



# Theories of Architecture

ENAR 329

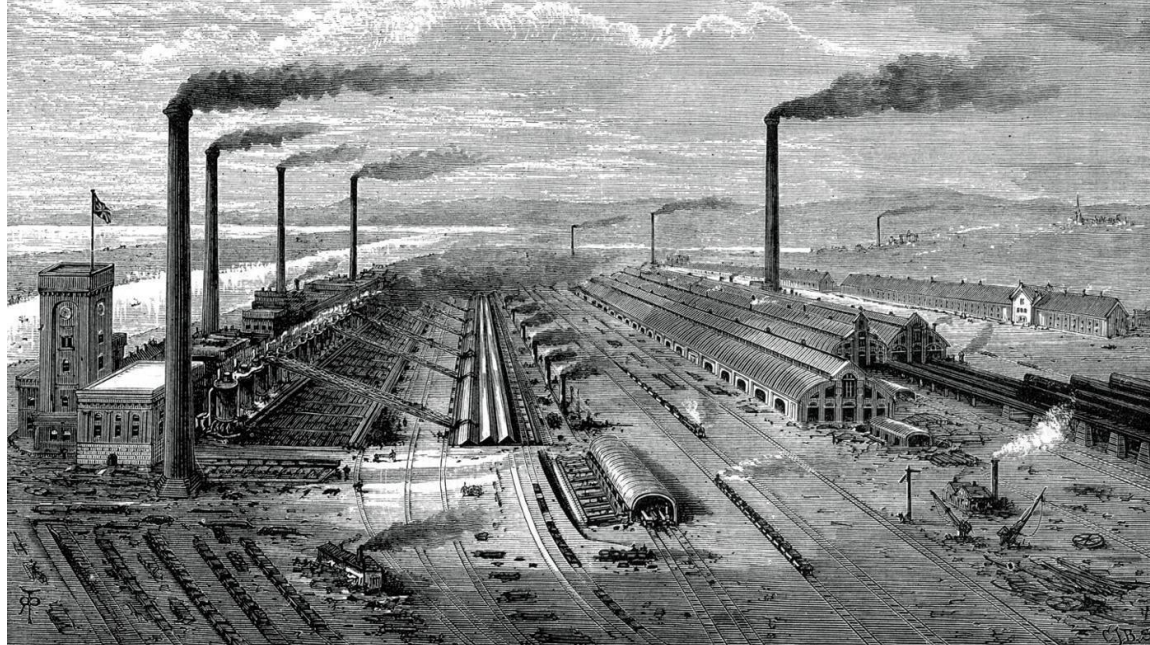
Arch. Nadia Asali

**Lecture 2**  
**Architecture and The Industrial Revolution**  
The Age of Iron Giants and Glass Masters  
02.Oct.2021

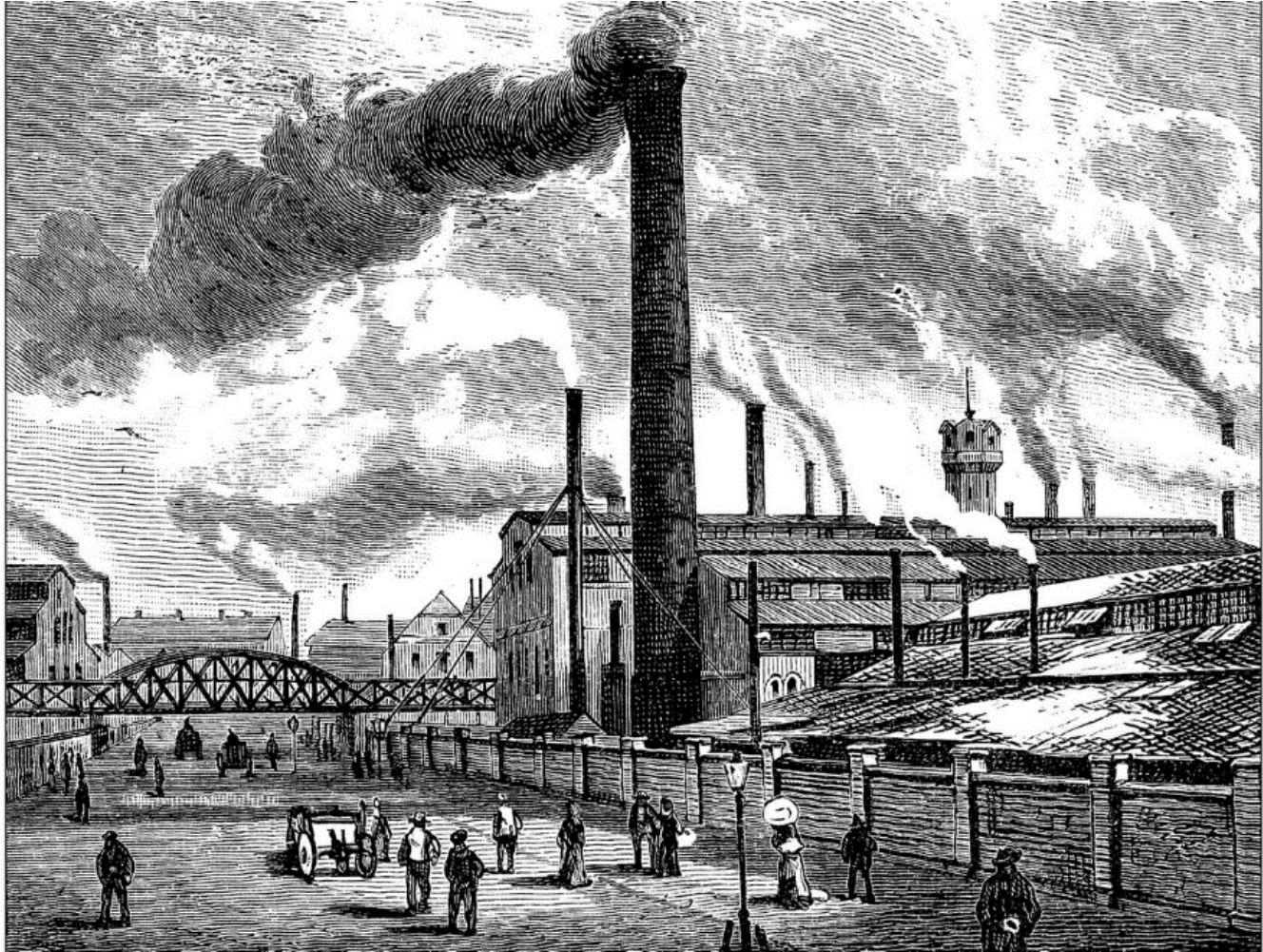
## The Industrial Revolution

was a period from the 18th to the 19th century, **where major changes in agriculture, manufacturing, mining, transportation, and technology had a profound effect on the socioeconomic and cultural conditions of the times.** It began in the United Kingdom, then subsequently spread throughout Europe, North America, and eventually the world.

