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Учебное пособие по английскому языку

HISTORY OF ARCHITECTURE

Нижний Новгород
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Утверждено редакционно-издательским советом университета
в качестве учебного пособия

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Цель учебного пособия – формирование базовых знаний по специальности, ознакомление с терминологией специальности, овладение профессионально-ориентированным языком, формирование профессиональной, коммуникативной и социокультурной компетенций в рамках профессиональной подготовки специалистов.

Предназначено для студентов I, II курсов, обучающихся по направлению подготовки 07.03.01 Архитектура» и 07.03.03 Дизайн архитектурной среды очной формы обучения.

Content

Unit 1. History of architecture.....	5
Unit 2. Greek Architecture	7
Unit 3. Roman Architecture	11
Unit 4. Romanesque Style	14
Unit 5. Gothic Architecture	17
Unit 6. Renaissance-Style Architecture	20
Unit 7. Baroque Architecture	24
Unit 8. Neoclassical Architecture.....	28
Unit 9. 19th Century Architecture.....	30
Unit 10. 20th Century Architecture.....	32
Unit 11. Contemporary Architecture.....	43
Appendix 1	48
Appendix 2	48
Appendix 3	49
Appendix 4	52
Appendix 5	53
Appendix 6	54
Appendix 8	58
Appendix 9	59
Bibliography	61

Введение

Учебное пособие по английскому языку «History of Architecture» предназначено для студентов I, II курсов, обучающихся по направлению подготовки 07.03.01 Архитектура и 07.03.03 Дизайн архитектурной среды очной формы обучения.

Целью учебного пособия является формирование базовых знаний по специальности, ознакомление с терминологией специальности, овладение профессионально-ориентированным языком, формирование профессиональной, коммуникативной и социокультурной компетенций в рамках профессиональной подготовки специалистов.

Учебное пособие состоит из 11 модулей, описывающих архитектурные стили прошлых столетий и современности. Каждый модуль имеет текстовую описательную часть и набор заданий, содержащих вопросы и темы для устных сообщений на практическом занятии с последующим обсуждением в форме дискуссии, а также краткий тематический словарь. Кроме этого, пособие содержит дополнительный информационный материал в 9 приложениях.

Unit 1. History of architecture

1. Read the text about the history of architecture.

Ancient Architecture

Early architecture had two main functions: (1) to consolidate security and power; (2) to please the Gods. The richer the society, the more important these functions became.

Egyptian Architecture

The first great civilization to emerge around the Mediterranean basin was that of Egypt (c.3100-2040 BCE). In addition to its own written language, religion and dynastic ruling class, it developed a unique style of Egyptian architecture, largely consisting of massive burial chambers in the form of Pyramids (at Giza) and underground tombs (in the desolate Valley of the Kings, Luxor). Design was monumental but not architecturally complex and employed posts and lintels, rather than arches, although Egyptian expertise in stone had a strong influence on later Greek architecture. Famous examples of Egyptian pyramid architecture include: The Step Pyramid of Djoser (c.2630 BCE) designed by Imhotep - one of the greatest architects of the ancient world - and The Great Pyramid at Giza (c.2550 BCE), also called the Pyramid of Khufu or 'Pyramid of Cheops' - the oldest of the Seven Wonders of the World, as compiled by Antipater of Sidon (170-120 BCE). Later, during the Middle and Late Kingdoms (c.2040-300 CE), the Egyptians constructed a series of palaces at Karnak (eg. Temple of Amon, 1530 BCE onwards). These structures were adorned with a diverse range of artworks - few of which survive - including murals, panel paintings, sculptures, and metalwork, depicting various Gods, deities, rulers and symbolic animals in the unique Egyptian hieratic style of art, together with hieroglyphic inscriptions.

My glossary:

1. Emerge – появляться, возникать,
2. Burial chamber – гробница,
3. Post - колонна.

4. Lintel – архитрав,
5. Mural – фреска, настенная живопись,
6. Deity – божество,
7. Inscriptive – надпись,
8. Adorn – украшать.

2. *Match the words and phrases (1-5) with the definitions (A-E).*

1. Burial chamber –

2. Inscriptive –

3. Lintel –

4. Mural –

5. Post –

A. vault, when underground,

B. a length of wood, metal, etc., fixed upright in the ground to serve as a support, marker, point of attachment,

C. something inscribed, esp. words carved or engraved on a coin, tomb,

D. a large painting or picture on a wall,

E. a horizontal beam, as over a door or window.

3. *Read the text and answer the questions:*

1. When and where did the first great civilization emerge?

2. What are some of the examples of Egyptian pyramid architecture?

3. What artworks do these structures include?

4. *Prepare a short presentation about the following types of Egyptian Architecture*

For more specific details, see: Early Egyptian Architecture (3100-2181); Egyptian Middle Kingdom Architecture (2055-1650); Egyptian New Kingdom Architecture (1550-1069); Late Egyptian Architecture (1069 BCE - 200 CE).

For a comparison with the pyramid architecture of the early Americas, see: Pre-Columbian Art (c.1200 BCE - 1535 CE).

Sumerian Architecture

Meanwhile, in Mesopotamia and Persia (c.3200-323 BCE), the Sumerian civilization was developing its own unique building - a type of stepped pyramid called a ziggurat. But in contrast to the pyramids of the Egyptian Pharaohs, ziggurats were not built as tombs but as man-made mountains to bring the Sumerian rulers and people closer to their Gods who supposedly dwelt high up in mountains to the east. Ziggurats were constructed from clay-fired bricks, often finished with coloured glazes.

5. Prepare a short presentation about the following types of Sumerian Architecture

For more details, see: Sumerian Art (c.4500-2270 BCE). For other cultures of ancient Iraq, see: Assyrian art (c.1500-612 BCE) and Hittite art (c.1600-1180 BCE). For an overall view, see: Mesopotamian art (c.4500-539).

Additional reading: see Appendix 1.

Unit 2. Greek Architecture

1. Read the text about Greek architecture.

Greek Architecture

The history of art and architecture in Ancient Greece is divided into three basic eras: the Archaic Period (c.600-500 BCE), the Classical Period (c.500-323 BCE) and the Hellenistic Period (c.323-27 BCE). About 600 BCE, inspired by the theory and practice of earlier Egyptian stone masons and builders, the Greeks set about replacing the wooden structures of their public buildings with stone structures - a process known as 'petrification'. Limestone and marble was employed for columns and walls, while terracotta was used for roof tiles and ornaments. Decoration was done in metal, like bronze.

Like painters and sculptors, Greek architects enjoyed none of the enhanced status accorded to their successors. They were not seen as artists but as tradesmen. Thus no names of architects are known before about the 5th century BCE. The most com-

mon types of public buildings were temples, municipal structures, theatres and sports stadiums.

Architectural Methods of Ancient Greece

Greek architecture used simple post-and-lintel building techniques. It wasn't until the Roman era that the arch was developed in order to span greater distances. As a result, Greek architects were forced to employ a great many more stone columns to support short horizontal beams overhead. Moreover, they could not construct buildings with large interior spaces, without having rows of internal support columns. The standard construction format, used in public buildings like the Hephaestum at Athens, employed large blocks of limestone or a light porous stone known as tuff. Marble, being scarcer and more valuable was reserved for sculptural decoration, except in the grandest buildings, such as the Parthenon on the Acropolis.

Principles of Greek Architecture: Classical Orders

The theory of Greek architecture - arguably the most influential form of classical Greek art - was based on a system of 'Classical Orders' - rules for building design based on proportions of and between the individual parts. This resulted in an aesthetically pleasing consistency of appearance regardless of size or materials used. There were three orders in early Greek architecture: the **Doric**, **Ionic** and **Corinthian**. The Doric style was common in mainland Greece and later spread to the Greek colonies in Italy. The Ionic style was employed in the cities of Ionia along the west coast of Turkey and other islands in the Aegean. Where the Doric style was formal and austere, the Ionic was less restrained and more decorative. The third style, Corinthian, came later and represented a more ornate development of the Ionic order. The differences between these styles is most plainly visible in the ratio between the base diameter and height of their columns. Doric architecture (exemplified by Greek structures, like the Parthenon and the Temple of Hephaestus in Athens) was more popular during the Classical age, while the Ionic style gained the upper hand during the more relaxed period of Hellenistic Art (c.323-30 BCE).

Famous Buildings of Ancient Greece

Famous examples of ancient Greek architecture include: the Acropolis complex (550-404 BCE) including the Parthenon (447-422 BCE), the Temples at Paestum (550 BCE onwards), the Temple of Zeus at Olympia (468-456 BCE), the Temple of Hephaistos (c.449 BCE), the Temple of Athena Nike (427 BCE), the Theatre at Delphi (c.400 BCE), the Tholos Temple of Athena Pronaia (380-360 BCE), and the Pergamon Altar of Zeus (c.166-156 BCE).

My glossary:

1. Post-and-lintel - стоечно-балочная конструкция,
2. Tuff – вулканический туфф,
3. Doric – дорический,
4. Ionic – ионика,
5. Corinthian – коринфский, разукрашенный,
6. Austere – аскетический, строгий,
7. Hellenistic Art - древнегреческий, эллинистический, относящийся к эллинизму.

2. Match the words and phrases (1-3) with the definitions (A-C).

1. Doric order,
2. Ionic order,
3. Corinthian order.

A. relating to one of the five classical orders of architecture: characterized by a bell-shaped capital having carved ornaments based on acanthus leaves,

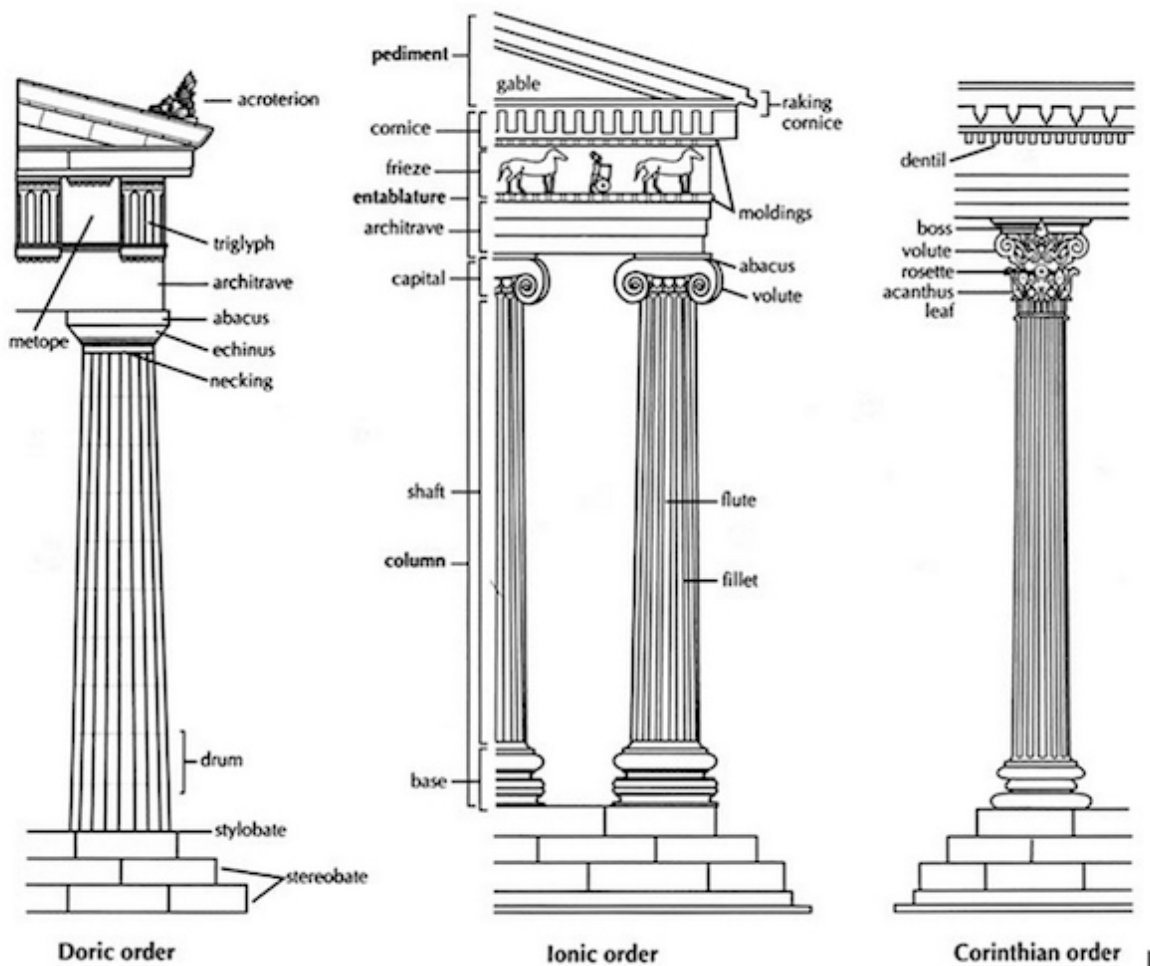
B. relating to one of the five classical orders of architecture: characterized by a column having no base, a heavy fluted shaft, and a capital consisting of an ovolo moulding beneath a square abacus,

