pearl.
3. Baroque architecture (развиваться) out of Renaissance in Italy.
4. Late Roman buildings may be considered (предшественники) to Baroque architecture.
5. The architects started to make (смелые), curving, unsymmetrical buildings.
6. Baroque (фронтоны) were often highly decorated.
7. The Baroque architects used marble, (позолота), and bronze in abundance on the interior.

- **Replace the underlined words (A) with their contextual synonyms (B):**

(A)

1. The interior design executed by a young architect was richly <u>decorated.</u>
2. The ceilings and domes often <u>contained</u> large frescoes or murals.
3. This art technique <u>creates</u> the optical illusion.
4. Baroque architecture <u>evolved</u> out of Renaissance in Italy.
5. The walls of the church were decorated by the <u>imagery.</u>
6. This building has big <u>dimensions.</u>
7. European architecture of the 17th century is characterized by <u>richness</u> in design.

(B) ***sizes, developed, makes, carving, wealth, involved, ornamented***

- **Using the vocabulary:**

- give English equivalents to the following:

большой масштаб, величие здания, смелый дизайн, украшать позолотой, резной фронтон, доступный для всех, светский разговор, разные размеры, предшественники нового архитектурного стиля, дорогой жемчуг, красивая резьба, изобилие образов;

- give Russian equivalents to the following:

bold shapes, to use gilt, , realistic imagery, previously unknown, to contain a lot of sculpture, to consist of many curves, Baroque pediments, to use in abundance, depicted objects, in three dimensions, the wealth and power of the Church, white pearl, to be highly decorated, accessible material.

- **Make up 10 sentences using 10 new vocabulary words.**

- **Comprehension.**
  Are the following statements concerning the Text A true or false:

		True	**False**
1	The word Baroque means an «imperfect pearl».		
2	The Baroque architecture followed Renaissance style.		
3	The Renaissance architects began to get bored with the unsymmetry of the buildings.		
4	The most distinct shape of the Baroque style is the circle.		
5	The art technique involved extremely realistic imagery in order to create the optical illusion that the depicted objects appear in two dimensions.		
6	The tips of the roofs were decorated with silver.		
7	By the middle of the 17th century, the Baroque style had found its secular expression in the form of grand palaces.		

- **Match the questions on the left with the appropriate short answers on the right:**

1. Does the word *baroque* mean perfect pearl?
2. Is European architecture of the 17th c. characterized by grandeur?
3. Was St. Peter's Basilica a precursor to Baroque architecture?
4. Did the facades consist of many curves?
5. Were the tips gilded?
6. Did the Baroque architects use glass in abundance on the interior?
7. Did the Baroque play into demand for an architecture?

a. Yes, it is.
b. No, it doesn't.
c. Yes, it did.
d. Yes, they were.
e. No, they didn't.
f. Yes, it was.
g. Yes, they did.

- **Translate the definitions of the terms which characterize the different elements of the Baroque architecture:**

1. **Style Baroque** is an elaborate new style lavished buildings with complex shapes, extravagant ornaments, opulent paintings, and bold contrasts.
2. A **mural** is any piece of artwork painted or applied directly on a wall, ceiling or other large permanent surface.
3. **Landscape architecture** is the design of outdoor public areas, landmarks, and structures to achieve environmental, social-behavioral, or aesthetic outcomes.
4. A **pediment** is an element consisting of a gable, originally of a triangular shape, placed above the horizontal structure of the entablature, typically supported by columns.
5. A **pilaster** is a shallow rectangular feature projecting from wall, having a capital and base and usually imitating the form of a column.

- **Make up the list of features concerning Baroque architecture. Use following categories:**

- building materials;
- art technique;
- interior decorations.

- **Think of some questions to ask your partner about each of these subjects. Write them down.**

- characteristics of Baroque architecture;
- main elements;
- internal design.

- **Find evidence in Text A to support these statements.**

1. The design of the buildings achieved a colossal unity.
2. The Baroque architects started to make bold, curving, unsymmetrical buildings, with ornate decorations.
3. A new art technique known as «Trompe l'oeil» painting was used in the Baroque era.

8.4. READING

- **Read the Text B and find underlined words which have these meanings:**

1. One that designs or executes interiors and their furnishings.
2. A three-dimensional work of art.
3. Realization of a concept or idea into drawing, model or plan.
4. A large or splendid residence.
5. The branch of art dealing with the representation of natural scenery.
6. An artist who paints pictures.
7. A cupola of a building.

TEXT B

THE PALACE OF VERSAILLES

(abridged from «In the Garden of the Sun King» by Berger, Robert W.)

The Palace of Versailles was executed in the French Baroque style by architect Louis Le Vau, a French Classical architect who worked for King Louis XIV. French Baroque architectural style is characterized by its large curved forms, twisted columns, high domes, and complicated shapes. In comparison to the Baroque architecture of the rest of Europe, it is commonly thought to be more restrained and characterized by its mixture of lavish details on symmetrical and orderly buildings.

Charles le Brun was the interior decorator for the Palace of Versailles as well as «first painter to his majesty». Louis XIV declared him the «Greatest painter of all time», and Le Brun worked on such notable features of the palace as the «Hall of War and Peace», the «Ambassadors'Staircase» and the «Great Hall of Mirrors». Interior design from this period is known as «Louis XIV–style», originated by Le Brun, and characterized by red and gold richly-woven fabrics or brocade, heavy gilded plaster molding, large sculpted side boards, and heavy marbling. The Hall of Mirrors is the central gallery of the Palace of Versailles and is one of the most famous rooms in the world. The main feature of this room is a series of seventeen mirrored arches that reflect seventeen arcaded windows overlooking the gardens. Each arch contains twenty-one mirrors. The arches are fixed between marble pilasters upon which bronze symbols of France are embedded.

The landscape design at the Palace of Versailles is one of the most extravagant in history. Headed by Andre Le Notre, the gardens at Versailles cover eight hundred hectares of land and were executed in French formal garden style, or «jardin a la francaise». This style is characterized by its meticulously manicured lawns, 'parterres' of flowers, numerous fountains, and sculptures.

Fig. 22. Palace of Versailles

The «Grand Canal» is a notable feature of the gardens. King Louis XIVordered the construction of «little Venice» on the Grand Canal, which housed yachts, gondolas and gondoliers received from Venice. It also served a functional purpose by gathering the water

that drained from the fountains and redistributing it to the gardens by horse-powered pump. The «Grand Canal» is a series of twenty-four statues that were commissioned by Louis XIV to decorate the gardens. The statues illustrate the classic quaternities of the four Humors, the four Parts of the Day, the Four Parts of the World, the Four Forms of Poetry, the Four Elements and the Four Seasons.

VOCABULARY

brocade – парча
to commission – поручать
to drain – осушать
to embed – вставлять
to execute – выполнять
fabric – ткань
to gather – собираться
landscape – ландшафт
lavish – обильный
lawn – газон
manicured – ухоженный
meticulously – тщательно
mirror – зеркало
molding – лепное украшение
pilaster – пилястра
plaster – гипс
pump – насос
restrained – сдержанный
twisted – витые
to weave – ткать

8.5. EXERCISES

- **Choose words above to put into the sentences below:**

1. French Baroque architectural style is characterized by its large curved forms and ..… columns.
2. The arches are fixed between marble ..… .
3. ..… design at the Palace of Versailles is one of the most extravagant in history.
4. French formal garden style is characterized by its manicured ….. .
5. Interior design from this period is characterized by red and gold richly-woven ….. .
6. Heavy gilded plaster ..… is the main feature of the Baroque style.
7. There is a mixture of ….. details on symmetrical and orderly buildings.

- **Prove the following statements using information from the Text B:**

1. French Baroque architectural style is characterized by its large curved forms, twisted columns, high domes, and complicated shapes.
2. In comparison to the Baroque architecture of the rest of Europe, French baroque is commonly thought to be more restrained and characterized by its mixture of lavish details on symmetrical and orderly buildings.
3. The Hall of Mirrors is one of the most famous rooms in the world.