Major turning point - average income and population began to exhibit unprecedented sustained growth.



The Industrial Revolution took place in England between 1760 and 1830. **This transition included going from hand production methods to machines**, new chemical manufacturing and iron production processes, the increasing use of steam power, the development of machine tools and the rise of the factory system, which led to radical changes at every level of civilization throughout the world.



The Industrial revolution spread from England to Europe , **Created a new type of workers; the wage laborer** or proletarian who earns hard living in numerous factories. Proletarian workers or working-class people, regarded collectively

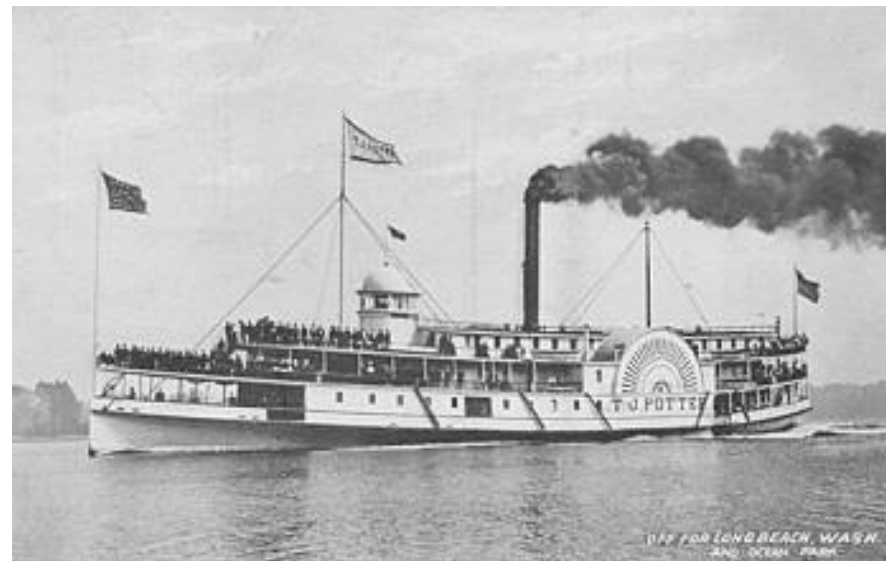
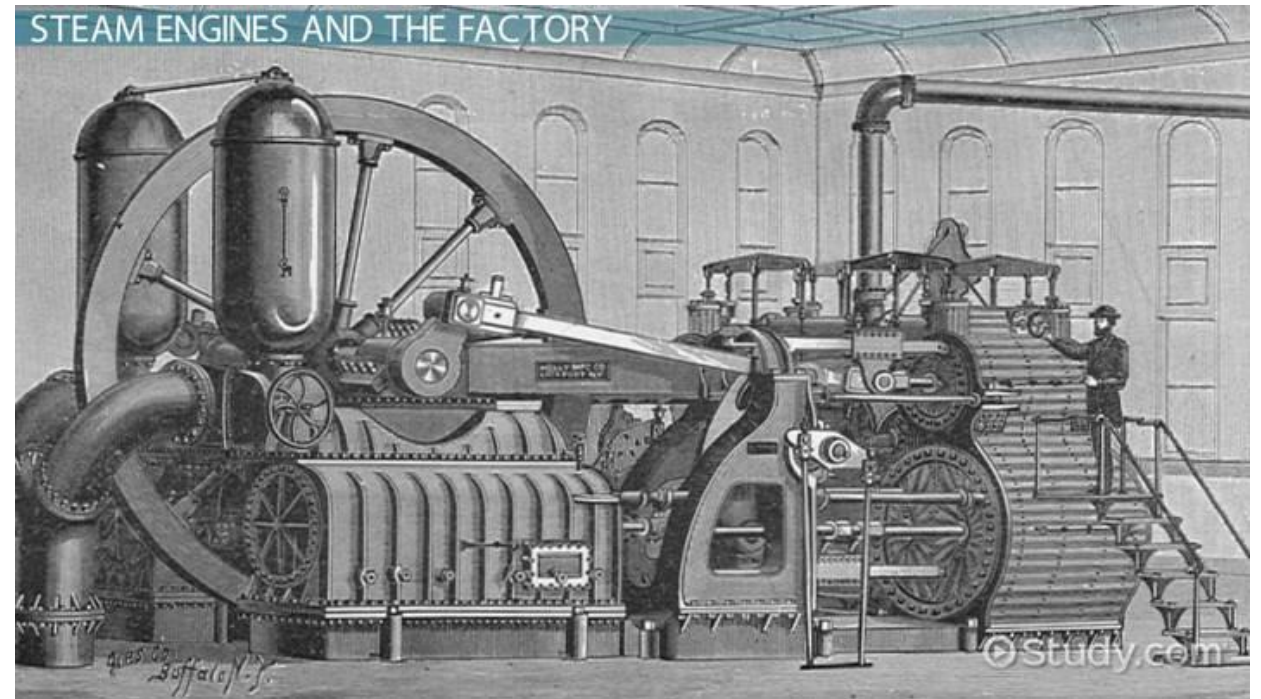
This Era Witnessed New Inventions:

**The Steam Engine** : Invented by James Watt in 1785.

**The Railway:** A meaningful symbol of the new age which in turn had consequences for architecture in buildings stations , bridges and tunnels .

**The Steam Boat:** An important means of transportation which in turn had consequences for mass migration across the globe.

**The possibility of travel brought about the migration of population from the countryside to big cities .**



- **New technologies dramatically improved speed of transporting people and goods.**

The first Intercity railway was built in 1830 between Liverpool and Manchester. The railways enabled more freight شحن to be transported cheaply and quickly.