C. relating to one of the five classical orders of architecture, characterized by fluted columns and capitals with scroll-like ornaments.

3. Read the text and answer the questions:

1. What are the three main eras in the history of Greek architecture?
2. What is petrification?
3. What are the most common types of public buildings?
4. What building techniques were used in Greek architecture?
5. What was the standard construction format?
6. What are the main principles of Greek architecture? How are they different?

4. Describe 3 Greek orders with the help of the following picture.



5. Prepare a short presentation about one of the most famous Greek buildings.

Additional reading: see Appendix 2.

Unit 3. Roman Architecture

1. Read the text about Roman architecture.

Roman Architecture

Unlike the more creative and intellectual Greeks, the Romans were essentially practical people with a flair for engineering, intellectual Greek construction and military matters. In their architecture, as in their art, they borrowed heavily from both the Etruscans (e.g. in their use of hydraulics for swamp-clearing and in the construction of arches), and also the Greeks, whom they regarded as their superiors in all visual arts. However, without Roman art - with its genius for copying and adapting Greek styles - most of the artistic achievements of Greek antiquity would have been lost.

Architectural Priorities of Ancient Rome

Roman architecture served the needs of the Roman state, which was keen to impress, entertain and cater for a growing population in relatively confined urban areas. Drainage was a common problem, as was security. This, together with Rome's growing desire to increase its power and majesty throughout Italy and beyond, required public buildings to be imposing, large-scale and highly functional. This is exemplified by Roman architectural achievements in drainage systems, aqueducts (eg. the aqueduct at Segovia, 100 CE, and over 11 aqueducts in the city of Rome itself, such as Aqua Claudia and Anio Novus), bridges (eg. the Pont du Gard) roads, municipal structures like public baths (eg. the Baths of Caracalla and the Baths of Diocletian), sports facilities and amphitheatres (eg. the Colosseum 72-80 CE), even central heating systems. Numerous temples and theatres were also built. Later, as their empire spread, the Roman architects seized the opportunity to create new towns from scratch, designing urban grid-plans based on two wide streets - a north-south axis (the *cardo*) and an east-west axis (the *decumanus*). The town centre was located at the intersection of the two roads. They also built upwards; for example, Ostia, a rich port city near Rome, boasted a number of 5-storey apartment blocks.

Architectural Advances: Arches & Concrete

Roman architecture was assisted by major advances in both design and new materials. Design was enhanced through architectural developments in the construction of arches and roof domes. Arches improved the efficiency and capability of bridges and aqueducts (fewer support columns were needed to support the structure), while domed roofs not only permitted the building of larger open areas under cover, but also lent the exterior an impressive appearance of grandeur and majesty, as in several important secular and Christian basilicas, like the Pantheon.

Developments in materials were also crucial, as chronicled by the Roman architect Vitruvius (c.78-10 BCE) in his book *De Architectura*. This is exemplified by the Roman invention of concrete (*opus cementicium*), a mixture of lime mortar, sand, water, and stones, in the 3rd century BCE. This exceptionally strong and convenient substitute for stone revolutionized Roman engineering and architecture. As tile-covered concrete began to replace marble as the main building material, architects could be more daring. Buildings were freed from the rectangular Greek design-plan (with its undomed roofs and lines of pillars supporting flat architraves) and became less geometric and more free-flowing.

Like their Egyptian and the Greek predecessors, architects in ancient Rome embellished their public buildings with a wide range of artworks, including: Roman sculpture (especially reliefs, statues and busts of the Emperor), fresco murals, and mosaics.

Famous Buildings of Ancient Rome

Two of the greatest structures of Ancient Rome were the Colosseum (the elliptical Flavian amphitheater in the center of Rome) and Trajan's Column (a monument to the Emperor Trajan). Situated to the east of the Roman Forum, the Colosseum took 8 years to build, had seating for 50,000 spectators. Historians and archeologists estimate that a staggering 500,000 people and over 1 million wild animals perished in the 'games' at the Colosseum. Trajan's Column, located close to the Quirinal Hill, north of the Roman Forum, was finished in 113 CE. It is renowned for its magnificent and highly detailed spiral bas relief sculpture, which circles the shaft of the monument 23

times, and narrates Trajan's victory in the Dacian Wars. The shaft itself is made from 20 huge blocks of Carrara marble, each weighing about 40 tons. It stands about 30 meters in height and 4 meters in width. A smaller but no less important Roman monument was the *Ara Pacis Augustae* (13-9 BCE).

My glossary:

1. Flair – талант, способность,
2. Etruscans - этруск (представитель одного из племен, населявших древнюю Этрурию, современная Тоскана),
3. Aqueduct - акведук, водопровод,
4. Basilica - крупная постройка, обычно здание суда, в виде прямоугольника с двумя продольными рядами колонн внутри; в Древней Греции и Риме,
5. Architrave - архитрав (элемент ордера),
6. Pillar - подножие, пьедестал.

2. Match the words and phrases (1-4) with the definitions (A-D).

1. Aqueduct –
2. Architrave -
3. Basilica –
4. Pillar –

- A. a Roman building, used for public administration, having a large rectangular central nave with an aisle on each side and an apse at the end,
- B. a conduit used to convey water over a long distance, either by a tunnel or more usually by a bridge,
- C. an upright structure of stone, brick, metal, etc., that supports a superstructure or is used for ornamentation,
- D. the lowest part of an entablature that bears on the columns.

3. Read the text and answer the questions:

1. How were the Romans different from intellectual Greeks?

2. What was special about Roman architecture? What were the main problems?
3. What are the basic Roman architectural achievements?
4. Name the major advances in design.
5. What developments did the Romans reach in materials?
6. What are the famous Buildings of Ancient Rome?

4. Prepare a short presentation about one of the most famous building of ancient Rome.

Additional reading: see Appendix 3.

Unit 4. Romanesque Style

1. Read the text about Romanesque architecture.

Romanesque Style

The term Romanesque architecture is sometimes used to cover all immediate derivations of Roman architecture in the West, following the collapse of Rome until the flowering of the Gothic style in about 1200. More usually however, it denotes a distinctive style that emerged almost simultaneously in France, Germany, Italy and Spain (the latter also influenced by Moorish designs) in the 11th century. It is characterized most obviously by a new massiveness of scale, inspired by the greater economic and political stability that arrived after centuries of turmoil.

Features of Romanesque Architecture

Although they relied on several design features from Greek and Roman Antiquity, Romanesque architects had neither the imagination of the Greeks, nor the engineering ability of the Romans. For example, Roman building techniques in brick and stone were largely lost in most parts of Europe. In general, the style employed thick walls, round arches, piers, columns groin vaults, narrow slit-windows, large towers and decorative arcading. The basic load of the building was carried not its arches or columns but by its massive walls. And its roofs, vaults and buttresses were relatively primitive in comparison with later styles. Interiors were heavy with stone, had dim

lighting and - compared with later Gothic styles - simple unadorned lines. Romanesque churches tended to follow a clearly defined form, and are recognizable throughout Europe. Only rarely did one see traces of Byzantine or Eastern influence, except along trade routes. A notable example is the domed St Mark's Basilica in Venice.

Despite its relative simplicity of style, Romanesque architecture did reinstate two important forms of fine art: sculpture (which had largely disappeared since the fall of Rome) and stained glass. But given the size of windows in Romanesque style buildings, the latter remained a relatively minor element in Medieval art until the advent of Gothic designs.

Romanesque Revival architecture was a 19th century style championed by architects like the Louisiana-born Henry Hobson Richardson (1838-86), who was responsible for "Richardsonian Romanesque", as exemplified by the Marshall Field Wholesale Store (1885-87), in Chicago.

My glossary:

1. Romanesque - романский (о стиле) ; построенный в романском стиле,
2. Moorish - мавританский (в современном употреблении только о стиле),
3. Turmoil - шум, суматоха; беспорядок,
4. Groin - крестовый свод,
5. Slit window – щелевое окно, смотровая щель,
6. Arcading – аркада, пассаж, слуховая галерея,
7. Buttress - контрфорс, столб
8. Unadorned - неукрашенный; неприкрашенный,
9. Dim - тусклый, неяркий; слабый (о светящихся объектах),
10. Stained glass - цветное стекло; витражное стекло.

2. *Match the words and phrases (1-5) with the definitions (A-E).*

1. Arcading –
2. Buttress –

3. Groin –

4. Slit window –

5. Stained glass –

A. a curved arris formed where two intersecting vaults meet,

B. glass that has been coloured in any of various ways, as by fusing with a film of metallic oxide or burning pigment into the surface, used esp. for church windows,

C. construction, usually of brick or stone, built to support a wall,

D. narrow window for defense, deeply splayed within, to get maximum light,

E. a long, arched building or gallery.

3. Read the text and answer the questions:

1. What is Romanesque style characterized by?

2. What are the main features of Romanesque Architecture?

3. What are two important forms of fine art that Romanesque architecture reinstigated?

4. Give some examples of this style.

4. Prepare a short presentation about one of the most famous buildings of Romanesque style.

For a comparison with Eastern designs of the same period, see: the 11th century Kandariya Mahadeva Hindu Temple (1017-29) in India; and the 12th century Angkor Wat Khmer Temple (1115-45) in Cambodia.

Additional reading: see Appendix 4.

Unit 5. Gothic Architecture

1. Read the text about Gothic architecture.

Gothic Architecture

The term 'Gothic' denotes a style of architecture and art that superseded Romanesque, from the mid-12th century to the mid-15th century. Coined originally as a term of abuse by Italian Renaissance artists and others like Christopher Wren, to describe the type of Medieval architecture they considered barbaric, as if to suggest it was created by Gothic tribes who had destroyed classical art of Antiquity, the Gothic art style is characterized by the use of pointed arches, thinner walls, ribbed vaults, flying buttresses, huge stained glass windows and elaborate tracery. Think of it as a sort of finer, more vertical, more detailed, brighter, more exciting and more inspirational form of Romanesque. The Gothic style as applied to cathedrals is usually divided into two variations: Rayonnant Gothic Architecture (c.1200-1350) and Flamboyant Gothic Architecture (1375-1500). Modern critics like John Ruskin had a high opinion of the Gothic style.