8.6. TRANSLATING

- **Translate the text into English:**

ДВОРЦОВО-ПАРКОВЫЙ АНСАМБЛЬ ВЕРСАЛЬ

Дворцово-парковый ансамбль Версаля является величайшим памятником мировой архитектуры 17 века, который оказал сильное влияние на градостроительную мысль 18 века.

Версальский дворец был построен по проекту архитектора Луи Лево в стиле барокко и служил политическим центром Франции. Архитектурный стиль барокко характеризуется многочисленными изгибами, высокими куполами, сложными формами.

Дизайн интерьера выполнен известным художником того времени Шарлем Лебреном. Роскошные комнаты Версальского дворца выглядят очень богато и украшены парчой, золотой тканью, мрамором и деревянной резьбой.

Самое большое помещение Версаля – это Зеркальная галерея. На стене длиной 70 метров находятся 17 огромных зеркал с позолоченными скульптурами, которые отражают высокие арочные окна. Версальский дворец знаменит своими библиотеками, оперой и театром с огромным овальным залом.

На строительство дворцового комплекса потребовалось около 30 тысяч рабочих и 25 млн. ливров или около 10500 тонн серебром (по расчетам экспертов, в переводе на современные деньги, эта сумма равна 259,56 миллиардов евро).

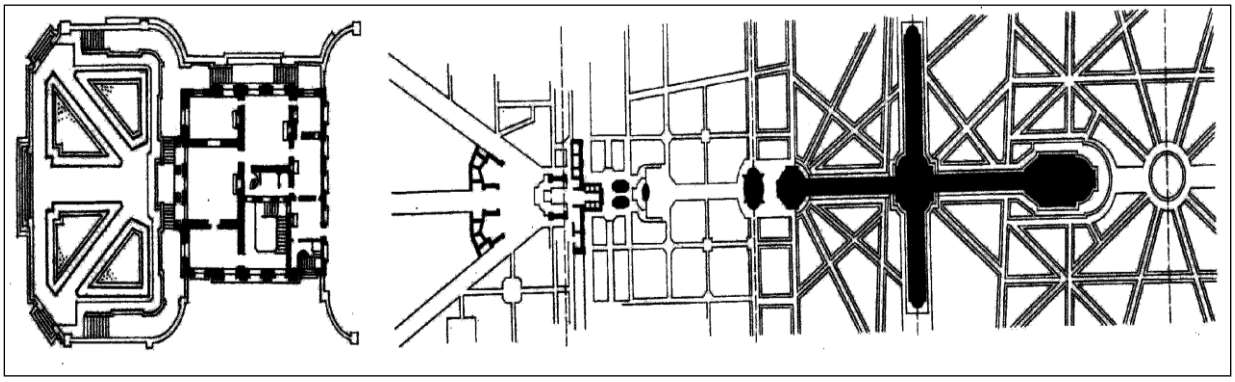


Рис. 23. Генеральный план Версаля

Ландшафтный дизайн Версальского дворца – один из самых экстравагантных в мире. Разнообразные по форме и конструкции клумбы, мощеные дорожки, газоны, бассейны, фонтаны, а также многочисленные скульптуры представляют собой продолжение дворцовой архитектуры.

Систему каналов в парке называют маленькой Венецией.

- **Translate the text into Russion:**

«FACTS IN BRIEF»

WINTER PALACE

Winter Palace of St.Petersburg is a unique architectural monument representing Russian baroque style. It was built in 1754-1762 by Italian architect Bartalameo Rastrelli. The Winter Palace was rebuilt several times. The biggest reconstruction took place in 1837 after a fire which destroyed most of the rooms of the palace and damaged the exterior. After that terrible fire the system of central heating was introduced in Winter Palace in order to prevent fires and obtain more efficient heating. The new hot-air stoves were located on the ground floor. The air was going through the stoves and then up along the pipes and canals in the walls to the rooms of the palace. The system was developed by the Russian engineer N.A.Amosov. Nowadays we see metal grids, which were a part of the heating system, on the floor in many rooms of the Winter palace.

8.7. SPEAKING

- **Work in pairs. You are a foreign student and you came to Russia. You are interested in the Baroque architecture so you went on an excursion to the Winter Palace. Ask your guide about it.**

a)

b)

Fig. 24. Winter Palace in Saint-Petersburg:
a) facade; b) interior

Model:

Tourist: You know, I came from England and unfortunately we don't have many Baroque buildings there. That's why I am very interested in Winter Palace here in Saint-

Petersburg. The first thing that surprised me a lot was the fact that the architect isn't Russian. He has Italian surname! How did it happen?

Guide: This is a very interesting question. The technology of stone-building in Russia is really fascinating. We used to use eggs as a component of mortar to make buildings stronger. And only in XVIII century Peter the Great started inviting foreign architects to share their experience. And the Winter Palace is a good example of it.

Tourist:

Guide:

- **Describe the facade, interior and landscape design of the Winter Palace using additional information.**

- **You don't know the meaning of some terms. Ask your partner to explain you them:**

«Trompe l'oeil» painting, pediment, twisted columns, a two-dimensional painting, landscape design, French formal garden style, «parterres» of flowers.

- **Develop the following ideas and express your opinion:**

1. Baroque style was considered very odd.
2. The two main architects of the Baroque era were Bernini and Borromini.
3. In the 1600's, the Renaissance architects began to get bored with the symmetry and same old forms they had been using for the past 200 years.

- **Add the terms describing Baroque architecture to your Glossary.**

- **REVISION**

- **What experience could be used in a modern architecture: decoration, post and lintel construction, stained glass, some building materials and so on?**

- **Draw the sketch of the building where we can see the elements of the style you have chosen.**

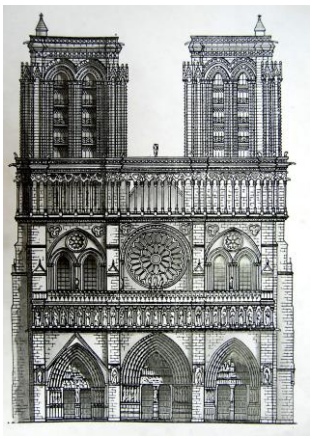
- **Complete the table below:**

Architectural style	**Historic period**	**Place of origin**	**Main features**	**Famous architects**	**Famous Monuments**
Romanesque					
Gothic					
Renaissance					
Baroque					

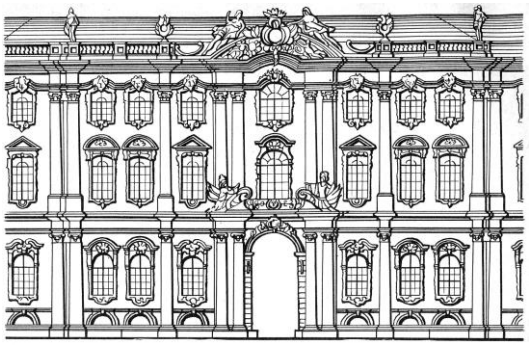
- **Look at these monuments, built in different architectural styles. Try to guess what style they are executed in. Make a list of the main elements of each building.**

St.Paul's Cathedral in London

Tower of London



Notre Dame de Paris



Winter Palace in St.Petersburg

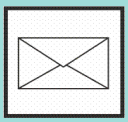
Fig. 25. Famous monuments in different architectural styles

- **Imagine that the foreign students from the University of East London came to our University for exchange. They want to make a collaborative workshop on the history of architecture. Discuss with them the following topics.**

- The mystery of Stone henges.
- The Egyptian tombs.
- Greek temples: the Parthenon, the Erechtheion.
- Roman domestic architecture: the domus, the insula, and the villa.
- The Norman architecture.
- Early, High and Late Gothic.
- The Renaissance in Italy.
- Rastrelli' s architecture: The Winter Palace in St. Petersburg.