- **In 1700, it took four days to travel from London to Manchester, by 1870, it took four hours.**

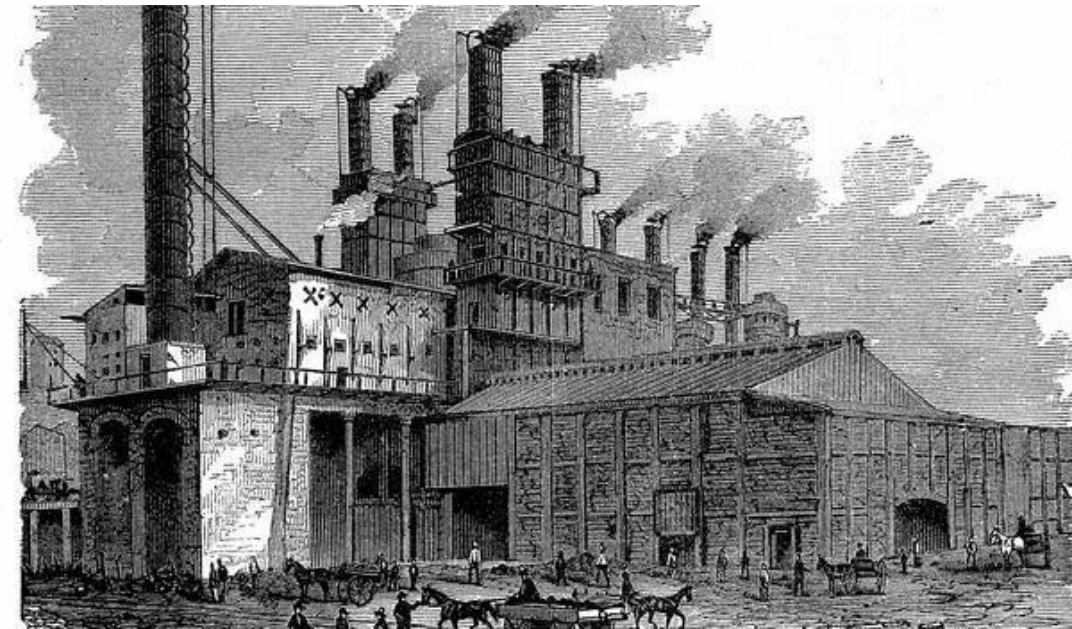
-Application of steam engines. The development of the steam engine was critical for the Industrial Revolution. It enables steam trains, but also steam-powered pumps and machines, which increased the productivity of labour.

-**Agricultural revolution enabled higher food output from fewer farm workers, leading to surplus workers who could go and work in factories.** This revolution in agriculture was due to new techniques like crop rotation, selective breeding, economies of scale from bigger farms and better transport.

-Growth in global trade. Helped by Britain's effective shipping capacity and Empire, which was a source of raw materials.

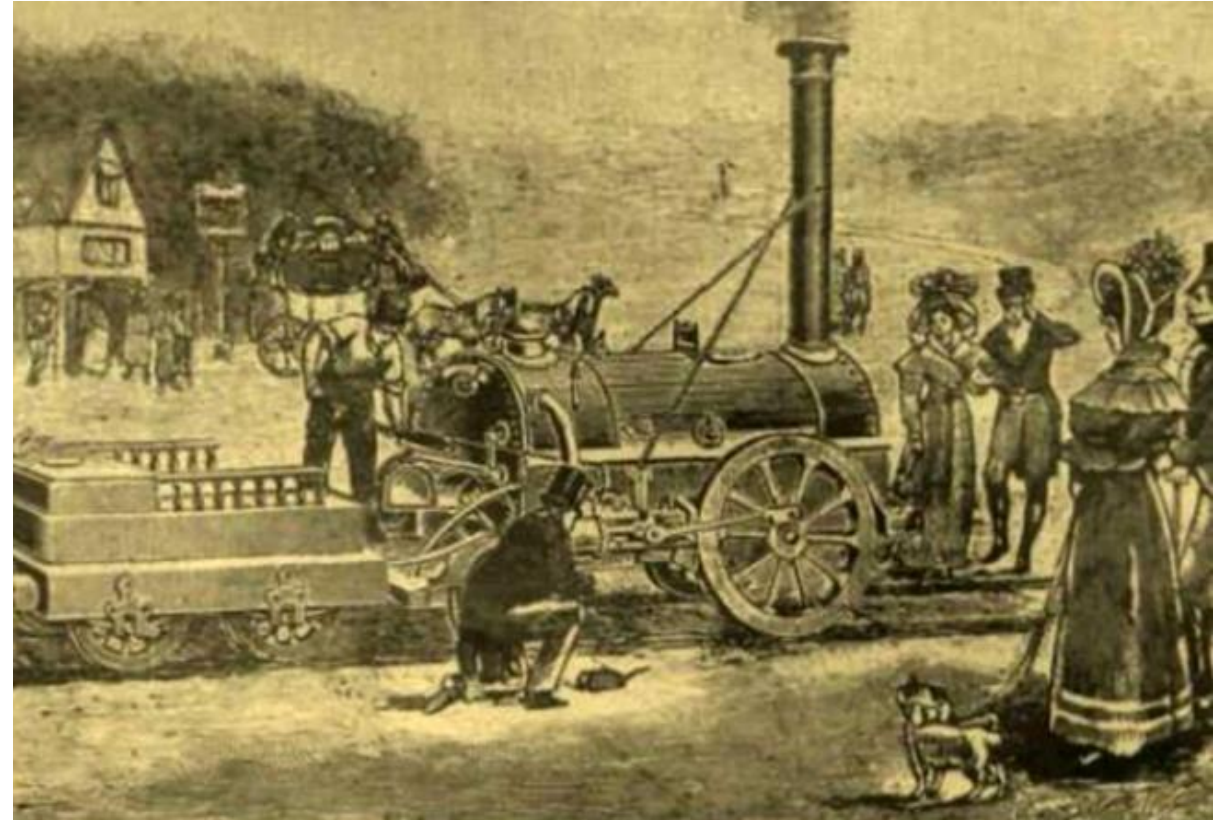


Birmingham New Street station



## The technological changes

- The use of new **energy** sources, such as coal, the steam engine, electricity, petroleum, and the internal-combustion engine.
- The **invention of new machines**, that permitted increased production.
- Important developments in **transportation** and **communication**, including, automobile, airplane, telegraph, and radio.
- The rise of the factory system, with science applications.



The growth of heavy industry brought a flood of new building materials **such as cast iron, Wrought Iron , and glass** with which architects and engineers devised structures previously undreamed of in function, size, and form.

The biggest impact of the Industrial Revolution on 19th century architecture **was the mass-production of iron and later steel in quantities where it became an economically applicable as a building material .**

The application of iron, to architecture greatly expanded the **structural capabilities of existing materials**, and created new ones. Steel has tremendous strength to weight and **allowed engineers to design increasingly bigger, lighter, more open spaces even while architecturally the traditional style was informed by the limitations of brick and masonry.**

Advancement allowed for larger planes of glass to be created **without interruption**, thus freeing up the space planning in interiors.