Background

The 12th century was a period of growth in trade and urban development throughout Europe. This increasing prosperity, together with advances in science and geometry, plus new ideas about how cathedrals could be built in order to inspire religious devotion among the masses, were all important factors in the development of gothic architecture. Although the new style was closely associated with the promotion of religion, and although much of the gothic building program was financed by monastic orders and local bishops, it was not a religious architectural movement. In a way, Christianity was a product brand used by secular authorities, to compete for prestige and influence. As a result, Kings and lesser administrators saw cathedrals as major civic and commercial assets, and supported their construction accordingly.

Key Feature of Gothic Architecture

The principal feature of the Gothic style is the pointed arch, believed by many experts to originate in Assyrian, and later, Islamic architecture. This feature, which channeled the weight of the ceiling onto weight-bearing piers or columns at a much

steeper angle than was previously possible with the Romanesque 'rounded' arches, permitted architects to raise vaults much higher and thus create the impression of 'reaching towards heaven'. It also led to the adoption of numerous other features. Instead of massively thick walls, small windows and dim interiors, the new Gothic buildings had thin walls, often supported by flying buttresses, and huge stained glass windows, as exemplified by Sainte Chappell (1241-48) in Paris. The soaring ceilings and brighter light revolutionized ecclesiastical design by transforming the interior of many cathedrals into inspirational sanctuaries.

The Gothic Cathedral - A Mini-Universe

In keeping with the new and more confident philosophy of the age, the Gothic cathedral was seen by architects and churchmen as representing the universe in miniature. Each element of the building's design was intended to convey a theological message: the awesome glory of God. Thus the logical and ordered nature of the structure reflected the clarity and rationality of God's universe, while the sculptures, stained glass windows and murals illustrated the moral messages of the Bible.

The Church of Saint-Denis (c.1137-41)

The building which marks the real beginning of the Gothic era was the Abbey Church of Saint-Denis, near Paris. Begun under the direction of Abbot Suger, friend of the French Kings, Louis VI and Louis VII, the church was the first structure to use and unify all of the elements that define Gothic as an architectural style. Although pointed arches, column clusters and cross-rib vaulting had all been used before, it wasn't until Saint-Denis that these features came together in a coherent whole, and the building became a sort of prototype for more churches and cathedrals in the region known as the Ile de France. In due course, the style spread throughout France, England, the Low Countries, Germany, Spain and Italy.

Examples of Ecclesiastical Gothic Architecture

Although used in the design and construction of palaces, castles, municipal town halls, guild halls, abbeys and universities, the Gothic style is best exemplified by the Gothic cathedrals of Northern France. The greatest examples include: Notre-Dame Cathedral Paris (1163-1345); Reims Cathedral (1211-1275); Chartres Cathedral

(1194-1250); and Amiens Cathedral (1220-1270); (in Germany) Cologne Cathedral (1248-1880); (in Austria) St Stephen's Cathedral Vienna; (in Spain) the cathedrals of Burgos, Toledo and Leon; (in Italy) Florence, Milan and Siena; while English Gothic architecture is best represented by Westminster Abbey, York Minster and the cathedrals of Salisbury, Exeter, Winchester, Canterbury and Lincoln.

My glossary:

1. Supersede - заменять; замещать, смещать,
2. Ribbed - ребристый; рубчатый; рифлённый; с насечкой,
3. Tracery - ажурная работа (особенно в средневековой архитектуре),
4. Rayonnant - лучистый (о стиле),
5. Flamboyant - "пламенеющий" (название стиля поздней французской готики 15 и первой половины 16 вв.; характеризуется изогнутыми, волнообразными формами, напоминающими языки пламени),
6. Assyrian – ассирийский,
7. Sanctuary - святилище (храм, церковь),
8. Awesome - преисполненный почтения, благоговейный, почтительный.

2. Match the words and phrases (1-4) with the definitions (A-D).

1. Awesome –
 2. Flamboyant –
 3. Rayonnant –
 4. Ribbed –
- A. (of the surface) having a rough, riblike texture,
B. excellent, exciting, remarkable,
C. darting forth rays, as the sun when it shines out,
D. denoting, or relating to the French Gothic style of architecture characterized by flamelike tracery and elaborate carving.

3. Read the text and answer the questions:

1. What is the Gothic art style characterized by?
2. What two variations is the Gothic style usually divided into?
3. What are the key features of Gothic Architecture?
4. What was the theological message of the Gothic cathedral?
5. Why does the Abbey Church of Saint-Denis mark the real beginning of the Gothic era?
6. Give examples of Ecclesiastical Gothic Architecture.

4. Prepare a short presentation about one of the most famous buildings of Gothic Architecture.

Unit 6. Renaissance-Style Architecture

1. Read the text about Renaissance-Style architecture.

Renaissance-Style Architecture (1400-1620)

Background

Financed by commercial prosperity and competition between city-states, such as Florence, Rome and Venice, as well as rich families like the Medici banking dynasty in Florence and the Fuggers banking family in Germany, the Renaissance was nevertheless a triumph of will over world events. Not long before, there had been a run of disastrous European harvests (1315-19); the Black Death plague (1346) which wiped out one third of the European population; the 100 Years War between England and France (1339-1439), and the Christian Church was polarized by schism. Hardly ideal conditions for the rebirth or *rinascimento* that followed. As it was, the 16th century Popes in Rome almost bankrupted the Church in the early 16th century due to their profligate financing of fine buildings and the visual arts.

Architectural Style

Renaissance architecture was catalyzed by the rediscovery of architectural styles and theories of Ancient Rome. The first depictions of this Classical architecture emerged in Italy during the early 15th century when a copy of *De Architectura* ("Ten Books Concerning Architecture") by the 1st century Roman architect Vitruvius, was

suddenly unearthed in Rome. At the same time, the Florentine architect and artist Filippo Brunelleschi (1377-1446) had begun studying ancient Roman designs, and was convinced that ideal building proportions could be ascertained from mathematical and geometrical principles. It was Brunelleschi's magnificent 1418 design for the dome of the Florence Cathedral (1420-36) - now regarded as the first example of Renaissance architecture - which ushered in a new style based on the long-neglected placement and proportion rules of Classical Antiquity.

Famous Renaissance Architects

Another important Renaissance architect was Leon Battista Alberti (1404-72), who is still revered as one of the founders of modern architectural theory. Believing that ideal architectural design was based on the harmony of structure, function and decoration, he was greatly inspired by the theory and practice of ancient Roman architects and engineers.

Other famous Italian architects included: (1) Donato Bramante (1444-1514), the leading designer of the High Renaissance; (2) Giuliano da Sangallo (1443-1516), an important intermediary architect between the Early and High Renaissance periods; (3) Michelangelo Buonarroti (1475-1564), a leading architect, as well as one of the greatest sculptors and painters of the age; (4) Baldassare Peruzzi (1481-1536), an important architect and interior designer; (5) Raffaello Santi (Raphael) (1483-1520), a visionary designer as well as painter; (6) Michele Sanmicheli (1484-1559), the most famous pupil of Bramante; (7 & 8) Jacopo Sansovino (1486-1570) and Andrea Palladio (1508-1580), the two top figures in Venetian Renaissance architecture; (9) Giulio Romano (1499-1546), the main exponent of Italian Mannerist-style architecture; (10) Giorgio Vasari (1511-1574) who designed the loggia for the Uffizi gallery and the connecting *Vasari Corridor*; and (11) Vincenzo Scamozzi (1548-1616) one of the great theorists of the late Renaissance.

Features of Renaissance Architecture

Put simply, Renaissance buildings were modelled on the classical architecture of the Greeks and Romans, but retained modern features of Byzantine and Gothic invention, such as complex domes and towers. In addition, while replicating and im-

proving on Classical sculpture, they also incorporated modern mosaics and stained glass, along with outstanding fresco murals. Renaissance architecture can be seen in countless examples of churches, cathedrals and municipal buildings across Europe, (eg. in many French Chateaux, such as Fontainebleau Chateau, home of the Fontainebleau School: 1528-1610) and its style has been reapplied in later ages to famous structures as diverse as the US Capitol and the UK National Gallery. (In England, the style is sometimes known as Elizabethan architecture.)

Supreme Examples of Renaissance Architecture

The two greatest Renaissance-style structures are undoubtedly the redesigned St Peter's Basilica in Rome and the cathedral in Florence, both of which were highlights of the Grand Tour (1650-1850).

Inspired by civic rivalry between the Ducal States, Brunelleschi's dome made the Florentine cathedral the tallest building in Tuscany. In its architectural design, it combined the Gothic tradition of stone vaulting and the principles of Roman engineering. Its herring-bone bonding of brickwork and concentric rings of masonry blocks dispensed with the need for centering, which was unmanageable at the height involved.

Commissioned by Pope Julius II (1443-1513), the rebuilding of the 1,100 year old church of St Peter's in Rome (1506-1626) was the work of numerous architects, including Bramante, Raphael, Sangallo, Maderno, Michelangelo and Bernini, and extended beyond the High Renaissance into the Mannerist and Baroque eras. Its features include a 87-foot high lantern on top of a huge ovoid dome (altered from Michelangelo's hemispherical design due to fears of instability), and a frontal facade incorporating a gigantic Order of pilastered Corinthian columns, each 90 feet high. At 452 feet, St Peter's is taller than any other Renaissance church.

My glossary:

1. Schism - ересь, раскол,
2. Profligate - неэкономный, расточительный,
3. Ascertain - выяснять, устанавливать; убеждаться, удостоверяться,

4. Usher - представлять, вводить,
5. Revere - уважать; чтить, почитать,
6. Mural - фреска, настенная живопись,
7. Loggia – лоджия,
8. Herring-bone bonding – перевязка в елку,
9. Concentric rings - концентрические кольца,
10. Masonry - каменная кладка,
11. Dispense with – обходиться без,
12. Ovoid - яйцевидный, яйцеобразный,
13. Pilaster – пилястр.

2. *Match the words and phrases (1-4) with the definitions (A-D).*

1. Masonry –
2. Mural –
3. Herring-bone bonding -
4. Pilaster –

A. a pattern used in textiles, brickwork, etc., consisting of two or more rows of short parallel strokes slanting in alternate directions to form a series of parallel Vs or zig-zags,

B. work that is built by a mason; stonework or brickwork,

C. a shallow rectangular column attached to the face of a wall,

D. a large painting or picture on a wall.

3. *Read the text and answer the questions:*

1. What are the preconditions of the origin of Renaissance-Style Architecture?
2. What is the first example of Renaissance architecture?
3. Name the Famous Renaissance Architects and give examples of their works.
4. What are the main features of Renaissance Architecture?

4. *Prepare a short presentation about one of the most famous buildings of Renais-*

sance Architecture.

Unit 7. Baroque Architecture

1. Read the text about Baroque architecture.

Baroque Architecture (1550-1790)

As the 16th century unfolded, the religious, political and philosophical certainties which had prevailed during the Early (c.1400-85) and High (1486-1520) Renaissance periods, began to unravel. In 1517, Martin Luther sparked the Protestant Reformation, casting European-wide doubt on the integrity and theology of the Roman Church. This was the catalyst for several wars involving France, Italy, Spain and England, and led directly to the Counter-Reformation movement, launched by Rome, to attract the masses away from Protestantism. Renewed patronage of the visual arts and architecture was a key instrument in this propaganda campaign, and resulted in a grander, more dramatic style in both areas. For the rest of the century, this more dynamic style was known as Mannerism (style-ishness), and thereafter, Baroque - a term derived from the Portuguese word *barocco*, meaning 'an irregular pearl'.