- **Which of these topics is the most interesting for you? Express your opinion.**

- **During the academic year you were collecting architectural terms to form your own glossary. Decorate the glossary you have with pictures of your own illustrating the terms. Make the final version, share your experience with the group and make a presentation of your glossary.**



APPENDIX «A»: TEXTS FOR SPECIAL PURPOSES

PREHISTORY OF ARCHITECTURE

MEASURING: SURVEYING AND INTERPRETATION

Carlo Battini

The search takes in examination the study of the ancient tools of survey. It has the purpose to have the possible ampler knowledge of their relationship with the progress of the building systems in such way to facilitate the cognitive investigation of the studied objects. Therefore, the search has been started with an analysis of the measuring tools from the past appraising their potentialities, the understanding of the past concept of survey and measurement, the study of the new tools and then a comparison with the ancient ones and finally a panning on the systems of representation in the various periods.

The development of new tools and their use in the field of survey and planning does not result to be far from the ancient devices. In fact, these have the same base fundamental principles: alignment, measurement of the angles (polar coordinates), triangulation, triangles' criterions of similitude o, constellation (Cartesian coordinates), choice of protocols for the treatment of the data and their transmission. So, it results evident as the progress of technology always use the same base language, even if the importance of other factors determining discrepancies between a system and another must be annotated.

The scientific field in which the construction and the use of a determined tool of measure is developed also depends on the technological field within which it is developed, which often conditions borders of error and tolerances to be respected to evaluate the quality of the representation.

The study of the ancient tools, of the construction techniques and the cultural fields in which new works are born are the base to grab the planning matrixes that have defined the building. However, it is necessary to know today also the technologies at our disposal in such way to exploit all their potentialities.

NEOLITHIC ARCHITECTURE

Kurt Dietrich

The Ancient World section dates from Prehistory recording prior to formal community settlements. Early structures of West and Southern Europe were multichamber caves, rock shelters or fragile tent-like assemblies of poles covered in hides and reeds. Permanent structures were impractical due to the need to move in search of food.

Land forms and temporary settlements were created by physical labor required to clear and establishing a setting for construction. The basic building blocks were very crude. Even during this time, human imagination and efforts were used to create monumental architecture. This was a time when day to day survival was arduous and uncertain.

Prehistoric buildings for monumental purposes surpassed the basic utilitarian level of symbolism and use. Celebratory functions were held in structures constructed with monumental appearance. The use of artifacts and tool systems remained crude, even though achievements were made in the structural assembly of major components. Early monumental structures were developed for purposes of worship and religious belief functions such as shrines. Many early structures were constructed in a circular pattern, congruent with nature and natural land formations. The materials used were basic stone blocks in an elementary configuration. The overall site layout and use of the structures remains somewhat of a mystery to date though great effort appears to have been taken in order to respond to superstitious beliefs of orientation and access.

As early as 7000 B.C., Neolithic man learned to farm, domesticate animals, make pottery for storage and make cloth for clothing. These developments allowed for the organization of permanent settlements and structures. Mankind developed a complex social structure within the communities. Craft systems along with trading economies, self-contained within each settlement, were created. Early vernacular domestic buildings focused on protection from enemies and the elements. Living environments were one storey mud-shaped brick dwellings containing two rooms; one for living space and the other for storage. Entrance locations and the exhaust chimney used the same hole through the roof system. These dwellings contained no windows at the ground level. The lack of easy access made the dwellings quite defensible and secure.

Neolithic man turned to addressing the spiritual side of their existence once security and basic defenses had been achieved. The outside world was poorly understood by man at this time. It presented a highly complex, mysterious and unknown existence outside of their immediate perceptions. The most impressive Neolithic architecture was constructed to serve emotional and spiritual needs, focusing on symbolism, ritual and magic. The principle mode of construction for the monumental structures was MEGALITHIC. This definition is derived from Latin: «mega» meaning «great», «lithos» to indicate «stone». The structures were made with huge stone blocks stacked and assembled in precise structural arrangements without the use of mortar. These structures were possible through the abundant availability of three key components: labor, material and time. It was through the abundance of labor that construction kept moving, enough material to quarry and a limitless time frame to construct that the structures were eventually erected. These items were necessary in order to quarry, transport, shape and erect the massive stones used.

ANCIENT MEDITERRANEAN EGYPTIAN ARCHITECTURE

THE PYRAMIDS OF CHEOPS, FOURTH DYNASTY, ca. 2560 B.C.

Peter Barter

The largest pyramid ever built in Egypt was known as «the horizon of Cheops». This building, astonishing in the precision of its execution, rightly heads the list of the seven wonders of the ancient world. It is 760 ft (230.38 m) square, and the sides diverge from the average length only by a maximum 4 ¼ in (11 cm). At the top of the structure, the divergence is a mere ¾ in (2.1 cm). The pyramid of Cheops originally rose to a height of 479 ft (146.6), but the top and the pyramidion capping it are now missing, entailing a loss in height of some 32 ft (10 m). Apart from some small remnants, the facing blocks of white limestone from the quarries of Tura on the eastern bank of the river are also now missing. For the main part of the masonry, the builders of the time used 2.5 million blocks of local numilithic limestone, each weighing 2.5 tonnes, rising above one another in 210 courses. The northern entrance now used is a tomb robbers' passageway from the caliphate period, situated slightly below the original point of access. After about 124 ½ ft (38 m), a narrow corridor leads into the Great Gallery, from which a horizontal passage branches off into a burial chamber from the first phase of building. At the far end of the Great Gallery a short passage then leads to the final burial chamber, where the empty sarcophagus of the ruler still stands. Unlike the pyramid, the cult buildings on the eastern side are poorly preserved. Little remains of the mortuary temple except the black basalt paving of the courtyard. Three smaller pyramids for the queens rise directly beside the main pyramid. Huge bout pits were dug on both sides of the mortuary temple and at the start of the causeway (now destroyed) to the valley temple. Two more pits on the southern side of the pyramid still contained the dismantled mortuary boats of Cheops, one of which has been reassembled and is exhibited where it was found, in a special museum building over the old boat pit.

The Great Gallery. Leading diagonally upward, this monumental gallery is 154 ft (47 m) long, and 27 ft (8.5 m) high. It ceiling was designed as a narrowing corbel vault (the last room ever built in this style) in seven courses, roofed at the top with horizontally laid stone slabs. The enormous dimension of the hall are explained by the fact that the stone blocks (some 25 of them) required to close the lower part of the corridor after the king was laid to rest were stacked here. Small lateral niches on the walls mark the places which supported massive wooden beams to position these blocks and prevent them from slopping prematurely out of place.

The Burial Chamber . The burial chamber in the pyramid of Cheops, measuring 33x17 ft (10. 50x5.20 m) is a good 138 ft (42 m) above ground level, and was built entirely of red granite. The nine mighty monolithic slabs of the ceiling alone have a span of 17 ½ ft (5.5 m), and each weighs between 30 and 40 tonnes. The ruler's lidless stone sarcophagus ,which once contained other interior coffins and the mummy, stands not quite centrally in the room. It must have been brought in during the building work, since it would not have fitted along any of the corridors. The two narrow shafts leading out of the north and south wall were not to provide ventilation, but had a symbolic function: they were to ensure that the pharaoh's transfigured spirit could rise to the stars.

MEDINET HABU.
THE MORTUARY TEMPLE OF RAMESSES III,
TWENTIETH DYNASTY, ca. 1170 B.C.

Anthea Bell

The temple of Medinet Habu in the south of Western Thebes is the best preserved mortuary temple in the whole necropolis. The mighty brick wall around it (1033x672 ft; 315x205 m) also surrounds two other complexes: the Eighteenth-Dynasty «Small Temple» (Hatshepsut/Thutmosis III), and in the southeast the funerary chapels of three God's Wives of Amun from the Late period. The entrance to the whole temple precinct is matked on the eastern side by a fortress-like building known as the "High Gate". From here, the eye falls on the first pylon of the mortuary temple of Ramesses III, which has a ground plan largely following that of the Ramesseum. The entrance pylon is followed by two courtyards; the first, in the south, adjoining a large cult palace. However, the temple beyond, containing various hypostyle halls and the barque sanctuary, is not so well preserved. Extensive premises for domestic and administrative purposes surround the temple, showing that Medinet Habu was the seat of Theban administration at this time.