**New York: 1800-1900**



**Cast Iron** : An Essentially Brittle Material , is approximately **four times as resistant to compression as stone**

**Wrought Iron** : **Forty times as resistant to tension and bending to stone and can be formed and molded into any shape**

**Glass** : can be manufactured in larger sizes and volumes

### **Cast Iron**

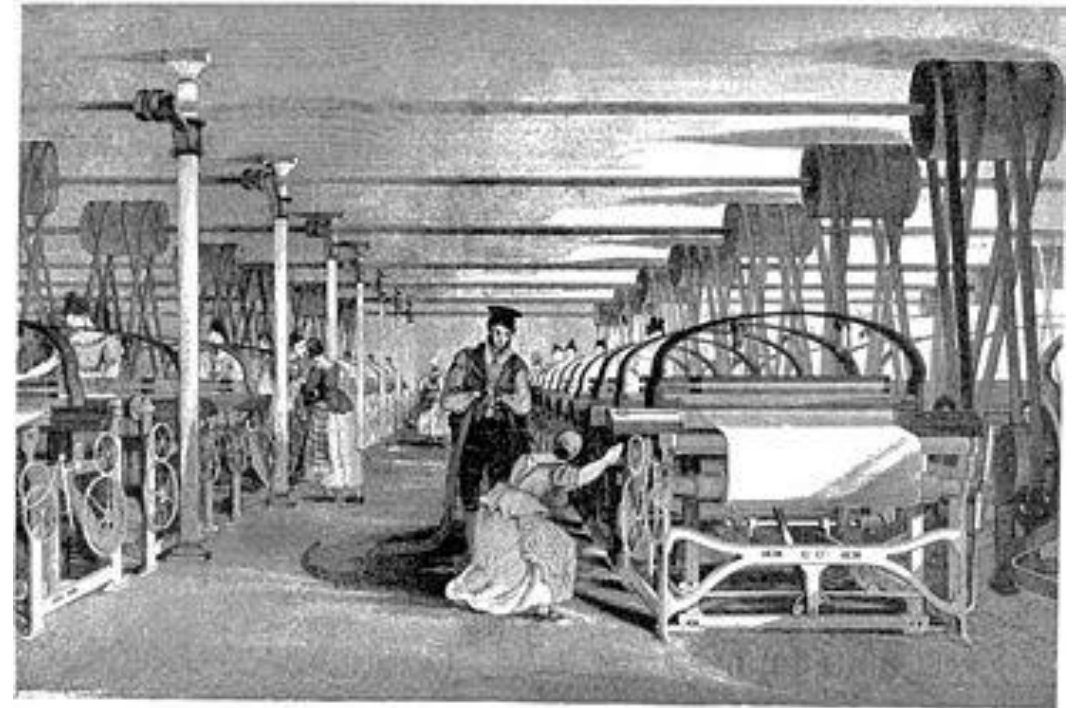
- Heavy
- Hard
- Somewhat brittle
- contains 2% – 4.0% carbon

### **Wrought Iron الحديد المطاوع**

- Used for decorative items
- More resistant to rust than cast iron
- Ability to resist corrosion
- contains less than 0.2% **carbon**

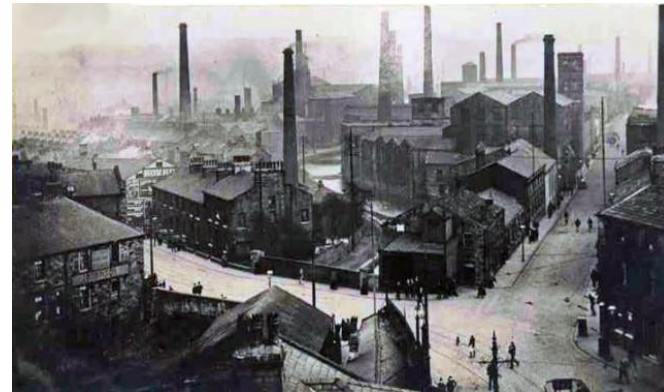
## Benefits of the Industrial Revolution

- **First government regulations.** The conditions of the Industrial Revolution encouraged governments to pass laws on child labour and introduce first basic safety legislation.
- **Education and health care.** The terrible conditions of the industrial revolution sparked moves to provide more education and health care.
- **Movement of people.** Prior to the industrial revolution, people rarely moved from the area they were born. The industrial revolution enabled people to travel further afield.



## Problems of the Industrial Revolution

- **Pollution was a major problem in the industrial revolution**, caused by burning coal, high population density and no regulations on factories. The West Midlands (The West Midlands is a metropolitan county and combined authority area in western-central England ) became known as the 'Black Country' because of its landscape of dark foundries, furnaces and smoky atmosphere.
- low **average life expectancy** for those working in factories.
- **Child labour.** Many children worked long hours for very low pay. They were also susceptible to maimed limbs, poor health and early death.
- **Higher concentration of workers in new mill towns led poor sanitation and outbreaks of infectious diseases**, such as cholera.
- **The slave trade.** In the early part of the Industrial Revolution, some industries, such as cotton were still dependent on the slave trade.



Burnley – shows the extent of pollution around 1900.

# Architecture and the Industrial Age

Architects searched for their own style but they searched for it in the previous styles returning to the style of Palladio and Michelangelo.

## Neo-Classical



Karl Friedrich Schinkel, Schauspielhaus, Berlin, 1818-21.



John Soane (1753-1837), Bank of England, London

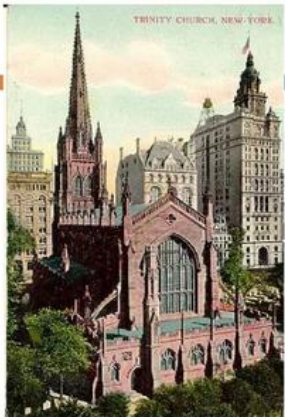


Benjamin Henry Latrobe, Roman Catholic Cathedral, Baltimore, 1805-18.



The William Brown Library and Museum (now the World Museum Liverpool), designed by Thomas Allom (1804-1872), UK