Key Features of the Baroque Style

Baroque architecture can be seen as a more complex, more detailed, more elaborate, more ornamented form of Renaissance architecture. More swirls, more complex manipulation of light, colour, texture and perspective. On the outside of its churches, it featured more ostentatious facades, domes, columns, sculpture and other embellishments. On the inside, its floor-plans were more varied. Long, narrow naves were displaced by wider, sometimes circular shapes; separate chapels and other areas were created, along with *trompe l'oeil* effects; ceilings were covered in fresco paintings. The whole thing was designed to interest, if not dazzle, the spectator.

Baroque was an emotional style of architecture, and took full advantage of the theatrical potential of the urban landscape. This is exemplified above all by Saint Peter's Square (1656-67) in Rome, in front of the domed St Peter's Basilica. Its architect, Giovanni/Gianlorenzo Bernini rings the square with colonnades, which widen

slightly as they approach the cathedral, conveying the impression to visitors that they are being embraced by the arms of the Catholic Church. The entire approach is constructed on a gigantic scale, to induce feelings of awe.

In general, Baroque architecture constituted part of the struggle for religious superiority and for the hearts and minds of worshippers across Europe. On a more political level, secular Baroque architecture was employed to buttress the absolutism of reigning monarchs, like King Louis XIV of France, among others. From Italy, it spread to the rest of Europe - especially Catholic Europe - where each country typically developed its own interpretation.

Celebrated Baroque Architects

Famous Baroque architects included: Giacomo Barozzi da Vignola (1507-73), papal architect to Pope Julius III and the Farnese family; Gianlorenzo Bernini (1598-1680), a designer who perfectly expressed the ideals of the Counter Reformation; Francesco Borromini (1599-1667), a lifelong rival of Bernini; Pietro Berrettini da Cortona (1596-1669), a protegee of Pope Urban VIII (see also *quadratura*); Francois Mansart (1598-1666), designer of French townhouses and chateaux like the Château de Maisons, whose name was given to the mansard roof (sic); his great-nephew Jules Hardouin Mansart (1646-1708), designer of the great dome of Les Invalides in Paris; and Louis Le Vau (1612-70), another famous French Baroque architect, responsible for the church of Saint-Sulpice in Paris and the Wings of the Louvre. Jules Hardouin Mansart and Louis Le Vau were the main architects of the Palace of Versailles (begun 1623), creating such extravagancies as the Hall of Mirrors and the Marble Court. In Germany, an iconic Baroque structure is the Wurzburg Residenz (1720-44), designed by Balthasar Neumann (1687-1753).

In England, the leader of the Baroque style was Sir John Vanbrugh (1664-1726), designer of Blenheim Palace; while in Russia, Bartolomeo Rastrelli (1700-1771) was chiefly responsible for the style known as Russian Baroque, but which incorporated elements of both early Neoclassical and Rococo architecture. Rastrelli designed the Winter Palace (1754-62), Smolny Cathedral (1748-57) in St Petersburg, and redesigned Catherine's Palace, outside the city.

Rococo Architecture (1715-89)

During the last phase of Baroque, the reign of King Louis XV of France witnessed a revolt against the earlier Baroque style of Louis XIV's court, and the emergence of a more decorative, playful style of architecture, known as Rococo. An amalgam of the words 'rocaille' (rock) and 'coquillage' (shells), reflecting its abundance of flowing curved forms, Rococo was championed by Nicolas Pineau, who partnered Jules Hardouin-Mansart in designing interiors for the royal Château de Marly.

Unlike other major architectural movements, like Romanesque, Gothic or Baroque, Rococo was really concerned with interior design. This was because it emerged and remained centered in France, where rich patrons were unwilling to rebuild houses and chateaux, preferring instead to remodel their interiors. And the style was far too whimsical and light-hearted for the exteriors of religious and civic buildings. As a result, Rococo architects - in effect, interior designers - confined themselves to creating elaborately decorated rooms, whose plasterwork, murals, tapestries, furniture, mirrors, porcelain, silks, chinoiserie and other embellishments presented the visitor with a complete aesthetic experience - a total work of art (but hardly architecture!)

Rococo perfectly reflected the decadent indolence and degeneracy of the French Royal Court and High Society. Perhaps because of this, although it spread from France to Germany, where it proved more popular with Catholics than Protestants, it was less well received in other European countries like England, The Low Countries, Spain and even Italy. It was swept away by the French Revolution and by the sterner Neoclassicism which heralded a return to Classical values and styles, more in keeping with the Age of Enlightenment and Reason.

My glossary:

1. Mannerism - маньеризм (направление в западноевропейском искусстве 16-го века, для которого характерна изощрённость формы и изысканность образов),
2. Ostentatious - показной; внешний, нарочитый; хвастливый,

3. Embellishment - украшение; декорирование,
4. Amalgam - сочетание, смесь,
5. Whimsical - прихотливый; фантастический, причудливый,
6. Tapestry - затканная от руки материя; гобелен,
7. Indolence - леность; праздность; бездельничанье, вялость, лень,
8. Degeneracy - вырождённость, вырождение, дегенерация, упадок,
9. Stern - мрачный, угрюмый, наводящий тоску,
10. Herald - возвещать; извещать, объявлять, уведомлять.

2. Match the words and phrases (1-4) with the definitions (A-D).

1. Amalgam –

2. Embellishment –

3. Mannerism -

4. Tapestry –

A. a superfluous ornament,

B. a heavy ornamental fabric, often in the form of a picture, used for wall hangings, furnishings, etc., and made by weaving coloured threads into a fixed warp,

C. a principally Italian movement in art and architecture between the High Renaissance and Baroque periods (1520-1600) that sought to represent an ideal of beauty rather than natural images of it, using characteristic distortion and exaggeration of human proportions, perspective, etc.,

D. a blend or combination.

3. Read the text and answer the questions:

1. What are the preconditions of the origin of Baroque Architecture?

2. What are the main Key Features of the Baroque Style?

3. Name some of the Celebrated Baroque Architects and their works.

4. What is specific about Rocco style of architecture? When and where did it appear?

5. What did Rococo perfectly reflect?

4. Prepare a short presentation about one of the most famous buildings of Baroque Architecture.

Unit 8. Neoclassical Architecture

1. Read the text about Neoclassical Architecture.

Neoclassical Architecture (1640-1850)

Early Neoclassical Forms

Neoclassicism did not appear overnight. In its early forms (1640-1750), it co-existed with Baroque, and functioned as a corrective style to the latter's more flamboyant excesses. Thus in England, Sir Christopher Wren (1632-1723) designed St Paul's Cathedral, the Royal Observatory in Greenwich, the Royal Chelsea Hospital and the Sheldonian Theatre in Oxford, in a style which is much more classicist than Baroque, even though he is still classified as a Baroque architect. Other early English Neoclassicist designers included Inigo Jones (1573-1652) and William Kent (1685-1748).

American Neoclassicism

The United States Capitol Building, with its neoclassical frontage and dome, is one of America's most recognizable and iconic structures. Begun in 1793, its basic design was the work of William Thornton (1759-1828), reworked by Benjamin Latrobe (1764-1820), Stephen Hallet and Charles Bulfinch (1763-1844). The dome and rotunda were initially built from wood, but later replaced with stone and iron. The overall design was inspired by both the eastern facade of the Louvre Museum in Paris, and by the Pantheon in Rome. Latrobe himself went on to design numerous other buildings in America, in the Neoclassical style including: the Bank of Pennsylvania (1789), Richmond Capitol (1796), the Fairmount Waterworks, Philadelphia (1799), and the Baltimore Exchange (1816), to name but a few. Bulfinch completed the Capitol in the 1820s, setting the template for other state capitols in the process, and then returned to his architectural practice in Boston. A key figure in the development of American architecture during the early 19th century was the third US Pres-

ident Thomas Jefferson (1743-1826), whose strong preference for neoclassicism, in the design of public buildings, had a strong influence on his contemporaries.

My glossary:

1. Flamboyant - "пламенеющий" (название стиля поздней французской готики 15 и первой половины 16 вв.; характеризуется изогнутыми, волнообразными формами, напоминающими языки пламени),
2. Rotunda - ротонда а) (круглая постройка, обычно с куполом) б) (круглый зал с куполообразным потолком),
3. Template - лекало, образец, трафарет, шаблон,
4. Frontage - передний фасад (здания),
5. Dome - купол; верх, верхушка, свод (большого здания).

2. Fill in the missing words:

1. In its early forms (1640-1750), it co-existed with, and functioned as a corrective style to the latter's moreexcesses.
2. The United States Capitol Building, with its neoclassical and, is one of America's most recognizable and iconic structures.
3. The and were initially built from wood, but later replaced with stone and iron.

3. Read the text and answer the questions:

1. Where and when did the early Neoclassical Forms appear?
2. Who are early English Neoclassicist designers?
3. Who designed the United States Capitol Building?
4. What was the overall design inspired by?
5. Name the other buildings in America, in the Neoclassical style.

4. Prepare a short presentation about one of the most famous buildings of Neoclassical Architecture.

Additional reading: see Appendix 5.

Unit 9. 19th Century Architecture

1. Read the text about 19th Century Architecture.

19th Century Architecture

19th-Century architecture in Europe and America witnessed no new important design movements or schools of thought. Instead, there emerged a number of revivals of old styles. These included: The Greek Revival (American followers included Jefferson and Latrobe); the Gothic Revival - led by Viollet-le-Duc in France; American followers included Richard Upjohn (1802-78) and James Renwick (1818-95); a Neo-Romanesque Revival (1849-1880), led by Henry Hobson Richardson; Beaux-Arts architecture - a fusion of neo-Renaissance and neo-Baroque forms, practiced by Richard Morris Hunt (1827-95) - best known for designing the plinth of the *Statue of Liberty* (1870-86) - and by the Ohio-born Cass Gilbert (1859-1934); and the Second Empire style (1850-80) in France, which was characterized by a revival of the Mansard Roof. The only monumental architectural masterpiece was the Eiffel Tower (1885-89), built by the French architect Stephen Sauvestre and the French engineer Gustave Eiffel (1832-1923). Wrought iron frameworks were also a feature of Victorian architecture in Britain (1840-1900) - thanks to Robert Stephenson (1803-59) and Isambard Kingdom Brunel (1806-59) - as were other new materials, like glass - as used in the construction of Crystal Palace, designed by Joseph Paxton (1801-65). Popular Victorian styles included Neo-Gothic and Jacobethan. A giant replica of a viaduct pylon, the tower is built entirely from iron girders. The only significant exception to the above Revivalist movements was the *fin de siècle* appearance of Art Nouveau architecture, pioneered by Antoni Gaudi (1852-1926), Victor Horta (1861-1947) and Hector Guimard (1867-1942), and by Secessionists like the Viennese architect Joseph Maria Olbrich (1867-1908).

Frank Lloyd Wright

The greatest ever American architect, Frank Lloyd Wright (1867-1959) revolutionized spatial concepts with his Prairie house style of domestic architecture, introducing open-plan layouts and the widespread use of unfinished natural materials. Prairie School architecture is exemplified by Robie House (1910), Fallingwater (1936-37), Unity Temple (1936-39), Imperial Hotel Tokyo, Textile Block Houses, Johnson Wax Building (1936-39), Usonian House (mid-1930s), Price Tower (1955), Guggenheim Museum NY (1956-9). Influenced by American colonial architecture, 19th century Shingle style designs and Japanese architecture, as well as the Arts and Crafts movement, he also paid the closest attention to the detail of interior fixtures and fittings and the use of natural, local materials. Wright's work showed that European traditionalism (and modernism) was not the only answer to architectural issues in the United States.