This monumental gate (H.62 ft;19 m) is of an unusual design for Egyptian temple architecture, and was probably influenced by Middle Eastern fortress buildings. Two towers crowned with battlements and the adjoining masonry flank the entrance; they are linked by a double upper story only behind the façade. The ruler could stay for short periods in the inhabitable interior rooms; some reliefs show scenes of his private life with the ladies of his harem. Probably here the reported assassination attempt against Ramesses III took place.

The western wall of the southern pylon tower, visible outside the courtyard, bears two large hunting scenes which are among the finest of the genre in the dynamism of their pictorial construction. The lower relief shows Ramesses III killing three wild bulls on the outskirt of the Delta marshes. Transfixed by arrows, the animals are collapsing in their death throes or falling under the king's chariot. Below the royal team, the accompanying retinue is hurrying up, headed by several princes who are taking an active part in the hunt.

The subject matter of the reliefs in the first courtyard (108x137 ft; 33x42 m) concentrates on depicting Ramesses III's victories over the Libyans and the Sea Peoples. The two battles against the allied tribes of the so-called Sea Peoples (including the Peleset normally identified with the Biblical Phelestines) in the eighth year of his reign were important events in the international politics. An account is given in inscriptions on the second pylon at the western side of the courtyard, and pictorial depictions of both the land and the sea battles were placed on the northern exterior wall of the temple. The construction of the courtyard includes a set of seven Osiride statues of the king on the right-hand (northern) side. Free-standing additions of hieroglyph signs to the crowns and shoulders of the figures make them intol stone cryptograms of the throne name of Ramesses III: User-Maat_Re merj-Amun («Strong in *maat* is Re, the Chosen One of Amun»). The Window of Appearance pierces the wall on the opposite side of the courtyard, beyond the papyrus columns, and together with two lateral gates joins the courtyard and the cult palace. During the excavations carried out by the Oriental Institute of Chicago from 1926 onward the royal cult palace was uncovered, and its lower courses of masonry reconstructed (using modern blocks). It is level with the first courtyard on the southern side of the temple, linked to it by the Window of Appearance.

CLASSICAL ANTIQUITY
ANCIENT GREECE

THE ARCHITECTURAL ORDER: MEMORY OF THE REALITY

Angela Culcasi

Commonly, the knowledge of the classical Greek architectural orders is exclusively hound to decorative and static functions, but already Vitruvio, in the essay *De Architettura*, shows us that tins is not the only the formality of reading of the order.

« ... Doric temples will he carried out for Minerva, Mars and Hercules, since these warlike divinities are worthwhile buildings without refinements. The Corinthian temples suit better for Venus, Flora, Proserpine, nymphs of the sources, since more slender buildings, adorned with foliages and volutes have a more consonant decorum with these divinities' tenderness. For Juno, Diane and the other divinities of this kind, a rightful middle alternative will be pursued and, then there will be built ionic temples, as they will adapt to a correct temperance of property among the severity of the Doric temples and the lightness of the Corinthian ones ...».

According to Vitruvio, the formal characteristics of the architectural building have to arrange with those psycho-physic characteristics of the divinities to which the temples were devoted. We have to imagine two different aspects of the architecture, that practical and constructive, that Vitruvio calls «*quod significat»* and that of the essence and of the content «*quod significatur».*

In the forms and in the dimensions of the classical Greek architectural orders it is possible to find again the primordial traces of the creation; so, the column will become the formalized memory of the images of the nature and the human body. This duality of aspects represents the invisible thread that plots the matters of the search.

GREEK TEMPLE

Kurt Dietrich

A Greek temple was symbolic dwelling of the god (Deity) to whom it was dedicated. The temples we know of today are the white sun-baked structures. A little known fact of Greek temples is that they were painted in a multitude of colours including black, dark blue, red, white, gold, purple and green. It may be hard to envision these finishes on what we consider to be a classic Greek structure.

A key component of Greek architecture is that each structure was meant to be viewed as an entity unto itself. The context and site of the building was reasoned out prior to construction. Greek buildings were meant to be viewed on all four sides. Greek architecture is based on the "needs" of the citizen. The temples, markets and porticos were constructed for use by all. The design of all their civic structures maintained the underlying principles of architecture

celebrating the proportions of mankind as the correct design methodology. It is through the application of this philosophy that Greek architecture achieved a timeless quality. Their architecture was designed on the proportions of mankind. These proportions remain with us today.

Greek architecture relied on mathematics; a science which their civilization had developed and mastered. Design used a calculated planning grid when laying out new monuments. The grid was calculated based on the available land area and intended size and use of the monument. Guesswork and intuition were removed from the process as mathematics took care of the placement of columns and height of the monument. The use of mathematics in Greek architecture extended though the planning stages into the elevations and details. All items within a building were mathematically derived. Greek columns, cornices, friezes and even overhangs were calculated according to the overall design concept. The design of Greek monuments was so precise through mathematics that they calculated the distance at which a person must be in order to suffer what is known as parallax. Parallax is the tendency of perception that a building is bulging at the sides, or perhaps falling away due to the eye's tendency to perceive it in perspective. Mathematical proportional design was used to compensate for this tendency. The Greeks were able to calculate and allow for this tendency. They compensated by twisting or sloping columns to make them appear perfectly parallel as the eye views it vertically. This technique presents a solid façade with no deviation in proportion or line when it is viewed from a distance. Mathematical proportions and rules governing the design and construction of temples included everything from the approach to the size of the sculptures
adorning the building.

A building consisted of a podium, columns, frieze and gable roof system. These elements were complimentary to each other but each one was also governed by strict rules as to its importance and placement within the monument. Greek structures provided clear definition of design, proportion and aesthetics. Their buildings were designed in proportion to the actual structure, not in proportion to mankind (a philosophy later challenged during the Renaissance period).

The method of mathematics in Greek design was applied in throughout their structures:

• The base pediment contained three steps rising to the podium level. The base was known as the Stylobate.

• The total height of a step was equal to the lower diameter of the column. Therefore steps were scaled to the column, not to the ease of walking on them.

• Columns were fluted (slightly indented) on the sides to soften the overall visual weight, giving the appearance of a higher structure. There were 20 flutes applied to each column, the width of the flutes varied depending on the width of the column. The overall dimensions of the columns were fixed relative to the building height.

• The frieze is the most distinctive of the orders. A frieze in this case contained vertical panels (triglyphs) in between square panels (metopes).

ROMAN ARCHITECTURE

AQUEDUCTS: WATER ARCHITECTURE

Massimo Gasperini

This research is extended to a reflection about the value of aqueducts, architectures that serve the community, fundamental elements of morphological and functional urban structuring. Their cleverness and the dominant presence of their structures (that reached us after millions of years) testify the necessity, the technique, the civic virtue and the wealth of a population.

Through a brief historical excursus, the analysis is centred on the reading of the eighth book of the Vitruvian essay, which is dedicated to the subject of water, to its research and its genesis, to the ways of transport it from the source to the city, and finally the techniques of distribution within the town. The Vitruvian text is compared with some coeval writings by important characters of the Roman society as Sesto Giulio Frontino that, with the essay *«De aquis et aquaeductibus urbis Romae»* supplied a series of descriptions of extreme importance related to all of the aspects of the waters' service.

The first super elevated aqueduct of Rome was built in 144 B.C., the *Aqua Marcia.*

As the water became a common use, the Romans wrote adequate laws to discipline the use and forbid the pollution of drinkable water. Accordingly to the technique, the law knowledge was developed. Different kinds of aqueducts, with different dimensions and importance, were built in the eternal town and all over the Empire. The *arcuationes* were the symbol of Rome's power and glory, the powerful rhythm of the stone ribbons generated by the multitude of arches (as well as the Triumph Arches) testified the geniality of a population that defeated the Barbarians. Aqueducts exalted a population. Triumph Arches exalted the virtues of a Conductor or an Emperor.

