Tishk International University
Engineering Faculty
Architectural Engineering Department
ARCH 124 Theory of Architecture I

Theory of Architecture I

Lecture 3

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- Classical Revival (Neo Classical)
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Classical Revival (Neo Classical)

- This is architecture that **looks back to a Classical past**. The roots of Classicism are in ancient **Greek and Roman architecture** - in the **temple** architecture of ancient Greece and the religious, military, and civic architecture of the Roman Empire.
- The term is associated with an **academic revival** of Classicism that began in France in the mid-18th century when architects began to **study classical buildings** anew rather than later derivatives or Renaissance examples.

Classical Revival (Neo Classical)

❑**What to look for in a Classical building**

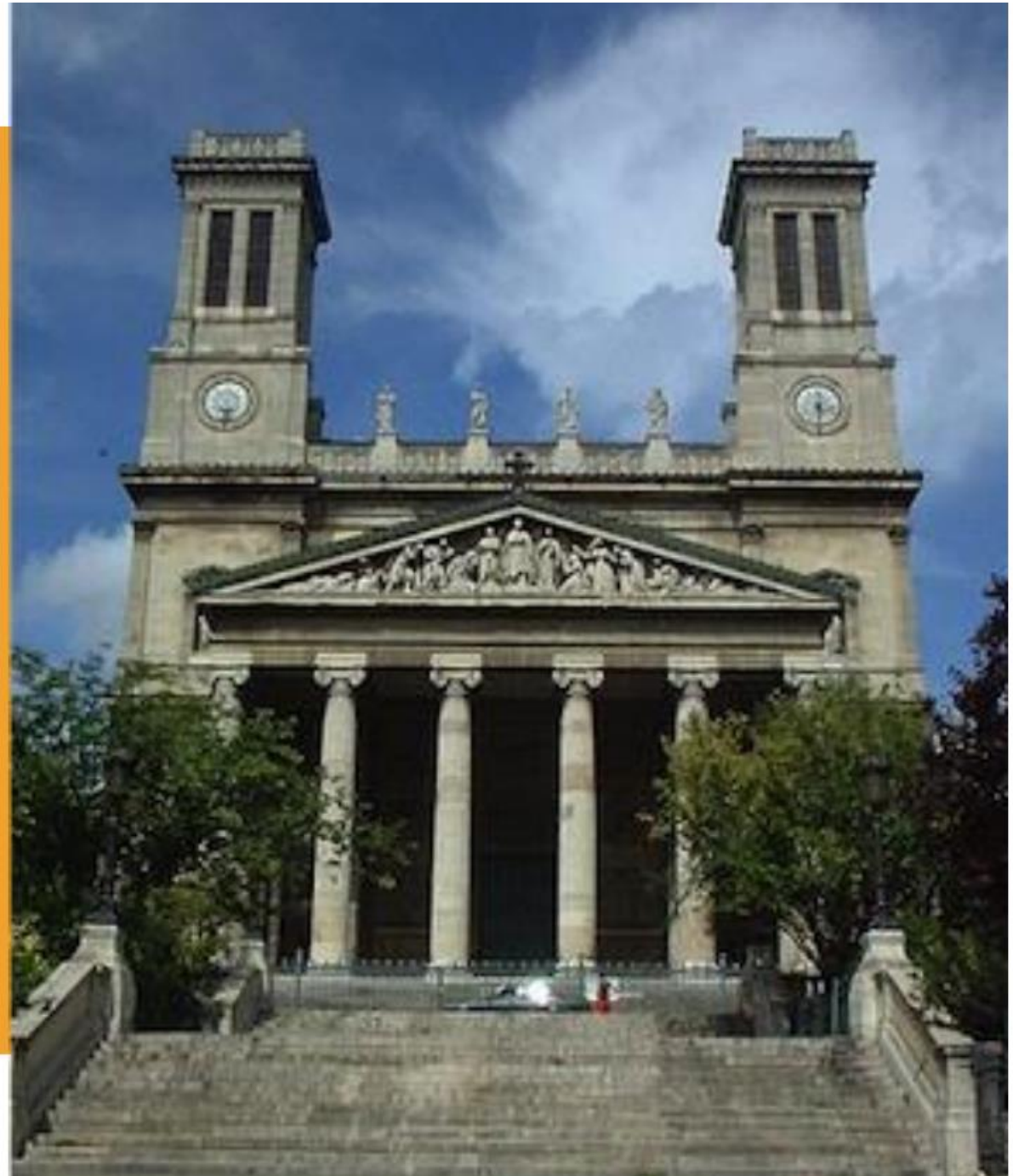
- Use of classical orders (especially Doric, Ionic and Corinthian).
- Proportion
- Symmetry
- Repetition of elements such as windows