## Neo-Gothic



The Trinity Church in New York, USA



House of Parliament, London, 1836-1867



All Saints  
Sir Charles Barry  
Stand,  
Manchester, 1860

**APPLICATION OF IRON**

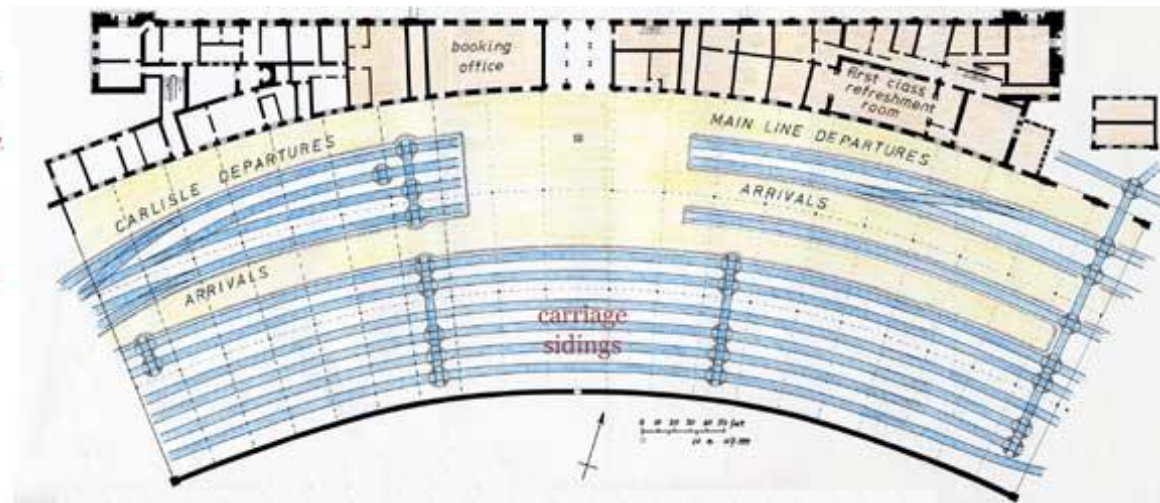


**GREENHOUSES  
COVERED MARKETS  
HALLS  
EXHIBITION PAVILLIONS  
UTILITY BUILDINGS  
TRAIN STATIONS**

## John Dobson's Central Station, Newcastle

Newcastle Central is one of the great monuments of the early Railway Age, and remains an important and busy station, despite the loss of most of its suburban traffic to the Tyne & Wear Metro.

Designed by John Dobson (1787-1865), the station was officially opened by Queen Victoria on 29 August 1850. The original design, and accompanying model, won a Medal of Honor for Dobson in Paris in 1855.



colour denotes that part of the office building belonging to the YNB, later NER

Newcastle Central Station about the end of 1851



Kevin John Cottrell

## The Crystal Palace

The Crystal Palace was a glass and cast iron structure built in Hyde Park, London, to house the Great Exhibition of 1851. The building was designed by Sir Joseph Paxton, an architect and gardener, and revealed breakthroughs in architecture, construction and design.

The Crystal Palace an Exhibition Center

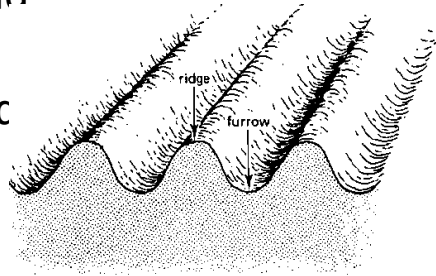
City of Westminster, United Kingdom

- Architect: Joseph Paxton
- Area: 92000 m<sup>2</sup>
- Year: "1851"



Already a famous gardener at the time, Paxton experimented extensively with glasshouse construction.

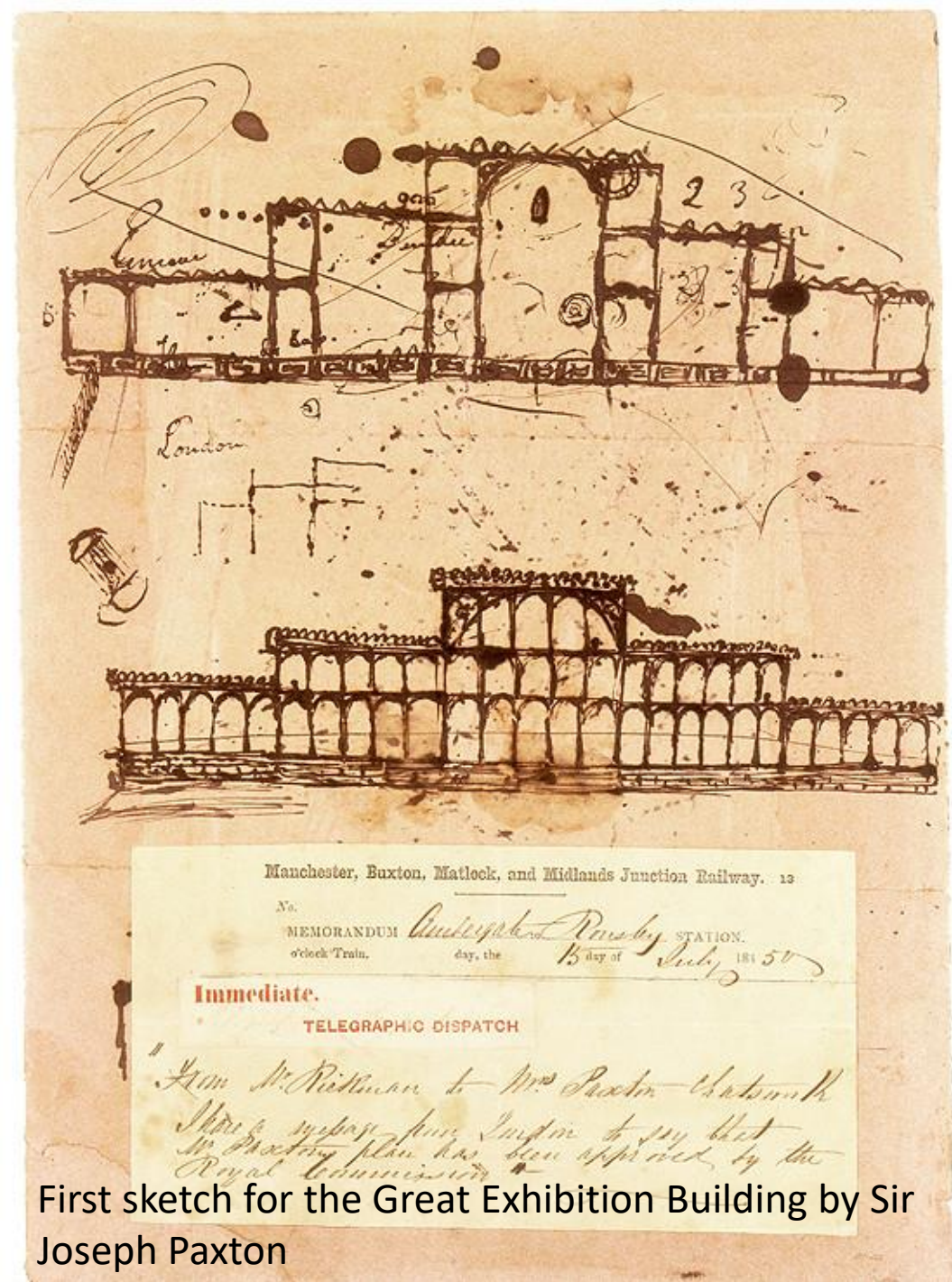
Using combinations of prefabricated cast iron,, and standard sized glass sheets, Paxton created the “ridge-and-furrow” roof design. Paxton proceeded to visit Hyde Park, where he quickly doodled his famous concept drawing of the Palace .



The drawing included all the basic elements of the building, and within two weeks all calculations and detailed plans were submitted.