THE GEOMETRIES OF THE VITRUVIO'S LATIN THEATRE: INTERPRETATIONS AND DEVELOPMENTS IN THE RENAISSANCE TREATISE WRITING

Maria Salvatore

The fifth book of the *De Architettura* by Marco Vitruvio Pollione is dedicated to the construction of the theatres. From Renaissance to nowadays, architects, artists and humanists have discussed about the graphic restitution of the ancient theatres, with particular attention to the Latin theatre, complicated by the possible interpretations of *«the way to form the plant of the theatre».*

Vitruvio illustrates an algorithm to trace the plant of the Latin theatre that starts with the construction of a circle. In the proportional Vitruvian system the geometric base scheme is derived from the starting circle that allows determining the greatness of the parts in the whole building. The interpretative ambiguity is due to the translation of *perimetros imi*, sometimes

understood as «perimeter of the low part» and so coincident with the region of the orchestra, or as «perimeter in *summa cavea»,* coincident instead with the external perimeter of the building. A graphic and formal translation of these two separate interpreting ways underlines the two different typologies of building for dimensions and relationships among the parts.

The search of the correct interpretation of the geometric scheme, as described by Vitruvio will hock, beginning from the half of the Fifth century and during the whole Italian Renaissance, humanists, artists and architects among the most illustrious. The renewed interest in those years for the archaeological finds and, consequently, the attempt operated by many to bring back proportions and relationships among the parts of the rests of the ancient buildings to the known treatises, can explain the search of the comparison with Vitruvio and the necessity of its continuous verification. The alternative proposals about the theatre building will constitute the humus on which the idea of Court's theatre will rise. The reconstructing of the Vitruvio's theatre of has constituted a challenge in the Renaissance, but it still generates continuous interest today in many researchers, with the awareness already known by the «colleagues» of Sixth century about the serious discrepancy that exists among the Vitruvian method and the archaeological recoveries.

DIFFERENCES BETWEEN ROMAN AND GREEK ARCHITECTURE

Kurt Dietrich

The primary differences between Roman and Greek architectural styles are:

• Greek (and Egyptian) architecture created building masses that produce interior spaces as a result of the structure. The massing of the building was the dominant feature.

• Roman architecture used the space to be enclosed as their primary design objective. The interior aesthetic was an active consideration of the design.

• Greeks built for the exterior view; Romans built for the interior experience.

• Greek architecture was available for viewing on all sides with little consideration to the adjacent context.

• Roman architecture was designed to be seen and experienced in a controlled manner. Roman architecture controlled the access, the approach and the view in much the same way the military lifestyle controlled the citizens. As a conquering nation, Roman Emperors and their military forces remained in power by control.

Roman architecture made several major contributions to the development of construction and design techniques. The technical advancements included:

• Development of the arch into a formal structural system.

• Development of concrete mix materials that could be cast into a specific shape and maintain that shape. The evolvement of the arch through Roman development was a massive leap forward in terms of building capabilities. Prior to the development of the arch, building spans had to be completed horizontally. This requirement meant that either large beams were used (a problem in getting, placing and securing) or many columns were needed to minimize the span (such as in Greek Designs).

ROMANESQUE ARCHITECTURE

MONASTIC GARDENS.
Characteristics: cruciform plan
a fountain or tree at the center

Paul Getty Trust

The rich mystical symbolism that informs medieval culture includes the garden, which becomes one of its most resonant manifestations.

Medieval monasteries helped preserve the arts and sciences and also became repositories of the secret arts of agricultural and ornamental gardens. The monks' profound feeling for nature was also influenced by the traditional image of Paradise. Devoting themselves to their gardens, religious hermits fortified their souls with an earthly vision of the lost promised land of Eden. The wall surrounding the monastic complex marked the boundary between cultivated and wild vegetation, order and chaos. Cultivated land inside the complex was used for many purposes, including food gardens (*horty*), herbaria, and orchards. The cloister, locus of religious meditation and prayer, was often square in form, divided into four parts by paths that form a cross at their point of intersection, usually marked by a fountain or tree.

The number four was thus central to this garden as it was in the Islamic garden, evoking a variety of meanings: the four rivers of Paradise, the four cardinal virtues, the four evangelists. The allusion to Eden is also reflected in the central fountain, symbol of the font from which the rivers of Paradise spring as well as an image of Christ, origin of life and salvation. Sometimes a tree was planted at the center of the cloister, symbolizing the wood of the cross or the Tree of the Knowledge of Good and Evil, to warn against disobeying God's commandments. Certain plants cultivated within the monasteries' food gardens and catalogued in the herbaria had healing properties but also bore mythical and allegorical meanings. Many species of plant or flower corresponded to specific powers and symbologies, often connected to the figure of the Virgin Mary.

The outer wall of the monastic complex marks the sharp separation between the inner order and outer chaos. Protected from external danger, nature is channeled to recreate an image of the garden of Eden.

The central cloister, divided in four and featuring an obelisk in the middle, dominates the scene. Like the fountain or tree, the obelisk is an object with strong symbolic significance, evoking the cosmic axis linking earth and sky.

The charter house is organized according to a system of division by four, which reflects the principles of ideal beauty deriving from the divine order.

GOTHIC ARCHITECTURE

THE GOTHIC SYSTEM OF DESIGN

Kurt Dietrich

Gothic architecture produced a radical change from the architecture of the Romanesque period. The Romanesque period pushed the limits of scale and massing but left the actual decoration of the interior space to a minimum. Gothic architecture spun this philosophy around to the point where there is almost no wall surface or structure system left untouched.

The Gothic system of design is accredited to France where it is most recognized. Notre Dame is the epitome of Gothic architecture in Paris. The actual origins of the phase stemmed from Normandy, England.

Cathedrals occupied the centre of focus within towns, serving as focal points, gathering places and safe houses in the times of crisis. A secondary shift in social activities occurred during this period. The rise of craftsmen guilds was facilitated as common tradespersons created a new level of organization. The concentration of increased numbers of skilled trades within urban settlements allowed for the trades to bond under a united organization, thus the creation of the guilds. There had been a loss of skilled trade during the Romanesque period; a loss of the skills attributed to the Roman technology. The formation of new guilds for each trade (masons, carpenters, sculptors and artists) allowed for trading of information and training in the specific skill. The positive affect of this development is found through the exquisite detailing and structural advancements made in construction during this period. The formation of guilds also contributed to the design and construction of new meeting places for the members and the public. Construction on new market areas, guild houses and town halls saw a marked increase during this period. Gothic traditions through the implementation of the guild methodology affected the architectural profession immensely. This period saw the actual creation of workshops for architects. These workshops were the first of their kind where those thought gifted in the art of architecture could be clearly identified and trained by the elders of the guild. The guilds sought to promote and enhance their talents, theoretically being the first opportunity for schooling in architecture. It is through the creation of guilds that specialization among the construction industry was begun. No longer was the lead mason or patron of a structure responsible for the final product. This responsibility was turned over to those trained in achieving the artistic vision and structural integrity of a building.

The Gothic architect carried many roles relative to each commission, including design authority, structural engineer, and lead builder as well as contributing artist. The designs of the new structures took a radical turn during this period of architecture. The structures of the previous Romanesque period were thought to be overbuilt relative to the wall thickness and weight of the building. Solutions were sought to reduce wall thickness and weight in order to speed production as well as create a new effect of lightness and verticality. Every aspect of the building was considered relative to the whole in the effort to achieve a unified coherent result. There were no false fronts involved at this time, as were present during the Romanesque period.

THE BASIC PRINCIPLES OF GOTHIC ARCHITECTURE

Kurt Dietrich

The basic principles of Gothic architecture were derived from the logic of Roman designs. A building must achieve success relative to its structural integrity, its visual impact and its symbolic meaning.

1.Structural Integrity. The Gothic designs carried forward on the premise that the structure of a building must be seen exposed for participants to visually feel the bones of the building. Gothic architecture slimmed down the thickness of the wall systems found in Romanesque. This slimming was made possible by emphasizing the skeleton structure on both the interior and exterior of the building.