Classical Revival (Neo Classical)

University of Virginia, **Thomas Jefferson, 1817**

Eclecticism

- **Eclecticism** is a nineteenth and twentieth-century architectural style in which a single piece of work incorporates a **mixture** of elements from previous historical styles to create something that is new and original.
- In architecture and interior design, these elements may include structural features, furniture, decorative motives, distinct historical ornament, traditional cultural motifs, or styles from other countries, with the mixture usually chosen based on its suitability to the project and overall aesthetic value.
- The term is also used of the many architects of the 19th and early 20th centuries who designed buildings in a variety of styles according to the wishes of their clients, or their own.



Saint-Vincent-de-Paul
France, Jean-Baptiste Lepère in the early 19th century.
Ionic columns, and triangular pediment, like a Greek temple. (Classic)
two large towers over the pediment from the Gothic architecture of medieval Europe (like the Notre Dame in Paris).

The church of the Sagrada Familiain Barcelona designed by Antonio Gaudi is a notable example of eclecticism. Elements of the Gothic style were merged with motifs and forms found in the natural world, resulting in a structure that was distinctive and original

Although it was designed during the peak of the eclectic period (1883–1926), it remains under construction today, it is expected to be completed in 2030.

Gothic Revival Architecture

- ❑Gothic Revival, an architectural style that drew its inspiration from medieval architecture.
- ❑Common Building Types: houses, schools, churches
- ❑Identifiable Features
  - Pointed arches as decorative elements and as window shape
  - Steeply pitched roof
  - Decorative crowns (gable or drip mold) over windows and doors
  - Castle-like towers with parapets on some high-style buildings

The **Palace of Westminster,** Commonly known as the **Houses of Parliament,** in central London, England.
Augustus pugin, 1840–76

Industrial Revolution

- The Industrial Revolution was the transition to new manufacturing processes in the period from about 1760 to 1840. This transition included going from hand production methods to machines, iron production processes, the increasing use of steam power, the development of machine tools and the rise of the factory system.
- This process began in **Britain** in the 18th century and from there spread to other parts of the world. The main features involved in the Industrial Revolution were **technological, socioeconomic, and cultural**.

Industrial Revolution

- The technological changes
- The technological changes included the following:

(1) The use of **new basic materials**, chiefly iron and steel.

(2) The use of new **energy sources**, such as coal, the steam engine, electricity, petroleum, and the internal-combustion engine

(3) The invention of **new machines**, that permitted increased production.

(4) Important developments in transportation and communication, including, automobile, airplane, telegraph, and radio.

(5) The increasing application of science to industry.

Crystal Palace

- The Crystal Palace was a castiron and plate-glass structure
- Built in Hyde Park, London, to house theGreat Exhibition of 1851.
- Exhibition spaces display examples of technology developed in the Industrial Revolution, and world civilization
- Designed by Joseph Paxton an architect and gardener
- It was destroyed by fire in 1936.

Eiffel Tower

- The Eiffel Tower
- It is named after the engineer Gustave Eiffel, whose company designed and built the tower.
- Constructed from 1887–1889 as the entrance to the 1889 World's Fair.
- It was criticized by some of France's leading artists and intellectuals for its design, but it has become a global cultural icon of France and one of the most recognizable structures in the world.
- The tower is 324 meters.

Eiffel Tower

- Before Eiffel tower, architects tried to repeat historic stone structures.
- The Eiffel Tower changed completely the way they were using the new material (steel). The structure, its appearance is completely new and modern, without particular function.
- Eiffel installed a meteorology laboratory on the third floor of the tower to save it from extinction.
- In 1910, the city of Paris renewed Eiffel's tower structure as a wireless telegraph transmitter.
- The tower is still contains more than 120 antennas, broadcasting both radio and television signals throughout the capital city and beyond.