American Skyscrapers

However, an immense amount of development in both building design and engineering took place in American architecture, at this time, due to the Chicago School and the growth of skyscraper architecture, from 1849 onwards. These supertall buildings came to dominate later building design across the United States. The Chicago School of architecture, founded by the skyscraper architect and engineer William Le Baron Jenney (1832-1907), was the pioneer group. Other important contributors to supertall tower design included the ex-Bauhaus designers Walter Gropius (1883-1969) and Mies van der Rohe (1886-1969); Philip Johnson (1906-2005), Skidmore Owings and Merrill, their leading structural engineer Fazlur Khan (1929-82), I.M. Pei (b.1917).

My glossary:

1. Wrought - кованный, чеканный; катанный; обработанный давлением (о металлах),
2. Girder - балка; брус; перекладина; балочная ферма,
3. Secessionist - отступник, раскольник; сепаратист,
4. Immense - обширный, очень просторный, необъятный; беспредельный,

бесконечный.

2. *Fill in the missing words:*

1. Wrought were also a feature of Victorian architecture in Britain.
2. A giant replica of a, the tower is built entirely from iron
3. He also paid the closest attention to the detail of interior andand the use of natural, local materials.

3. *Read the text and answer the questions:*

1. What are the main key features of the 19th-Century architecture in Europe and America?
2. What is the only monumental architectural masterpiece? Give your reasons.
3. What are the achievements of the greatest American architect, Frank Lloyd Wright?
4. Name the main designers and architects of the American Skyscrapers.

4. *Prepare a short presentation about one of the most famous buildings of the 19th-Century architecture.*

Unit 10. 20th Century Architecture

1. *What architectural schools and movements do you know? Discuss in pairs and then present in your group.*

2. *Study a brief outline of the century's main architectural schools and movements and compare it with your ideas.*

Twentieth century architecture has been dominated by the use of new technologies, building techniques and construction materials. Here is a brief outline of the century's main architectural schools and movements.

- 1900-20 Art Nouveau

- 1900-25 Early Modernism
- 1900-25 Continental Avant-Garde (De Stijl, Neue Sachlichkeit)
- 1900-2000 Steel-frame Skyscraper Architecture
- 1907-33 Deutscher Werkbund
- 1919-33 Bauhaus Design (see the biography of Walter Gropius); this evolves into the International Style of Modern Architecture (1940-70).
- 1925-40 Art Deco
- 1920-32 Constructivism
- 1945-70 Late Modernism: Second Chicago School of Architecture
- 1945-2000 High Tech Corporate Design Architecture
- 1960-2000 Postmodernist Art
- 1980-2000 Deconstructivism
- 1990-2000 Blobitecture

3. What do you know about Bauhaus? Read the text and find information about this school that is new for you.

Bauhaus

5 characteristics of Bauhaus art, architecture and design

Although the Institute for architects, craftsmen and artists only existed from 1919 until 1933, Bauhaus left a lasting legacy on the world of art, architecture and design. The works of star artists and architects such as Lyonel Feininger, Paul Klee, Marcel Breuer and Mies van der Rohe convinced the modernist crowd. And they still do today. You can recognize Bauhaus art, architecture and design by these 5 characteristics.

1. Form follows function

The American architect Louis Sullivan was the first to use the famous expression 'form follows function'. This became one of the fundamental ideas of modernism and Bauhaus. It means that in design, a form should always be applied because of its function instead of its aesthetic appeal. Utility came first and excessive ornamentations were avoided.

2. True materials

According to the teachers at Bauhaus, materials should reflect the true nature of objects and buildings. Honesty as a designer was most important. This meant they didn't modify or hide materials for the sake of aesthetics. There was no need to hide the construction of an object or building, such as steel or a beam, because it was just an integral part of the design.

3. Minimalist style

The minimalist style of Bauhaus art, architecture and design reflected these ideas of functionality and true materials. Influenced by movements such as Modernism and De Stijl, Bauhaus artists favoured linear and geometrical forms, while floral or curvilinear shapes were avoided. Only line, shape and colours mattered. Anything else was unnecessary and could, therefore, be reduced.

4. Gesamtkunstwerk

Walter Gropius, the founder of Bauhaus, was the first to apply the notion of 'Gesamtkunstwerk' - a synthesis of arts - to modern times. Gesamtkunstwerk combines multiple art forms such as fine and decorative arts unified through architecture in the case of Bauhaus. A building was not just an empty carcass for the Bauhaus school, it was just one part of the design, and everything inside added to the overall concept.

5. Uniting art and technology

In 1923, Bauhaus organized an exhibition that shifted the Bauhaus ideology. This exhibition was called 'Art & Technology: A New Unity'. From then on, there was a new emphasis on technology. Bauhaus workshops were used as laboratories in which prototypes of products, suitable for mass production and typical for their time, were carefully developed and improved. The artists embraced the new possibilities of modern technologies.

4. Match the adjectives to the nouns and then make sentences using the completed phrases.

famous

shapes

fundamental	ornamentations
excessive	style
minimalist	ideas
curvilinear	expression
empty	carcass
mass	concept
overall	production

5. *Read the text one more time and answer the questions.*

1. When did Bauhaus exist?
2. Name 5 characteristics of Bauhaus art?
3. What did the expression ‘form follows function’ mean for Bauhaus?
4. What was the role of materials?
5. What forms were important for Bauhaus?
6. What did the notion of ‘Gesamtkunstwerk’ mean?
7. What were Bauhaus laboratories famous for?

6. *Read the text and explain words or phrases in bold.*

The Bauhaus School Building

Gropius founded the Bauhaus in Weimar, Germany, in 1919, as a new kind of art school based around a **holistic approach** to the creative disciplines. The objective was to facilitate the creation of a **Gesamtkunstwerk** – or total work of art – in which buildings and everything in them were designed as a whole entity.

The Bauhaus promoted a unified vision for the arts that made no distinction between form and function, and therefore Gropius wanted the school's architecture to reflect these values.



An appreciation of the evolving relationship between art and industry was also key to the Bauhaus philosophy, which informed the use of modern materials and industrial processes across its various creative subjects.

When the school was forced to relocate to Dessau, after succumbing to pressure from Weimar's conservative political regime, Gropius seized the opportunity to design a suitably bold and progressive building.

The architectural project was commissioned and funded by the city of Dessau, and was designed by Gropius in his own office, as the Bauhaus did not establish its own architecture department until 1927.



The **campus** features an asymmetric **pinwheel plan**, with dedicated areas for teaching, an auditorium and offices, and housing for students and faculty distributed throughout three wings connected by bridges.

Among the innovative methods used in its construction were a framework made from reinforced concrete and brick, large expanses of glazing, and flat roofs covered with asphalt tiles that could be walked on.

The completed building encapsulated the notion of a Gesamtkunstwerk, with interior fittings, furniture and lighting produced in the school's workshops.

The Bauhaus operated from Dessau until 1932, when it was forced to close by the rising National Socialist German Workers' Party (Nazi Party). The school relocated to Berlin, with new director Ludwig Mies van der Rohe overseeing the **refurbishment** of a **derelict factory** to create its final site.

The school in Dessau was bombed during the Second World War, and was only partially repaired in the following years. The building was first listed in 1972 and the subsequent award of UNESCO World Heritage status in 1996 led to a comprehensive program of renovations.

In 1994, the Bauhaus Dessau Foundation was established to preserve the building and oversee its reinstatement as a leading center for design, research and education.

The school is now fully restored and accessible to the public. It plays host to festivals, residencies, exhibitions and academic courses. Work is also currently underway on the Bauhaus Museum Dessau, which is set to open on the campus in 2019.

7. Fill in the missing words.

1. Buildings and everything in them were designed as a whole
2. The school was ... to relocate to Dessau.
3. After ... to pressure from Weimar's conservative political regime, Gropius seized the opportunity to design a progressive building.
4. The architectural project was ... and funded by the city of Dessau.
5. The Bauhaus Dessau Foundation was established to preserve the building and oversee its ... as a leading center for design, research and education.
6. The school is now fully restored and ... to the public.
8. *Make a report about the representatives of Bauhaus school.*

My Glossary:

legacy – наследие

convince – убеждать

appeal – призыв, обращение

utility – польза

for the sake of – во имя, в интересах, на благо, ради

curvilinear – криволинейный, изогнутый

workshop – творческая мастерская, семинар

embrace – охватывать

holistic approach – комплексный подход

succumb – поддаваться, не устоять

pinwheel – вертушка

refurbishment – реконструкция, восстановление

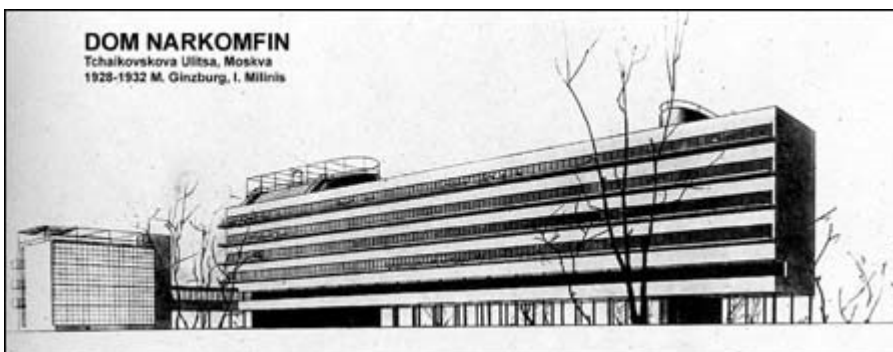
derelict – заброшенный

comprehensive – всесторонний

reinstatement – восстановление

9. *Read the text and answer the questions.*

Constructivist Architecture



Constructivist architecture is a form of modern architecture that started in former USSR in 1920s that emerged from constructivist art. Principles of Constructivism came from Suprematism, Newo Plasticism and Bauhaus. The architectural movement didn't last long, only till 1932 but the effects of it are still seen today.

Constructivist art applied 3d cubist vision to abstract and non-objective elements.

The style combines straight lines and various forms such as cylinders, squares, rectangles, cubes.

Elements of Constructivist art/architecture are:

- minimal
- geometric
- spatial
- architectonic
- experimental

Constructivism explores opposition between different forms as well as the contrast of different surfaces: walls and windows. Windows are usually square or rectangular, often wrapped around an entire building. There are round windows as well, usually at the top of the building.

Constructivist architecture movement emphasized and took advantage of the possibilities of new materials. Steel frames were seen supporting large areas of glass. Joints between various parts of buildings were exposed rather than concealed.

Many buildings had balconies and sun decks. Large windows in order to let as much light as possible.

1. In what period did constructivism exist?
2. How were elements of constructivism?
3. What are characteristic features of constructivism?