The walls were substantially thinned almost to the point of structural failure due to their height. It is true that many attempts to achieve a «weightless» wall system met with failure as the wall fell to the ground during construction. The solution to a thinner wall came in the form of bracing on the exterior. These knee-braces, known as buttresses or flying buttresses, were used to butt the main wall structure and brace it against the forces generated by the wall and roof system. Buttresses were primarily used for a structural purpose. They were integrated into the overall aesthetic through sculptural detailing and ornament in keeping with the main body of the church. In this way, they also contributed to the visual appeal of the Church. Buttresses also allowed the opportunity for an increase in the number of windows contained within the wall system. Since the structural loads were being reinforced and redirected outward, the wall could be opened up to allow more light to the interior spaces. The structural advancements made during this period included variations on the original semi-circular Roman arch. The Romanesque period had developed the method of rib vaults to handle transitions in the roof system. Gothic design took the rib vault concept and stretched it vertically to form ridge points, evidenced in the vaults and roof structures. Groin vaults were used at changes in directions of the roof system. The crossing of the ribs was used to accentuate the floor area below, being a sacred or special location within the Church. The use of rib vaulting, springing almost vertically from the walls, created the illusion that the roof system floated over the upper (clerestory) windows. This structural method contributed to the feeling of weightlessness within the interior. The rib vaults also aided in redistribution of the structural load due to the large number of them included.

2.Visual Impact. The visual impact of the new cathedrals was both breathtaking and humbling. Parishioners were able to feel that they were a part of a worldly congregation, participating in a soaring, spiritually uplifting place of worship. The use of the exposed structural forms, a web of columns, vault, ribs, and buttresses, was meant to enclose an overall space that soared to the heavens. The scale of the buildings exceeded the limitations of the Romanesque period, lifting the roof structure to new heights, changing the vertical proportion of height to width within the building. Whereas Romanesque churches were felt to be dim and mysterious due to their minimal windows set far above the congregation, Gothic churches were the exact opposite. The structural system allowed for a greater number of windows, both large and small. Gothic architecture took advantage of this opportunity. Gothic churches achieved unsurpassed visual effects in lighting, using the same consideration as the Romans; the use of glazing and light sources for drama.

ARCHITECTURE OF THE MUSLIM WORLD

THE ARCHITECT AND HIS WORKS: SINAN

Ali Ottoman

Sinan's contribution to the design of mosques has been an important one. One of his main objectives was to design his space according to a central vertical axis, with the dome and semi-domes constituting the indispensable covering elements. Beginning with single-domed structures based on a square support structure, he enhanced their inner space by adding semi-domes, increasingly raising the central part so as to give the general structure a pyramidal composition. In doing so, he was able to go way beyond the simple concept of a dome added to a square planned mosque to its limits be adding semi-domes on each four sides of the main dome with his first important project, the Sehzade Mosque. He then began to make a number of experiments with hexagon-based structures, most probable under the influence of the Ucserefeli (Three-balconied) Mosque he had seen in Edirne.

Sinan also contributed to the development of facade architecture. Before Sinan, external façades had a rather plain and severe aspect. Simon brought enhancement and increasing liveliness to them, making them reflect the mosques' inner structure and using the windows to transpose onto the external facade some of the light effects he sought to achieve inside the building. On the side walls, basic supporting pillars are reflected outside through buttresses, creating vertical divisions in the wall, filled with framed panels decorated with mouldings and contours, as well as arch and window compositions. On the kiblah wall, he creates narrow vertical sections by having the pillars imbedded in the wall overflow on its outer side. The space thus created between these buttresses is then filled with arches or naked rows of windows. Those situated at the bottom, at worshipers' eye level, are rectangular; those above them are arched, decked with painted glass while those of the third row are smaller, and arched or round in shape. Another of Sinan's innovations consists of the eaves covering the portico that can be seen in front of practically all of Sinan's large mosques.

Inside the buildings, ornamentation is used only where necessary, with techniques that are suited to building material used, structural elements usually remaining the dominant factor.

We can distinguish two important milestones in Sinan's architecture, the first is the Sehzade Mosque (1543-48), which crowns the four pillar/four semi-dome model development periods, the other beginning with the Besiktas-Sinan Pasha Mosque (1555), where the first hexagon-based (six pillar) model was first implemented. After those two periods, Sinan experimented other square-based plan interpretations.

BUILDING TECHNIQUES AND MATERIALS USED

Ali Ottoman

The construction technique of the period basically perpetuates preexisting traditional stone and brick masonry practices.

Domes and vaults: they are made of special bricks and their thickness increases with their span. The thickness of the dome moreover gradually increases as we near its bottom. Iron bands surround and reinforce the dome at the level of the windows situated in its lower part, where they counteract its tendency to widen. The outer surface of the dome is plastered with earth and then covered with leaden sheets.

Transitional elements: pendentives and squinches are made of stone, bricks or alternate rows of each. Brick surfaces are covered with plaster or tiles. Stone, bricks or plaster is used for the muqarnas or stalactite vaulting.

Arches: wide spanned arches are made of hewn stones, some times in alternate rows of different colour. Arches with smaller bays are made of alternate rows of stones and bricks or only bricks. Arches are linked to each other and on the other elements with iron beams attached at the top of their supporting columns or pillars, windows arches have their outer side filled in with marble or stone panels or geometrical lattices carved out of marble, while the inside is decorated with geometrical motifs made of plastered bricks or a combination of stone, brick and plaster, or else with tile panels or gypsum stained glass.

Eaves: in some buildings, very large eaves or overhangs supported by long iron props can be seen covering the riwaq in some mosques is an original contribution of Sinan.

Columns and pillars: columns used in riwaqs are usually made of a single piece of granite, serpentine, porphyry, pudding or breccias stone, often recuperated from antique buildings. Newly made columns are made of Marmara marble, granite or reddish conglomerate. The ratio of their diameter to their length is approximately 5-7*7 in the galleries, 6-7*7 in porticoes for late comers, 6-7 in courtyards rewaqs and 6-9 in external riwaqs. Their capitals are decorated with a variety of diamond or stalactite motifs, a rich diversity of them readily used even in a portico's same row of columns. Capitals in portico for late corners are usually of the stalactite kind. As for pillars, they are of a round or polygonal shape, and made of good quality hewn stones.

Walls: in large and quality buildings, both sides of the walls are made of hewn stones, with the gap left in between filled with mortared rubble stone. The stones of a façade may reach 40 cm in height. In buildings other than large mosques, alternate rows of stones and bricks are sometimes used. The most common recurring order consists of two rows of bricks, followed by one row of stones and then three rows of bricks. Reinforcement beams are mostly wooden, with iron beams also used at times. A green coloured tuff, called «*Od»* stone, is used for the foundations, which are widened towards the bottom. When the soil is poor or loose, wooden stakes are planted and linked together with a system of wooden beams, which is covered by a layer of *horasan* powdered brick and then by foundations proper. Although it is built on a firm soil, the *Suleymaniye* stands on such a grid of wooden beams.

Floorings: marble slabs cover exposed surfaces like courtyards. These slabs do not usually form regular geometrical designs. The material is parsimoniously used, chipped slab corners being frequently cased with correspondingly shaped neighbouring slabs (casing technique). Inside the buildings, hexagonal, square or rectangular shaped terra-cotta tiles are used.

RENAISSANCE ARCHITECTURE

BASILICA OF SANT'ANDREA

Ferruccio Canali

The basilica of Sant'Andrea – the largest religious building in Mantua, is one of the best known Renaissance churches, and not only because it was designed by Leon Battista Alberti, but also because of the formal innovations in the plan. The origin of the complex is traditionally set in the ninth century, with die construction of a building to house the relic of the blood of Christ, brought to Mantua by Longinus, the soldier who had pierced the side of Christ on the cross with his lance, was then converted and had collected earth bathed with the blood of the Savior. When he reached Mantua, Longinus hid the jars containing this holy earth, and in 804, almost eight centuries later, they were discovered, and a sanctuary was built so these holy relics could be worshipped. In 1037 a Benedictine monastery was built next to the church, but in 1472 the abbey prelature was abolished by pope Sixtus IV, who set cardinal Francesco Gonzaga at the head of the new collegiate church. In that same year the complete renovation of the old building was begun by Luca Fancelli on a project by Alberti with the transformation of the original nucleus, of which the bell tower erected on the left in 1413 is still standing. In 1470 Alberti and Ludovico Gonzaga were already exchanging letters regarding a new church of which a model was sent to Mantua. The building, according to Alberti's dictates, was to be unusual (*«mirabile»),* large enough to hold great crowds and, above all, modeled on a heretofore unused type, that of the Etruscan temple. Problems set in immediately when the designer died in 1472, first regarding the foundations, then in relation to the restraints set by the neighboring buildings, and finally lack of money. In 1477 the crisis in the construction yard had reached the point where Fancclli had to let all his masons go, and by the end of 1485 lie himself was no longer Superintendent of works. The vault over the nave was finished by 1494 but just how faithful it was to Alberti's original project is a moot question. Between 1597 and 1600 Antonio Maria Viani added the crypt, the sanctuary and the arms of the transept (the vaulting here dates to between 1697 and 1710), while it was not until between 1732 and 1782 that the dome, later decorated by Paolo Pozzo, was built to a design by the architect Filippo Juvarra.