Interior view of the Crystal Palace, 1851



First sketch for the Great Exhibition Building by Sir Joseph Paxton



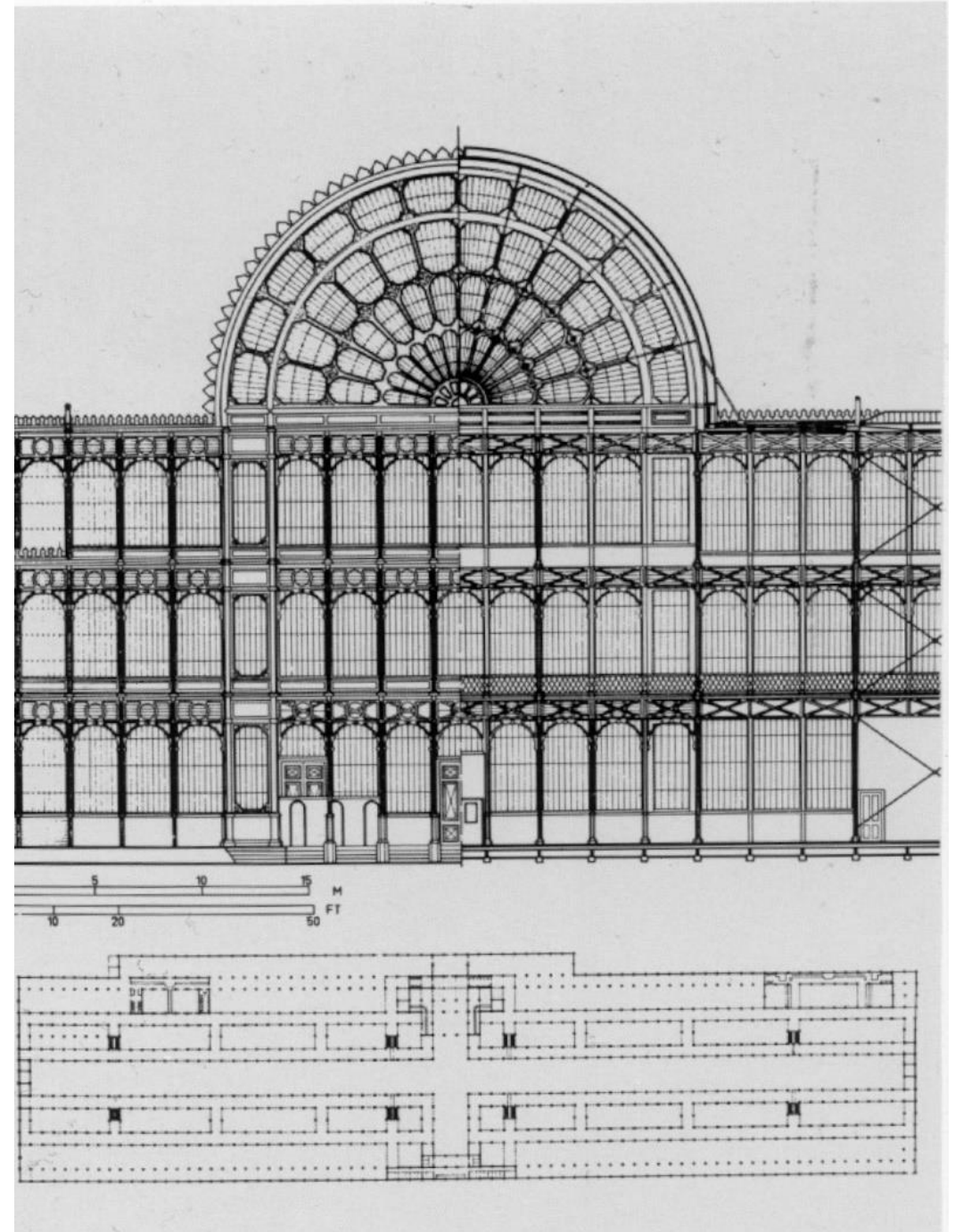
5000 workers handled more than 1000 iron columns and 84,000 square meters of glass. **All parts were prefabricated and easy to erect, and every modular unit was self supporting, allowing the workers freedom in assembling the pieces.** Thanks to Paxton's simple and brilliant design, over 18,000 \*panes of glass sheets were installed per week, and the structure was completed within 5 months. Paxton's ingenious design created an unprecedented exhibition space.

- The construction, acting as a self supporting shell
- maximized interior space
- the glass cover enabled daylight.

The method of construction was a breakthrough in technology and design, and paved the way for more sophisticated pre-fabricated design.

\* *A pane of glass, also called a windowpane, is a sheet of glass that's part of a window.*

Interior view of the  
Crystal Palace,  
1851





When the exhibition was closed 6 months later, the structure was disassembled and then reassembled in the south London suburb of Sydenham Hill. Tragically, the building was destroyed in a fire in 1936.



The destroyed Crystal Palace, 1936

Friedrich Hitzig

Covered Market in Berlin, 1865-1868

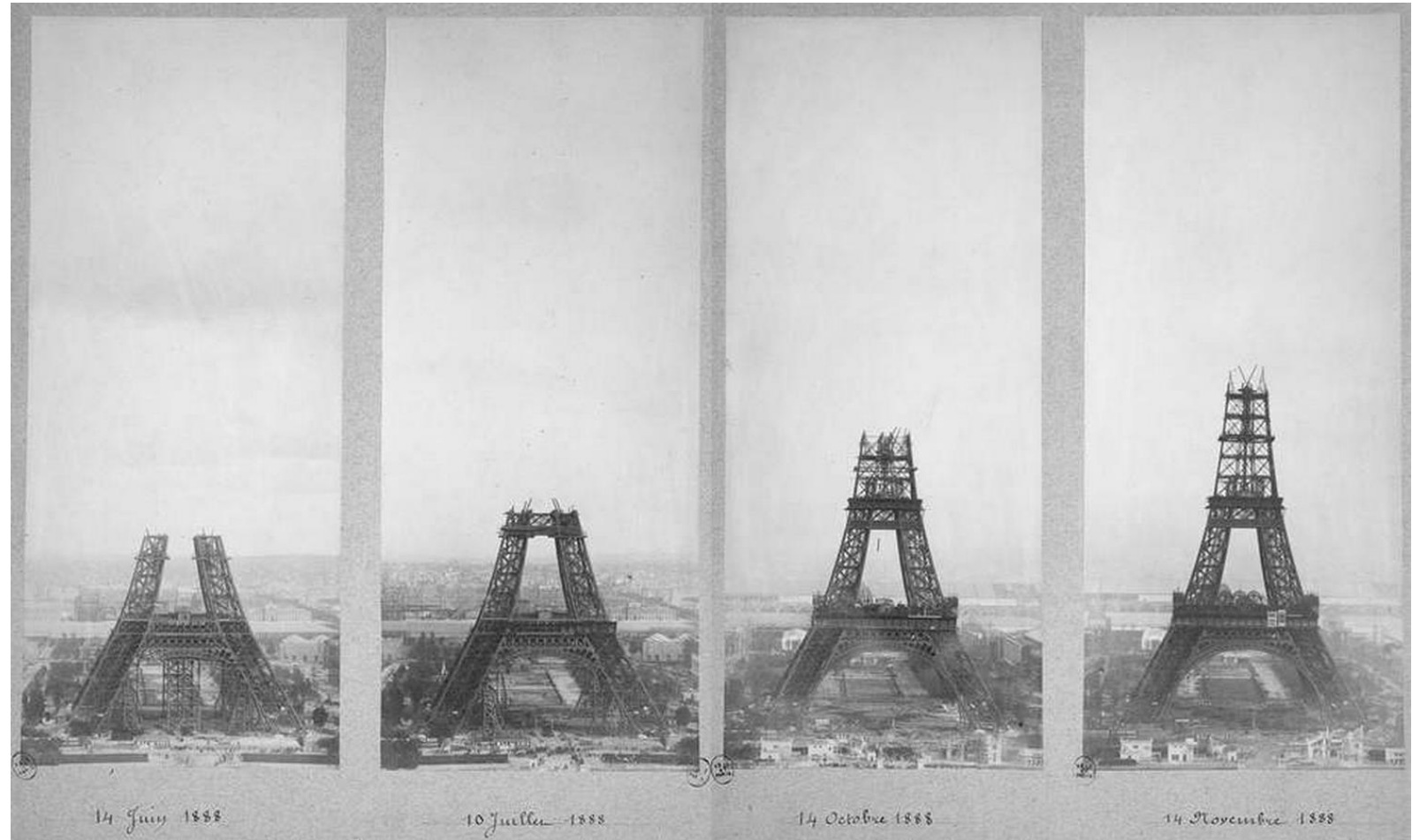
Cast-iron columns support the six-aisled building with its total surface area of 5,300 square metres.