10. Make a report about famous constructivism buildings in Nizhny Novgorod.

11. Read the text about Deconstructivism

Deconstructivism

An iconic style of three-dimensional postmodernist art, opposed to the ordered rationality of modern design, Deconstructivism emerged in the 1980s, notably in Los Angeles California, but also in Europe. Characterized by non-rectilinear shapes

which distort the geometry of the structure, the finished appearance of deconstructivist buildings is typically unpredictable and even shocking. These unusual shapes have been facilitated by the use of design software developed from the aerospace industry. The exhibition which first introduced this new approach to the public was the *Deconstructivist Architecture* exhibition, curated by Philip Johnson and Mark Wigley, and held at the Museum of Modern Art, New York, in 1988. The most famous deconstructivist designer in America is probably Frank O. Gehry (b.1929); in Europe the top architects are probably Daniel Libeskind (b.1946), and the firm Coop Himmelblau, founded by Wolf Prix, Helmut Swiczinsky and Michael Holzer. Architects whose work is often described as deconstructionism (though in many cases the architects themselves reject the label) include Peter Eisenman, Frank Gehry, Zaha Hadid, Rem Koolhaas, Daniel Libeskind, Bernard Tschumi, and Coop Himmelblau.

Deconstructivist architecture is characterized by surface manipulation, fragmentation, and non-rectilinear shapes which distort and dislocate architectural conventions concerning structure and envelope. It deliberately juxtaposes elements that appear to contradict each other in order to challenge traditional ideas of harmony and continuity - even stability! In short, deconstructivism challenges almost all traditional styles of building design. However, it is really no more than a series of postmodernist "impulses" rather than a coherent movement, or a consistent design style.

Famous Examples of Deconstructivism

- Walt Disney Concert Hall, Los Angeles (1988-2003) by Frank O Gehry.
- Guggenheim Museum, Bilbao (1991-97) by Frank O Gehry.
- Multiplex Cinema, Dresden (1993-8) by Coop Himmelblau.
- Nationale Nederlanden Building, Prague (1992-97) by Frank O Gehry.
- UFA-Kristall Filmpalast, Dresden (1998) by Coop Himmelblau.
- Seattle Central Library, Seattle (2004) by "Rem" Koolhaas.
- Imperial War Museum North, Manchester (2002) by Daniel Libeskind.
- Royal Ontario Museum (extension), Toronto (2007) by Daniel Libeskind.

My Glossary:

non-rectilinear – криволинейный

distort - искривлять

facilitate – способствовать, содействовать

juxtaposed – помещённый рядом, совмещённый

coherent – согласованный, последовательный

consistent – последовательный

12. Match the adjectives to the nouns and then make sentences using the completed phrases.

non-rectilinear

style

aerospace

shapes

top

architects

surface

movement

juxtaposes

elements

coherent

industry

consistent

manipulation

13. Make a presentation about one of the most famous examples of deconstructivism.

14. What do you know about Blobitecture? Discuss your ideas in the group.

15. Read the text and compare your ideas with the information from the text.

Blobitecture

Blobitecture (from **blob architecture**), **blobism** and **blobismus** are terms for a movement in architecture in which buildings have an organic, amoeba-shaped, building form. Though the term *blob architecture* was in vogue already in the mid-1990s, the word *blobitecture* first appeared in print in 2002, in William Safire's "On Language" column in the *New York Times Magazine* in an article entitled "Defenestration". Though intended in the article to have a derogatory meaning, the word stuck and is often used to describe buildings with curved and rounded shapes.

The term "blob" was used by the Czech-British architect Jan Kaplický for the first time for the "Blob Office Building" in London in 1986. The building was characterized by organic, aerodynamic shape and advanced technological and energy-saving solutions. The term 'blob architecture' was coined by architect Greg Lynn in 1995 in his experiments in digital design with metaball graphical software. Soon a range of architects and furniture designers began to experiment with this "blobby" software to create new and unusual forms. Despite its seeming organicism, blob architecture is unthinkable without this and other similar computer-aided design programs. Architects derive the forms by manipulating the algorithms of the computer modeling platform. Some other computer aided design functions involved in developing this are the nonuniform rational B-spline or NURB, freeform surfaces, and the digitizing of sculpted forms by means akin to computed tomography.

The term, especially in popular parlance, has come to be associated quite widely with odd-looking buildings including Frank Gehry's Guggenheim Museum Bilbao (1997) and the Experience Music Project (2000). These, in the narrower sense, are not blob buildings, even though they were designed by advanced computer-aided design tools, CATIA in particular. The reason for this is that they were designed from physical models rather than from computer manipulations. The first full blob building, however, was built in the Netherlands by Lars Spuybroek (NOX) and Kas Oosterhuis. Called the Water Pavilion (1993–1997), it has a fully computer-based shape manufactured with computer-aided tools and an electronic interactive interior where sound and light can be transformed by the visitor.

A building that also can be considered an example of a blob is Peter Cook and Colin Fournier's Kunsthaus (2003) in Graz, Austria. Other instances are Roy Mason's Xanadu House (1979), and a rare excursion into the field by Herzog & de Meuron in their Allianz Arena (2005). By 2005, Norman Foster had involved himself in blobitecture to some extent as well with his brain-shaped design for the Philological Library at the Free University of Berlin and the Sage Gateshead opened in 2004. French-born architect Ephraim Henry Pavie build the free shaped Biomorphic House (2012) in Israel.



[Biomorphic House](#), by [Ephraim Henry Pavie](#), [Neve Daniel](#), [West Bank](#).

16. Answer the following questions.

1. What does the term *blobitecture* mean?
2. When did *blobitecture* appear?
3. What is the role of CAD in *blobitecture*?
4. Where was the first full blob building built?

17. Make a report about one of the examples of blobitecture.

18. Choose one of the 20th century architectural styles that haven't been discussed yet and make a presentation about it. (See Ap. 6 – 10)

Unit 11. Contemporary Architecture

1. Is there any difference between the terms “modern” and “contemporary” architecture? Discuss in the group. Read the text and compare your ideas with the information from the text.

What Is Contemporary Architecture?

Distinctive elements of contemporary architecture include free-flowing form, creativity, and the extensive use of curved lines.

Contemporary architecture is a form of construction that embodies the various styles of building designs stemming from a wide range of influences. Contemporary architecture cuts away from the modern architecture of the late twentieth century by including eco-friendly features and embracing all kinds of creativity. Aside from employing the different styles and influences, the contemporary architecture uses the latest technology and materials. One such technique is the Tube Structure, which is

used to design buildings that are high-tech, stronger, and taller than most other buildings from previous generations. With the aid of modern design software and the use of techniques such as simulations and computer-aided designs, buildings can be constructed with high-level precision and speed. The design programs allow for three-dimension modeling of a structure before it is built.

Characteristics of Contemporary Architecture

One distinctive element of contemporary architecture is the expressiveness of form and design. The buildings incorporate innovative and creative designs which are meant to be noticed and appreciated. The aesthetic sense is very much emphasized in the design of structures. There is also a wide range of material combinations to bring out contrast or uniformity. A single building could be built using concrete, glass, aluminum screens and multiple other materials that may not be common in modern architecture buildings. The innovativeness includes asymmetric facades and crystal-like facets that change color depending on the orientation of the sun at different times of the day.

This form of architecture is dominant across the world and not only specific to Europe or the United States. In that sense, contemporary design is global, unlike modern architecture which was concentrated in Europe and the United States. Today, famous contemporary buildings are found in China such as the Shanghai Tower, Latin America, the Middle East such as the famed Burj Khalifa in Dubai, Sydney Opera house in Australia, CN Tower in Toronto, and many other buildings across the world.

Contemporary architects have a sense for sustainability. This is achieved through design of buildings that are energy efficient and that use recycled material for the most part of the construction process. Such buildings could be powered by solar panels, used as the roofing material. Most contemporary buildings have oversized windows which allow for maximum natural light to pass through. This not only increases the association with space but also improves airiness and minimizes air conditioning costs.

There is widespread use of reinforced concrete which can be made into any form imaginable to create buildings that are unusual and aesthetically appealing. Ar-

chitects hope to achieve this design form while ensuring the whole project is economical and serves the purpose it intended.

Design Influences

Most elements of contemporary architecture are borrowed from the modern architecture movement of the early and mid-twentieth century. This includes clean lines and neatness. However, contemporary architecture allows for free-flowing form, creativity, and extensive use of curved lines. The Guggenheim Museum in Bilbao, Spain, is a classic example of contemporary architecture form. This building was designed by contemporary architect, Frank Gehry, and utilizes a lot of curvilinear styles to create the impression of moving. Limestone, glass, and titanium are used to bring out the unusual form of the structure while including the essential elements of a contemporary building such as natural light, recyclable material, and innovative design.

My Glossary:

free-flowing – свободнотекучий, свободноплавающий

extensive – обширный, пространственный

stem from – быть вызванным, вытекать из, возникать

facet – грань, аспект

solar panel – солнечная панель

airiness – воздушность, лёгкость

neatness – аккуратность, чёткость

limestone – известняк

2. Fill in the missing words.

1. Distinctive elements of contemporary architecture include ... form, creativity, and the ... use of curved lines.
2. Buildings can be constructed with high-level ... and speed.
3. The innovativeness includes asymmetric ... and crystal-like ... that can change color.
4. Contemporary architects have a sense for

5. Most contemporary buildings have ... windows which allow for maximum natural light to pass

3. *Answer the questions.*

1. What are characteristics of contemporary architecture?

2. What does contemporary architecture use?

3. What contemporary architects do you know?

4. *Make a presentation about one of the contemporary architects of Russia.*

5. *Discuss what do you know about sustainable architecture?*

6. *Read the text and translate the words in bold.*

Sustainable Architecture

A growing tendency in the 21st century is **eco-architecture**, also termed sustainable architecture; buildings with features which conserve heat and energy, and sometimes produce their own energy through **solar cells** and **windmills**, and use solar heat to generate solar hot water. They also may be built with their own wastewater treatment and sometimes rainwater **harvesting**. Some buildings integrate gardens green walls and green roofs into their structures. Other features of eco-architecture include the use of wood and recycled materials. There are several green building certification programs, the best-known of which is the Leadership in Energy and Environmental Design, or LEED rating, which measure the environmental impact of buildings.

Many urban skyscrapers such as 30 Saint Mary Axe in London use a **double skin of glass** to **conserve energy**. The double skin and curved shape of the building creates differences in air pressure which help keep the building cooler in summer and warmer in winter, reducing the need for air conditioning.

BedZED, designed by British architect Bill Dunster, is an entire community of eighty-two homes in Hackbridge, near London, built according to eco-architecture

principles. Houses face south to take advantage of sunlight and have **triple-glazed windows** for insulation, a significant portion of energy is comes from solar panels, rainwater is collected and reused, and automobiles are discouraged. BedZED successfully reduced electricity usage by 45 percent and hot water usage by 81 percent of the borough average in 2010, though a successful system for producing heat by burning wood chips proved elusive and difficult.

The CaixaForum Madrid is a museum and cultural center in Paseo del Prado 36, Madrid, by the Swiss architects Herzog & de Meuron, built between 2001 and 2007, is an example of both green architecture and recycling. The main structure is an **abandoned** brick electric power station, with new floors constructed on top. The new floors are encased in oxidized cast iron, which has a rusty red color as the brick of the old power station below it. The building next to it features a green wall designed by French botanist Patrick Blanc. The red of the top floors contrasts with the plants on the wall, while the green wall harmonizes with the botanical garden next door to the cultural center.

Unusual materials are sometimes recycled for use in eco-architecture; they include denim from old blue jeans for insulation, and panels made from paper flakes, baked earth, **flax**, **sisal**, or coconut, and particularly fast-growing bamboo. **Lumber** and stone from demolished buildings are often reclaimed and reused for flooring, while hardware, windows and other details from older buildings are reused.

7. Answer the questions.

1. What are characteristic features of sustainable architecture?
2. What materials are used in sustainable buildings?
3. What are examples of sustainable architecture?