The three hundred years that lapsed between the original design and the final realization, make it impossible to know what Alberti's original model looked like. The solutions adopted in the apse and the transept arc in any case highly questionable.

The first problem encountered in an attempt to interpret the building is the facade, in die form of a Roman triumphal arch (like dial of Janus). Some maintain that die vestibule (pronaos) before the facade of the church itself was not part of Alberti's concept, as would also seem to be demonstrated by the unresolved great arch which rises up over die upper part of the facade (and the purpose of which is not clear). Inside this pronaos, covered by fine barrel vaulting based on antique examples (even if the stucco coffers were added in 1832), is the sixteenth-century entrance door to the basilica, also inspired by antique motifs.

BAROQUE ARCHITECTURE

BAROQUE STYLE

Kurt Dietrich

The term «Baroque» was used to categorize the style of art and architecture that departed from the established norm, without a clear, rigid definition of itself. Baroque styling was dramatic and majestic with the use of illusion to create effects within the space. The lines of structure and sculpture were exaggerated to provide greater prominence. The combination of sculptural, expressive detail with fluid form and space created a new sense of wonder.

The Baroque style often appeared bizarre, grotesque, and even irregular when compared to previous classical designs. Baroque forms expressed ornamentation, promoted color variations, and used both direct and indirect lighting for theatrical effects. The key to fully understanding the design concept for Baroque architecture lies in contemplating the plan in conjunction with the presented façade. It is through this method that the grand, theatrical nature of the style can be seen.

The Baroque style also contained sub-styles of design development. These sub-styles presented variations of the overall Baroque philosophy. Variations were due to regional differences, stylistic desires and personal talents of the architects. The sub-styles included Mannerism, Rococo, and Georgian architecture.

BAROQUE GARDENS

J. Paul Getty Trust

The political absolutism established in 17th-century Europe affected not only social and economic institutions but also the highest expressions of culture and art. The Baroque garden was a symbol of power that found expression in the radical transformation of the natural environment. Garden became an indispensable element of the prince's palace as a show of pomp and spectacle. Their huge expanses stretched almost to the vanishing point along rectilinear avenues that created vast geometric grids as they intersected. A single park could take up a whole valley, the main intention being to «capture infinity». Just as the Italian garden had done during the Renaissance, it was the garden of French Classicism that now set the rules with its new aesthetic principles, which would spread to all the courts of Europe. The new gardens used long broad avenues to open up grandiose perspectives giving onto and leading away from the palace. Every aspect of the landscape that might offer dramatic panoramas was exploited to this end. This great incursion onto the land demanded that more attention be paid to the natural element, which assumed a determinant role in the Baroque garden. Artificial grottoes, reefs, and rocks were created; fountains and nymphaea became much larger, while broad bodies of water, sometimes called *parterres d'eau*, functioned as mirrors for expanding space. Gardens were designed to accommodate great numbers of people, fireworks displays, musical and theatrical performances, and every sort of *fete galante* typical of country life. The Baroque garden has often been considered the expression of man's total domination over nature. In reality, the regularity of the garden's dimensions, in keeping with the philosophical

precepts of the age, reflected the regularity of nature itself, as well as its submission to the principles of Newtonian physics and Cartesian rationalism.

In 1767, Louis XIV surveyed the domains of Marly and commissioned Mansart to do the work, which began three years later. On either side of the central palace of the king, symbol of the sun, Mansart designed six pavilions, lined up across the main pool and representing the twelve signs of the zodiac. The closer a pavilion was to the main palace, the more its guests enjoyed the king's favor. Mansart succeeded in regularizing wild nature by imposing a rigorous symmetry on it. The garden becomes a grandiose work of art in which every detail is controlled by the human hand. It is an expression of man's total dominion over nature. The vast reflecting pools of water tend to expand the new representative space of the garden as much as possible.

HORTUS PALATINUS

J. Paul Getty Trust

In 1620, Prince Elector Frederick V commissioned the architect and litterateur Salomon de Caus to create the Hortus Palatinus, considered by some the eighth wonder of the world.

The garden was divided into two long, terraced stretches of land that were perpendicular to each other and followed the incline of the hill, atop which sat the castle. The *hortus* was given pools and fountains adorned with statues and rock compositions. The design also included artificial grottoes that were supposed to have animated scenes and talking statues, accompanied by music generated from mechanical fountains. The iconography of the Hortus Palatinus followed two principal themes: the glorification of nature and the celebration of the sovereign. The natural elements were embodied in the statues and bas-reliefs of river gods and such deities as Ceres and Pomona, while the parterre of the seasons was dedicated to Vertumnus, the Roman god of the seasons. The allegorical aspects of the sovereign's image were less well represented. A statue of the prince stood in a corner of the uppermost terrace, overlooking the garden from its highest point. The prince also reappeared in the guise of Neptune-a god who, according to Virgil, could placate a people in revolt against their earthly-and of Apollo, Herculus, and Vertumnus. The statues of the gods of the Rhine River and its tributaries the Main and the Neckar alluded to the prince's territories. Unfortunately, after the start of the Thirty Years' War, Frederick's plans to create a zone of tolerance between Protestants and Catholics in the central Europe were shattered. All that remains of his garden is a book by Salomon de Caus, an important document that allows us to reconstruct the original layout of the garden, which was never completed.

From a formal perspective, the garden is designed according to two principles: on the one hand, the surfaces are as flat and broad as possible, and on the other, the terraces are organizes in declining order, as in Italian gardens. The Fountain of the Rhine is on the main terrace, while those of the Main and the Neckar are on a lower one, in keeping with a strict hierarchical structure. The labyrinth may allude to a statement that Pope Paul V made after Frederick's coronation as king of Bohemia, in which he warned that the sovereign would get lost in a filthy labyrinth with no hope for salvation. The circular flower beds were organized according to periods of bloom, so that the blossoming and wilting of each species of flower would occur in clockwise order.

APPENDIX «B»: TESTS IN ENGLISH

TEST № 1

- **Put the verbs to be or to have in theappropriate forms:**

1. In England Norman architecture ….. bold and massive, and the typical features ….. semicircular arches, ponderous cylindrical piers, and flat buttresses.
2. The three-dimensional ogee arch ….. a motif of great importance.
3. The church ….. a tall slender tower.
4. English cathedrals usually ..… a square end to the sanctuary.
5. Typical features in domestic buildings ..… ornamented fireplaces with heraldic carving, gables with carved pinnacles and high moulded chimney.
6. The graceful columns ..… the beauty of animate beings.
7. Monks and their pupils ….. often the designers of cathedrals.
8. The Church ….. a western tower, south entrance porch, transepts, and a sacristy.
9. The chapel ….. a gallery for the master and his family, while the retainers ..… on the floor below.
10. For seven centuries the palace ….. the London residence of the Archbishops of Canterbury.
11. The pavilions ..… some nicely contrasting architectural details, supposedly representative of the contrasting styles of the regions they represent.
12. In British medieval towns the streets ..… unlit, dirty and insanitary.
13. The entablature ….. the upper part of a classical order between columns and pediment.
14. Brick ….. the main material used for the construction of church.