Covered Market in Berlin ,Perspective drawing

The Eiffel tower was built from the year 1887-1889 by Alexandre-Gustave Eiffel in Paris

It was **built to be one the main attractions at the Paris World's Fair in 1889.** as a dramatic demonstration by the French of their mastery of upcoming construction technology. The tower was much criticized by the public when it was built, with many calling it an eyesore.





Central Dome of the Galerie des Machines, Exposition Universelle de Paris, 1889, by Louis Beroud (1852-1930).



Coalbrookdale Bridge, 1779

England

Built by: Abraham Darby & Pritchard



The Brooklyn Bridge, one of the oldest suspension bridges in the U.S., stretches 1825m over the East River connecting Manhattan and Brooklyn.

On completion, it was the largest suspension bridge in the world, and the first steel-wire suspension bridge.

Construction began in 1870. The Brooklyn Bridge was completed thirteen years later. The bridge's main span over the East River is 486.3 m.

John Augustus Roebling  
Civil engineer and Architect  
1870's

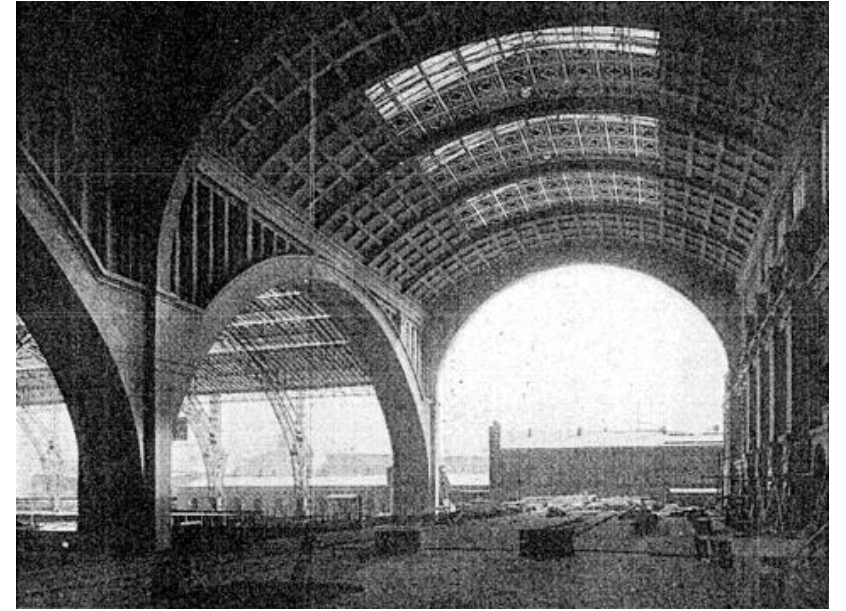
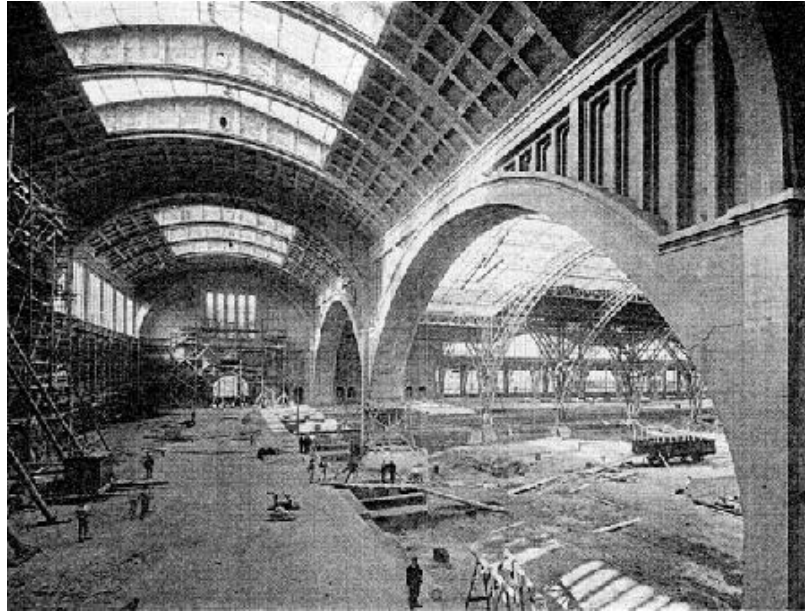




Leipzig Railway Station, 1908

Leipzig, Germany

Architect: Lossow & Kuhne



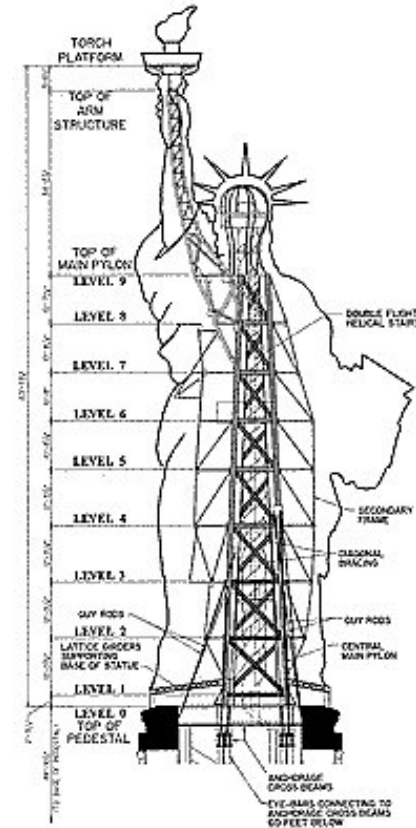
## Statue of Liberty

Completed in the year 1886 as a gift from the French people. Hidden Wrought-Iron structure. Armature designed by Gustave Eiffel.