Industrial Revolution’s main Effects on Architecture

1.Using Machinery

2.Mass Production

3.Standardization

4.The use of new materials (Steel and Glass)

5.invention of the elevator

Chicago School

- Chicago School, group of architects and engineers who, in the late 19th century, developed the **skyscraper**. They included Daniel Burnham ,William Le Baron Jenney, John Root, and the firm of Dankmar Adler and **Louis Sullivan** .
- **Frank Lloyd Wright** started in the firm of Adler and Sullivan but created his own Prairie Style of architecture. Chicago's architecture is famous throughout the world and one style is referred to as the Chicago School, also known as 'commercial style ‘.
- While the term Chicago School is widely used to describe buildings in the city during the 1880s and 1890s. After the Great Fire of 1871 had left the city’s central commercial district in ruins.

Chicago School Principles

1. The building's overall **form follows the structure of a classic column**. Its lower floors act as the base/podium, featuring an exterior that is a bit distinctive from the rest of the buildings— usually **incorporating more glass.** Its middle floors act as the column's shaft. And, finally, the top floors act as the capital, crowned with a cornice, and revealing some simple ornaments.

2. All buildings utilize a **steel-frame structure**, allowing more height. The structural steel was manufactured to be fire-proof to avoid catastrophes similar to the 1871 Chicago Fire.

3. The buildings are clad in masonry(Terra Cotta), showing little ornamentation and making space for large surface windows.

4. The design of the windows followed a system that ensured the entry of both light and ventilation. Those windows are typically repeated all over the building, creating a regular grid.

Chicago Skyscrapers

The Chicago Building
Chicago, 1904-1905
Holabird & Roche

Carson, Pirie, Scott & Co. Building
Chicago, 1899-1904
Louis Sullivan

Louis Henry Sullivan

- An American architect and has been called the "father of skyscrapers“ and "father of modernism".
- Sullivan’s work principles:

1. the use of arches
2. cast-iron ornament inspired by nature.
3. sculptural terra cotta.
4. Sullivan is famous with this quote “Form Follows Function” which means “All things in nature have a shape, that is to say, a form, an outward semblance, that tells us what they are, that distinguishes them from ourselves and from each other.”

The **Frederick C. Robie House**
U.S. Chicago,
1909 - 1910,
Frank Lloyd Wright

Prairie School

- Prairie School is a late 19th- and early 20th-century architectural style, most common to the Midwestern United States. It has its roots in the city of Chicago, but its influence was felt around the world.
- The emergence of the Prairie School style was nourished by a small group of architects. **They wanted to develop an architecture style suitable to the American Midwest and independent of historical and revivalist influence**.
- The Prairie School was heavily influenced by the philosophy of Ralph Waldo Emerson, who believed that better homes would create better people.

Prairie School

❑The style is usually marked by:

- 1.Horizontal lines
- 2.Flat or hipped roofs with broad overhanging eaves
- 3.Windows grouped in horizontal bands
- 4.Integration with the landscape,
- 5.Solid construction,
- 6.Craftsmanship
- 7.Discipline in the use of ornament

Constructivist architecture

- Constructivist architecture, or ‘constructivism’, is a form of modern architecture that developed in the Soviet Union in the 1920s. Inspired by the wider constructivist art movement that emerged from Russian Futurism.
- The movement became outdated in the mid-1930s, but it has had a definite influence on many subsequent architectural movements, such as Brutalism.

The main characteristic of constructivism:

- **Origins**: Constructivism emerged in Russia in the early 20th century, particularly after the Russian Revolution of 1917. It was closely associated with artists like Vladimir Tatlin and Alexander Rodchenko.
- **Principles**: Constructivism focused on the construction or creation of new forms rather than the representation of existing objects or ideas. It emphasized geometric shapes, abstraction, and the use of industrial materials like steel and glass.
- **Objectives**: Constructivist artists aimed to create art that served a social and political purpose, often promoting ideas of social change and utopianism. They often worked in collaboration with architects and designers to create works that were integrated into everyday life.

Zuev Workers' Club, 1926