- **Change adjectives into the correct form:**

1. The (beautiful) feature here is the colonnade with wreaths of majolica, fruits and flowers wound round the pillars.
2. The organic, wave-form main staircase is the (striking) feature of the interior design.
3. Furniture became (abundant) in quantity and (decorative) in quality.
4. This cathedral is now (old) and (interesting) sight of this town, one of (early) artifacts of Moscow architectural styling.
5. Ionic order was (little) heavy than the Doric and (little) elaborate than the Corinthian.
6. The chapels were (numerous) in abbeys and cathedrals.

7. The fine fan-vaulted roof, with its carved stone pendants, is (exquisite) architectural feature of the Chapel.
8. The development of (strong), (versatile) materials and new construction techniques should enable us to construct buildings.
9. The Corinthian is (slender) and (ornate) of the three Greek orders.
10. The Ionic order was (fussy) and (ornate), (little) stereotyped than the Doric.
11. The columns are of (fine) marble, selected for their colour and variety.
12. The decoration has become (bad).
13. The (fine) sculptors and painters of Greece decorated this beautiful building.
14. At present the trend is towards (high) buildings, (large) windows, (good) finishing of the interior.
15. There is no doubt that our towns and cities will be (beautiful) and (comfortable) than they are now.

- **Translate the sentences with *there + to be:***

1. There is a huge white rotunda outside, stained glass windows and wall decorated with an oriental style pattern in majolica.
2. There are no gables and the roofs are hidden by pierced parapets.
3. On the sides of the court opposite the vestibule there were no columns.
4. There was an absence of towers and painted glass in Monastic Order.
5. There is no feature more typically English than the timber roof, with all its variations of structure and design.
6. There were fires in the thirteenth and fifteenth centuries and the building was restored in different style.
7. Inside the church, there are fragments of paintings made by Andrei Rublev, the most famous Russian medieval painter.
8. There were three-storey houses in Rome as early as the end of the republic.
9. There was also the growth of towns in the Middle Ages.
10. There is a large mirror on the wall which reflects the marble floor.
11. There are many regional variations in different materials of the simple small house or cottage designed by the local builder.
12. There were various trees and plants, labyrinths, a fountain with its basin of white marble, columns and pyramids of wood, a summer-house with white marble statues here.

TEST № 2

- **Put the verbs in the brackets in the correct form of the *Indefinite Tenses*:**

1. New Gothic features (to appear) in the interior.
2. The Early English style (to lack) the quality.
3. The pointed arches (to come) into general use.
4. The first floor (to repeat) the unusual motif with Ionic columns and incised ornament.
5. Cathedrals in Medieval times (to occupy) the place of first importance in national life.
6. In England chapels (to differ) according to the type of building to which they are attached.
7. In the Norman period the great stone fortress (to reach) the climax of its development.
8. Architecture (to begin) to be less military, and to provide primitive comforts such as sanitation, fireplaces and glass in the windows.
9. The fifteenth century (to see) a rapid development of the manor house.
10. Local materials (to determine) the character of the structure.
11. The typical villa plan of the ground floor (to include) hall, lobby, parlour, library, dining-room, kitchen.
12. Architects (to mix) many materials, and (to create) such forms of ornaments as the red and yellow striped brick.
13. Domestic buildings (to differ) in function, importance, and architecture at different periods.
14. The cathedral (to consist) of a nave of ten bays with aisles and lofty north porch, main transepts with eastern aisles and choir.
15. Gothic cathedrals (to depend) for their enrichment chiefly upon sculpture and stained glass.

- **Put the verbs in brackets in the *Indefinite Passive*:**

1. Sometimes the names of the architects (to record) on the pavement of the naves.
2. Gothic cathedrals on the continent (to decorate) richly with sculpture and carved ornaments.
3. In England the term Renaissance (to use) to cover the art from fifteenth to the early nineteenth century.
4. The arched, semi-circular central entrance (to flank) by smaller opening.
5. The brick walls (to decorated) with plaster pieces.
6. The name Romanesque (to give) to the style of architecture.
7. During the fourteenth century castles (to adapt) increasingly to meet domestic comfort on the model of manor houses.
8. In the living quarters the windows also (to fit) with glass.
9. To make gardens picturesque decorated cottages, small villas, ice houses and other ornamental buildings (to design).

- **Put the verbs into the appropriate forms of the *Continuous Tenses*:**

1. The appearance of the old cities (to change) and they (to become) better to live in.
2. The group of architects who have devoted years to building this fine young town (to continue) their work.
3. More and more comfortable and beautiful houses (to be built) in the countryside.
4. The architects and the builders (to try) to make new houses comfortable to live in, and convenient for carrying out domestic duties.
5. Almost a century later, we (to discover) still new work by the brilliant architect.
6. Even as a child Champollion had been fascinated by Egypt, and at the age of 13 he (to study) several oriental languages as well as Latin and Greek.

- **Choose the right modal verb (*must, can, should, may, to have to, to be to*) and put it into the appropriate form:**

1. The architect ….. to combine art, advanced technology, science and economics in his work.
2. We ….. speak of the tendency in England to use timber for house building.
3. If you try to build a Romanesque, you ….. to use arches of three different diameters.
4. New type of architects who ….. build St. Denis and the later French and English cathedrals was the master craftsman.
5. Town planners ..… organize land and buildings for group living.
6. The architect`s education ….. constantly expand.
7. The dome ….. be regarded as three - dimensional counterpart of the arch.
8. Walls and roofs ….. buckle, crack, or collapse if they are not properly designed.
9. Loads ….. be transmitted both along the meridian lines of the vertical arches and the horizontal rings.
10. Only very lucky visitors ….. to go inside the castle to catch a glimpse of the stained glass windows, wolf-guarded staircase and grand fireplace.
11. You ….. visit the chapel by going up the staircase on the left through the door.
12. Christopher Wren …to make some other changes in his original plan.
13. Built on an awkward site the temple ….. to serve the different cults.
14. To make buildings habitable comfortable the architect ..… control the effects of heat, cold, light, air, moisture and dryness.
15. Craftsmen ….. to work with imported raw materials.
16. The architect or designer ….. decide, what the size of the walls, the floors, the beams, the girder and the parts, which make up the framework, will be and how they will be placed and arranged.
17. The heritage of the past ….. not be ignored, but it ….. be expressed in modern term.
18. Parts of ancient buildings ….. still be seen today in Greece.
19. Man ….. to protect him against the elements and sustain himself in the conflict with nature.

- **Put the verbs in the brackets in the correct form of the *Indefinite Tenses*:**

1. New Gothic features (to appear) in the interior.
2. The Early English style (to lack) the quality.
3. The pointed arches (to come) into general use.
4. The first floor (to repeat) the unusual motif with Ionic columns and incised ornament.
5. Cathedrals in Medieval times (to occupy) the place of first importance in national life.

- **Translate the following sentences into Russian paying attention to the *Passive Voice*:**

1. The exteriors were enlivened with porticos and colonnade, rooms were designed to catch the view, or the sun in winter or the shade in summer.
2. The work of the group is characterized by use of cubic forms and attention to the quality of materials.
3. The facades are constructed in load-bearing masonry with a decorated frieze.
4. The future will be related to the development of new materials, new construction methods, computer designing, and a sociological changes.
5. The columns in the center of the first and the second floors are embellished with multilayer painting.
6. The room with a timber ceiling and draped walls is equipped with leather, wooden cabinet, and fireplace.
7. The composition of the interior is based on the collateral subordination of the central space and adjacent four naves.
8. The reception room is furnished with green plastic armchairs and can be transformed into separate working places when the need arises.
9. The central section is faced with mirrors of white marble with gold crosses.

- **Change *Active* forms into *Passive:***

Example: *Abundant geometric ornament covers surfaces. – Surfaces are covered by abundant geometric ornament.*

1. Spacious arcades, gallery trifoliate and spacious clerestory windows reduced the wall to a minimum.
2. Mature trees will encircle this magnificent building.
3. The builders plaster and leave unpainted the walls in the house.
4. White flat walls with no extra applied decoration, severely cubic forms, large areas of glazing and open planning characterize the International style.
5. The white-painted wooden cornices often replaced the former projecting eaves.
6. The merchants of the late Middle Ages owned many manor-houses.

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