8. Make a report about a sustainable building.

Appendix 1

Early Irish Architecture

Towards the end of the Stone Age, ceremonial megaliths (structures built from large stones) like the Knowth megalithic tomb (c.3300 BCE) and Newgrange passage tomb, began to appear in Northern Europe (This form of Megalithic art is exemplified by the Stonehenge stone circle.) Either arranged upright in the open, or buried and roofed over to form a 'dolmen', these heavy stone structures are believed by most archaeologists to have had a religious or ritualistic function, and in some cases the alignment of their stones reveals a sophisticated knowledge of astronomy. The complex engravings unearthed at Newgrange mark the beginning of visual arts in Ireland. For more about ancient and medieval buildings, please see Architectural Monuments of Ireland. For older types of historical site, see Archeological Monuments of Ireland.

Minoan Architecture

The first European art of Classical Antiquity was created by the Minoans, based on the island of Crete. Minoan architecture utilized a mixture of stone, mud-brick and plaster to construct elaborate palaces (eg. Palace of Knossos c.1700-1400 BCE) as well as domed burial chambers (tholos) hidden in the hills. Many of these buildings were decorated with colourful murals and fresco paintings, depicting mythological animal symbols (eg. the bull) and events. Unfortunately most Minoan architecture was destroyed by earthquakes around 1200 BCE. Crete was then taken over by the Myceneans from mainland Greece, from where a unified Greek culture and civilization emerged a few centuries later.

Appendix 2

Greek Building Design

The typical rectangular building design was often surrounded by columns on all four sides (eg. the Parthenon) or more rarely at the front and rear only (eg the Temple of Athena Nike). Roofs were laid with timber beams covered by terracotta tiles, and

were not domed. Pediments (the flattened triangular shape at each gable end of the building) were usually filled with sculptural decoration or friezes, as was the row of lintels along the top of each side wall, between the roof and the tops of the columns. In the late 4th and 5th centuries BCE, Greek architects began to depart from the strictly rectangular plan of traditional temples in favour of a circular structure (the tholos), embellished with black marble to highlight certain architectural elements and provide rich colour contrasts.

These buildings were famously adorned with a huge range of Greek sculpture - pedimental works, friezes, reliefs and various types of free-standing statue - of a figurative nature, depicting mythological heroes and events in Greek history and culture.

Appendix 3

Impact of Politics and Religion on Roman Architecture

In 330 CE, about the time St Peter's Basilica was completed, the Roman Emperor Constantine I declared that the city of Byzantium (later renamed Constantinople, now Istanbul in Turkey), was to be the capital of the Roman Empire. Later, in 395 CE, following the death of Emperor Theodosius, the empire was divided into two parts: a Western half based first in Rome until it was sacked in the 5th century CE, then Ravenna and an eastern half based in the more secure city of Constantinople. In addition, Christianity (previously a minority sect) was declared the sole official religion throughout the empire. These twin developments impacted on architecture in two ways: first, relocation to Constantinople helped to preserve and prolong Roman culture, which might otherwise have been destroyed by the barbarian invaders of Italy; second, the emergence of Christianity provided what became the dominant theme of architecture and the visual arts for the next 1,200 years.

Byzantine Architecture (330-554 CE)

Byzantine architects - including numerous Italians who had moved to the new capital from Italy - continued the free-flowing tradition of Roman architecture, constructing a number of magnificent churches and religious buildings, during the era of early

Christian art, such as: the Chora Church (c.333) the Hagia Irene (c.360) and the Church of St. Sergius and Bacchus, all in Istanbul; the Church of St. Sophia in Sofia, Bulgaria (527-65), the awesome Hagia Sophia (532-37) which replaced the sacked Cathedral of Constantinople, and the Church of Hagia Sophia in Thessaloniki. Great secular buildings included: the Great Palace of Constantinople, and Basilica Cistern.

New architectural techniques included the use of concave triangular sections of masonry, known as pendentives, in order to carry the weight of the ceiling dome to corner piers. This led to the construction of larger and more magnificent domes, and greater open space inside the building, as exemplified in the Hagia Sophia. New decorative methods included the introduction of dazzling mosaics made from glass, rather than stone used by the Romans. The interiors of churches were also richly decorated with Byzantine art, such as gilding, murals and relief sculptures - but not statues as these were not venerated as icons.

Use of Icons in Byzantine Religious Architecture

In the Byzantine or Eastern Orthodox tradition of Christian art, only flat images or low relief sculptures are permissible in religious art. This cultural tradition held that three-dimensional representations glorified the human aspect of the flesh rather than the divine nature of the spirit, thus it opposed 3-D religious imagery. (The Roman Christians, did not adopt these prohibitions, thus we still have religious sculpture in Catholic and Protestant architecture.) As it was, the Byzantine style of iconography developed in a highly stylized manner and aimed to present complex theology in a very simple way, making it possible to educate and inspire even the illiterate. For example, colour was very important: gold represented the radiance of Heaven; red, the divine life; blue was the colour of human life; white was the uncreated essence of God, used for example in the icon painting of the *Resurrection of Christ*. Typically, Jesus wears a red undergarment with a blue outer-garment (signifying God becoming Human), while Mary wears a blue undergarment with a red outer-garment (signifying that humans can actually reach God).

Developments (600-1450)

After the Early period of Byzantine architecture (c.300-600), which was largely a continuation of Roman architecture, there came a Middle Period (c.600-1100), notable only for the popularity of the cross-in-square type architectural church design (examples include the monastery of Hosios Lukas in Greece (c.1000), and the Daphni Monastery near Athens (c.1050); after this came the Comnenian and Paleologan periods (c.1100-1450), known only for rare achievements like Elmalı Kilise and other rock sanctuaries of Cappadocia, the Churches of the Pantokrator and of the Theotokos Kyriotissa in Constantinople.

As the Eastern Roman Empire continued, Byzantine architecture gradually became more influenced by eastern traditions of construction and decoration. Buildings increased in geometric complexity, while brick and plaster were employed in addition to stone for decorative purposes, like the external zig-zag patterns. The previous 'Classical Orders' or styles were interpreted more freely, and windows filtered light through thin sheets of alabaster to create softer illumination. The two basic design-plans were the basilican, or axial, type (eg. The basilica at the Holy Sepulchre, Jerusalem) and the circular, or central, type (eg. the great octagonal church at Antioch).

Byzantine Architectural Legacy

In the West, Byzantine designs influenced the European artistic revival in the form of Carolingian Art (750-900) and Ottonian Art (900-1050), which led into Romanesque and Gothic architecture. In the East, it continued to exert a significant influence on early Islamic art and architecture, as exemplified by the Umayyad Great Mosque of Damascus and the Dome of the Rock in Jerusalem, while in Bulgaria, Russia, Serbia, Georgia, Ukraine and other Orthodox countries, it endured even longer.

Appendix 4

Charlemagne I and Otto I

The Romanesque revival of medieval Christian art began with Charlemagne I, King of the Franks, who was crowned Holy Roman Emperor in St. Peter's Rome, by Pope Leo III in 800. Famous for his Carolingian art, curiously, his major architectural achievement - the Palatine Chapel in Aachen (c.800) - was not inspired by St Peter's or other churches in Rome, but by the octagonal Byzantine-style Basilica of San Vitale in Ravenna.

Unfortunately, the Carolingian empire rapidly dissolved, but Charlemagne's patronage of architecture and the arts to promote Christianity, marked a vital first step in the re-emergence of a European-wide culture. Moreover, many of the Romanesque and Gothic churches and monasteries were built on the foundations of Carolingian architecture. Charlemagne's pre-Romanesque architectural efforts were later continued by Otto 1 (Holy Roman Emperor 936-73), in a style known as Ottonian Art, which gave way to the fully fledged 'Romanesque.' (Note: the Romanesque style in England and Ireland is commonly referred to as Norman architecture.)

Religion

Christianity continued to be the dominant driving force for most significant building works. The flowering of the Romanesque style in the 11th century coincided with the reassertiveness of Rome, as the capital of Christianity, and its influence upon secular authorities led to the Christian re-conquest of Spain (began 1031) and the Crusades to free the Holy Land from Islamic control. The acquisition of Holy Relics by the Crusaders, together with the fervour aroused by their campaigns, triggered the construction of a wave of new churches and cathedrals across Europe. In Italy, they include the Cathedral of Pisa with its famous leaning campanile (bell tower), Modena Cathedral and Parma Cathedral, as well as famous churches like the Santa Maria (Rome), the Baptistery (Florence), and San Zeno Maggiore (Verona). In France, they include

Laon Cathedral (among others), and the abbeys of Cluny, Aux Dames (Caen) and Les Hommes (Mont Saint-Michel). In England, they include 26 out of 27 ancient Cathedrals, such as Winchester, Ely and Durham. In Germany, they include Augsburg and Worms Cathedrals (among others) and the abbeys of Mainz, Worms, Speyer and Bamberg. In addition to its influence over international politics, the Roman Church also exercised growing power through its network of Bishops and its close association with Monastic orders such as the Benedictines, the Cistercians, Carthusians and Augustinian Canons. From these monasteries, Bishops and Abbots exercised a growing administrative power over the local population, and devoted huge resources to religious works, including illuminated gospel manuscripts, cultural scholarship, metalwork, sculpture and church building. This is exemplified by the powerful Benedictine monastery at Cluny in Burgundy, whose abbey church typified the Romanesque style of architecture and became the largest building in Europe until the Renaissance.

Appendix 5

Features of Neoclassicism Proper (1750-1850)

A timely support for ancient regimes throughout Europe, from St Petersburg to Vienna, and a model for youthful empires-to-come like the United States of America, Neoclassical art was yet another return to the Classical Orders of Greek and Roman Antiquity. Although, as in the Renaissance, the style retained all the engineering advances and new materials of the modern era. It was characterized by monumental structures, supported or decorated by columns of Doric, Ionic or Corinthian pillars, and topped with classical Renaissance domes. Technical innovations of late 18th century architecture like layered cupolas and inner cores added strength to domes, and their dimensions increased, lending increased grandeur to civic buildings, churches, educational facilities and large private homes.

Neoclassical architecture originated in Paris, largely due to the presence of French designers trained at the French Academy in Rome. Famous French architects included: Jacques Germain Soufflot (1713-80), who designed the Pantheon (1756-97) in

Paris; Claude Nicolas Ledoux (1736-1806), designer of the Royal Saltworks at Arc-et-Senans (1773-93) and the Cathedral of Saint-Germaine (1762-64); and Jean Chalgrin, who designed the Arc de Triomphe (1806). In England the tradition was maintained by Paris-trained, Robert Adam (1728-92), John Nash (1752-1835), Sir John Sloane (1753- Sir William Chambers 1837), William Wilkins (1778-1839) and Sir Robert Smirke (1780-1867). It was quickly adopted by progressive circles in Sweden as well. In Germany, Neoclassical architects included: Carl Gotthard Langhans (1732-1808), designer of the Brandenburg Gate (1789-91) in Berlin; Karl Friedrich Schinkel (1781-1841), responsible for the Konzerthaus on Gendarmenmarkt (1818-21), the Tegel Palace (1821-4), and the Altes Museum (1823-30), all in Berlin. These two architects transformed the Prussian capital of Berlin to rival Paris or Rome in classical splendour.

Russian Neoclassicism

Rastrelli's Baroque style Russian buildings, like the Winter Palace (1754-62), did not find favour with Catherine the Great (1762-1850), who preferred Neoclassical designs. As a result, she summoned the Scottish architect Charles Cameron (c.1745–1812), who built the Pavlovsk Palace (1782-86) near St Petersburg, the Razumovsky Palace in the Ukraine (1802) and the Alexander Palace outside St Petersburg (1812). Other important neoclassical architects for the Russian Czars included: Vincenzo Brenna (Cameron's pupil), Giacomo Quarenghi and Matvey Fyodorovich Kazakov.

Appendix 6

Chicago School of Architecture (1880-1910)

The groundbreaking Chicago school of architecture was founded by William Le Baron Jenney (1832-1907), along with a number of other innovative American architects. A centre of high-rise development rather than a school *per se*, it had no unified set of principles, and buildings created by the members of the school employed many different designs, construction techniques and materials. Some key characteristics of

Chicago architecture during this period included: new foundation techniques pioneered by Dankmar Adler; metal skeleton frames - first used in Jenney's Home Insurance Building (1884); the use of steel and iron, first highlighted by the French architect Viollet-le-Duc, and used by Louis Sullivan and others.

Famous Chicago School Firms of Architects

•William Holabird (1854-1923) and Martin Roche (1853-1927)

Buildings designed by Holabird & Roche included:

- Marquette Building, Chicago (1895)
- Gage Group Buildings at S. Michigan Avenue, Chicago (1899)
- Chicago Building (Chicago Savings Bank Building) (1904-5)
- Brooks Building, Chicago (1909-10)

• Daniel Hudson Burnham (1846-1912) and John Wellborn Root (1850-91)

Buildings designed by Burnham & Root, or Burnham and Co, included:

- Fisher Building, Chicago (1895-6)
- Flatiron Building, New York (1901-3)
- Heyworth Building, Chicago (1904)

•Dankmar Adler (1844-1900) and Louis Sullivan (1856-1924)

Buildings designed by firm Adler and Sullivan, included:

- Chicago Stock Exchange Building (1893-94)
- Prudential Building (Guaranty Building) Buffalo (1894)

Appendix 7

Early Modernist Architecture (1900-30)

"Modernist architecture", the first real example of 20th century architecture, was designed for "modern man". It was relatively, if not wholly, devoid of historical associations, and made full use of the latest building techniques and materials, including iron, steel, glass and concrete. Functionality was a key aspect of the modernist style. The format was later fully realized in the United States: see, for instance, Henry

Ford's assembly plant at Rouge River, south of Detroit - then the largest manufacturing plant in the world.

Famous Early Modernist Architects

- **Frank Lloyd Wright** (1867-1959)

Designed Robie House, Chicago (1910); Fallingwater, Bear Run, PA (1937).

- **Peter Behrens**(1868-1940)

Built the AEG Turbine Factory, Berlin (1909).

- **Adolf Loos** (1870-1933)

Designed Steiner House, Vienna (1910); Moller House, Vienna (1928).

- **Eliel Saarinen** (1873-1950)

Designed Helsinki Train Station (1904-14).

- **Walter Gropius** (1883-1969)

Designed Fagus Factory, Alfeld-an-der-Leine (1911).

- Le Corbusier (1887-1965) (Charles-Edouard Jeanneret)

Designed Villa Savoye (1931); Unite d'Habitation, Marseille (1952).

Appendix 8

Art Deco Architecture (1925-1940)

Art Deco was influenced by a combination of sources, including the geometrics of Cubism, the "movement" of Futurism, as well as elements of ancient art, such as Pre-Columbian and Egyptian art. Its architecture was also inspired by the ziggurat designs of Mesopotamian art. Art Deco, like Art Nouveau, embraced all types of art, but unlike its predecessor, it was purely decorative, with no theoretical or political agenda.

Art Deco Buildings

- Chanin Building, NYC (1927-9) by Sloan and Robertson.
- McGraw-Hill Building, NYC (1929-30) by Raymond Hood.
- Empire State Building, NYC (1929-31) by Shreve, Lamb and Harmon.
- Chrysler Building, NYC (1930) by William van Alen (1883-1954).
- Entrance Foyer, Strand Palace Hotel (1930) by Oliver Bernhard.
- El Dorado Apartment Building, NYC (1931) by Emery Roth (1871-1948).

- Entrance Plaza to Rockefeller Center, NYC (1932-9) by various.

International Style of Modern Architecture (1940-70)

The International Style first appeared in Germany, Holland and France, during the 1920s, before being introduced into American architecture in the 1930s, where it became the dominant fashion during the major post-war urban development phase (1955-1970). Predominantly used for "corporate office blocks" - despite the efforts of Richard Neutra, William Lescaze, Edward Durrell Stone and others, to apply it to residential buildings - it was ideal for skyscraper architecture, because of its sleek "modern" look, and use of steel and glass. The International style was championed by American designers like Philip Johnson (1906-2005) and, in particular, by the Second Chicago School of Architecture, led by the dynamic emigrant ex-Bauhaus architect **Ludwig Mies van der Rohe** (1886-1969).

Famous International Style Buildings

- Lake Shore Drive Apartments, Chicago (1948-51) by Mies van der Rohe.
- The Graduate Center, Harvard University (1950) by Walter Gropius.
- Seagram Building, New York (1954-58) by Mies van der Rohe and Philip Johnson.
- Inland Steel Building, Chicago (1957) by Skidmore, Owings & Merrill.

Appendix 8

What is High Tech Architecture?

High-tech architecture is an architectural technique characterized by integrating high-tech industrial and technological components into the structure of a building. The architectural movement emerged in the 1960s and is seen as a characterization of the transition from modernism architecture to post-modernism architecture.

High-tech architecture featured the preferred application of sheer surfaces and lightweight materials. The architectural design was driven by the concept of showing how technology can improve the world by placing technical features of a building on a building's exterior. The architects Richard Rogers and Norman Foster were the key figures of implementing high tech architecture in the 1970s, and elements can be seen in their designs all over the world.

Characteristics Of High Tech Architecture

The exterior frame of buildings built using high-tech architecture is composed of steel and glass which have a skeletal structure with interiors being spacious with easy access to floors. The materials used in the construction of the building are mainly lightweight materials, and the pipework is colorful. High-tech architecture was a favorite design employed in the construction of many malls, stadia, and commercial buildings.

Famous Examples Of High Tech Architecture

1. John Hancock Center (Chicago, US)

The John Hancock Center is a skyscraper located in Chicago, Illinois. It is among the tallest buildings in the city with 100 floors. John Hancock Center is currently the eight tallest skyscraper in the United States and rises to 1,128 feet above the streets of Chicago. Construction of the building commenced in 1965 and was designed by Skidmore, Owings and Merrill architects together with Fazlur Rahman Khan who used the high-tech architectural design which is expressed on the building's exterior which has an X-braced exterior used as an external skeleton to reinforce the building from strong winds and even earthquakes.

2. Centre Pompidou (Paris, France)

The Centre Pompidou (also known as the Centre Georges Pompidou) is a large building located in France's capital, Paris. The building occupies 103,305 square meters of floor area and hosts the Musee National d'Art Moderne, the biggest modern art museum in Europe and the Bibliotheque Publique d'Information, a large public library. The Centre Pompidou was constructed from 1971 to 1977 and was designed by several architects including Italian Renzo Piano and Gianfranco Franchini and British Richard Rogers. The building is one of the best examples of the application of high-tech architecture and features an elaborate external skeleton made of colorful tubes.

3. Lloyd's Building (London, England)

Lloyd's building is located along Lime Street in London, England and is the headquarters of Lloyd's of London, an insurance company. The building was constructed from 1978 to 1986 and was designed by the architectural firm Richard Rogers and Partners. Lloyd's building exhibits high-tech architecture and is also known as the "Inside-Out Building" due to its appearance where major structural appliances such as stairs, elevators, electrical systems and water pipes being on the building's exterior, a distinct characteristic of high-tech architecture.

Decline In Popularity

High-tech architecture was popular in the 1970s but started to experience a decline in the 1980s. The primary cause of the decline is the emergence of post-modern architecture in the late 20th century which absorbed many characteristics of high-tech architecture.

Appendix 9

Zaha Hadid

Dame Zaha Hadid (31 October 1950 – 31 March 2016) was the uncrowned queen of contemporary iconic architecture. Her buildings practically scream, "I'm a Hadid". A bona fide autrice, Hadid was without a doubt the world's most famous woman in a starchitect stratosphere strangely dominated by her masculine peers.

Since her student days in London at the Architectural Association School of Architecture, Iraqi-British architect Zaha Hadid (born 1950) had been intensely pre-occupied with changing our general notions of space – not only in a physical sense, but also socially and culturally. Hadid’s projects are characterized by their dynamic formal qualities of sinuously, curving shapes, or crystallized strata. This sums up as a kind of new Baroque, a sensuous, more vibrant and engaging type of architecture.

Hadid’s projects during the late 1970s and 1980s were marked by a profound understanding of early 20th Century avant-garde artists and architects. In an attempt to redevelop and make relevant again the formal investigations of Russian Constructivism and Italian Futurism, her projects expressed utopian ideals.

Today, Zaha Hadid Architects create landmarks projects for all types of functional programs. Their buildings are never bland or mundane, but moreover assertive statements of a particular view, that the world may indeed look different. Their efforts have resulted in a staggering almost one thousand projects throughout the globe, in every scale, from urban design schemes to objects and furniture design.

Along with her strong conceptual and historical awareness, nature’s forms and shapes appear as a recurrent source of inspiration for Zaha Hadid’s architecture. It includes attention to physical contexts and landscapes, whether resulting in layered structures or powerful moving lines but also exploring possible interfaces between patterns and construction.

Zaha Hadid Architects embraced digital drawing early on. This has made the studio able to challenge traditional ways of making architecture. In collaboration with senior office partner Patrik Schumacher, Zaha Hadid has meticulously explored the possibilities of parametric design, allowing for the conception and construction of architecture as seamless flows of energy and matter. Zaha Hadid is the 2004 Pritzker Prize laureate and winner of the Stirling Prize in 2010 and 2011.

Bibliography

1. Architecture History. [Электронный ресурс]. Режим доступа: <http://www.visual-arts-cork.com/architecture-history.htm>
2. Blobitecture. [Электронный ресурс]. Режим доступа: <https://en.wikipedia.org/wiki/Blobitecture>
3. Bauhaus. [Электронный ресурс]. Режим доступа: <https://www.catawiki.com/stories/5263-5-characteristics-of-bauhaus-art-architecture-and-design>
4. Bauhaus. Dessau. [Электронный ресурс]. Режим доступа: https://www.dezeen.com/2018/11/05/bauhaus-dessau-school-building-walter-gropius-germany-architecture/?li_source=LI&li_medium=bottom_block_1
5. Constructivism. [Электронный ресурс]. Режим доступа: https://www.worldofleveldesign.com/categories/architecture/constructivist_architecture/constructivist_architecture.php
6. Contemporary architecture. [Электронный ресурс]. Режим доступа: https://en.wikipedia.org/wiki/Contemporary_architecture#Eco-architecture
7. Deconstructivism. [Электронный ресурс]. Режим доступа: <http://www.visual-arts-cork.com/architecture/deconstructivism.htm>
8. Greek Orders. [Электронный ресурс]. Режим доступа: <https://smarthistory.org/greek-architectural-orders/>
9. High Tech. [Электронный ресурс]. Режим доступа: <https://www.worldatlas.com/articles/what-is-high-tech-architecture.html>
10. Mwaniki, Andrew . "What is Contemporary Architecture?" WorldAtlas, Jun. 14, 2019. [Электронный ресурс]. Режим доступа: <https://worldatlas.com/articles/what-is-contemporary-architecture.html>.
11. Zaha Hadid. [Электронный ресурс]. Режим доступа: <https://arcspace.com/architect/zaha-hadid-architects/>

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