The foundation block is made of concrete, the largest concrete mass of its day. (reinforced)

The copper shell of Frederic Auguste Bartholdi's statue is entirely hung from its multilayered skeleton, like a modern curtain wall.

It's a colossal neoclassical sculpture representing Libertas, the roman Goddess of freedom.



The factory system was largely responsible for the rise of the modern city, as large numbers of workers migrated into the cities in search of employment in the factories. Nowhere was this better illustrated than the mills and associated industries of Manchester, nicknamed "Cottonopolis", and arguably **the world's first industrial city**.



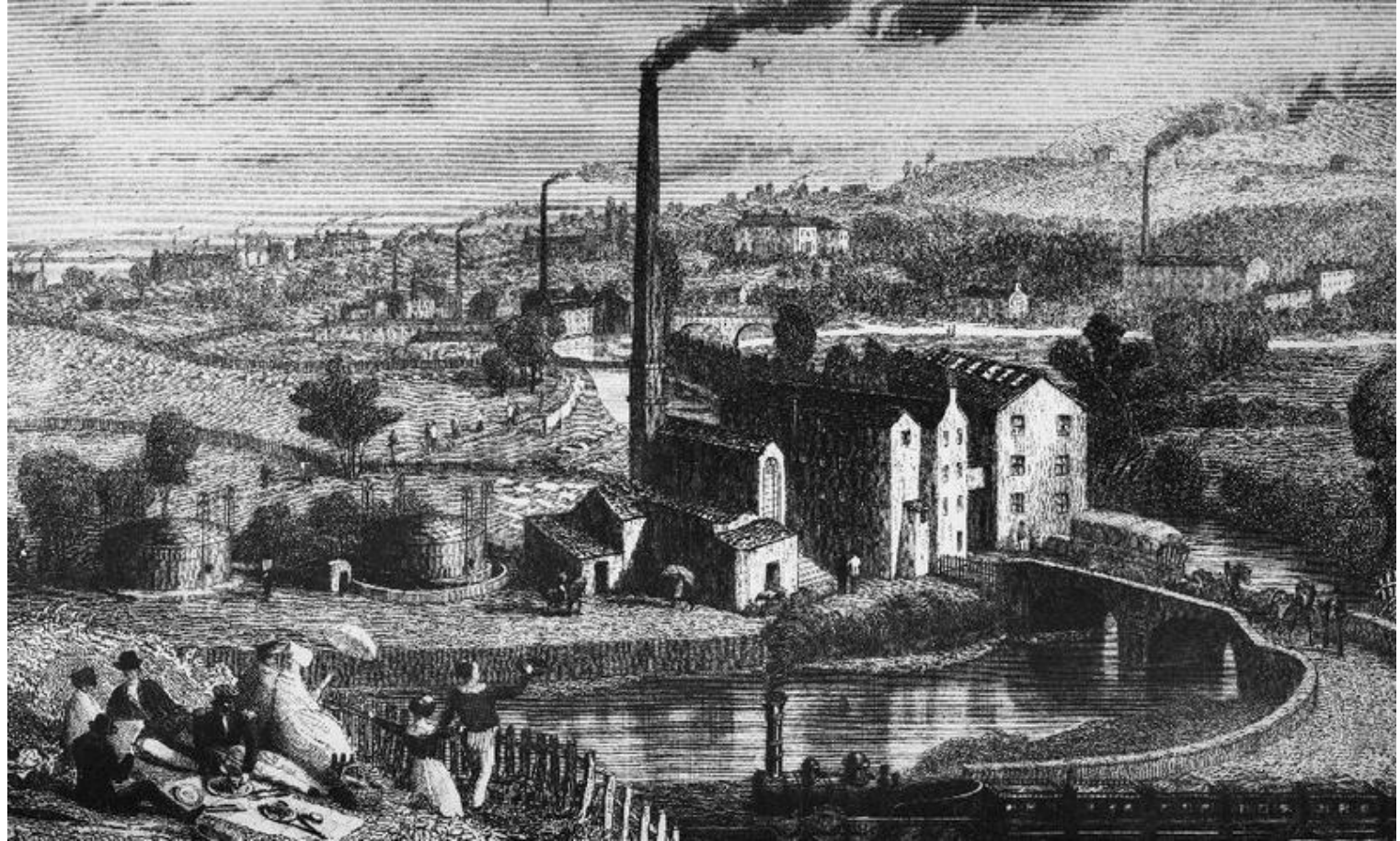
Manchester, England ("Cottonopolis"), pictured in 1840, showing the mass of factory chimneys

**At the beginning of the 19th century, the cotton industry's extraordinary growth in Manchester** and the development of its pioneering transport system led to the expansion of the city and placed it at the heart of a global network of manufacturing and commerce.

With textiles as the engine, Manchester has become a complex industrial city, producing goods of all kinds.

But the rapid urbanization of the area brought **its accompanying problems of over-crowding and poor housing.**

Huge mills were constructed and advances in technology meant many of the processes became mechanized. Huge warehouses were constructed to store the goods ready for their use or export.



**Illustration of a cotton mill in Summerseat, Bury (1850)**

# The Growth of the Industrial City

**Mapping Manchester's industrial past;** Manchester was the world's first industrial city. Its damp climate was ideal for processing cotton and its network of canals, rivers and transportation systems provided the perfect conditions for new cotton mill technology to thrive.



A BIRD'S-EYE VIEW OF

MANCHESTER IN 1889

- 1. Cathedral
- 2. Exchange Square
- 3. St. Peter's Church
- 4. Victoria Station
- 5. Albert Square
- 6. Market
- 7. Broad Street
- 8. St. Peter's Church
- 9. Victoria Station
- 10. Albert Square
- 11. St. Peter's Church
- 12. Victoria Station
- 13. Broad Street
- 14. St. Peter's Church

- 15. St. Peter's Church
- 16. Victoria Station
- 17. Albert Square
- 18. Broad Street
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- 31. Albert Square
- 32. Broad Street
- 33. St. Peter's Church
- 34. Victoria Station

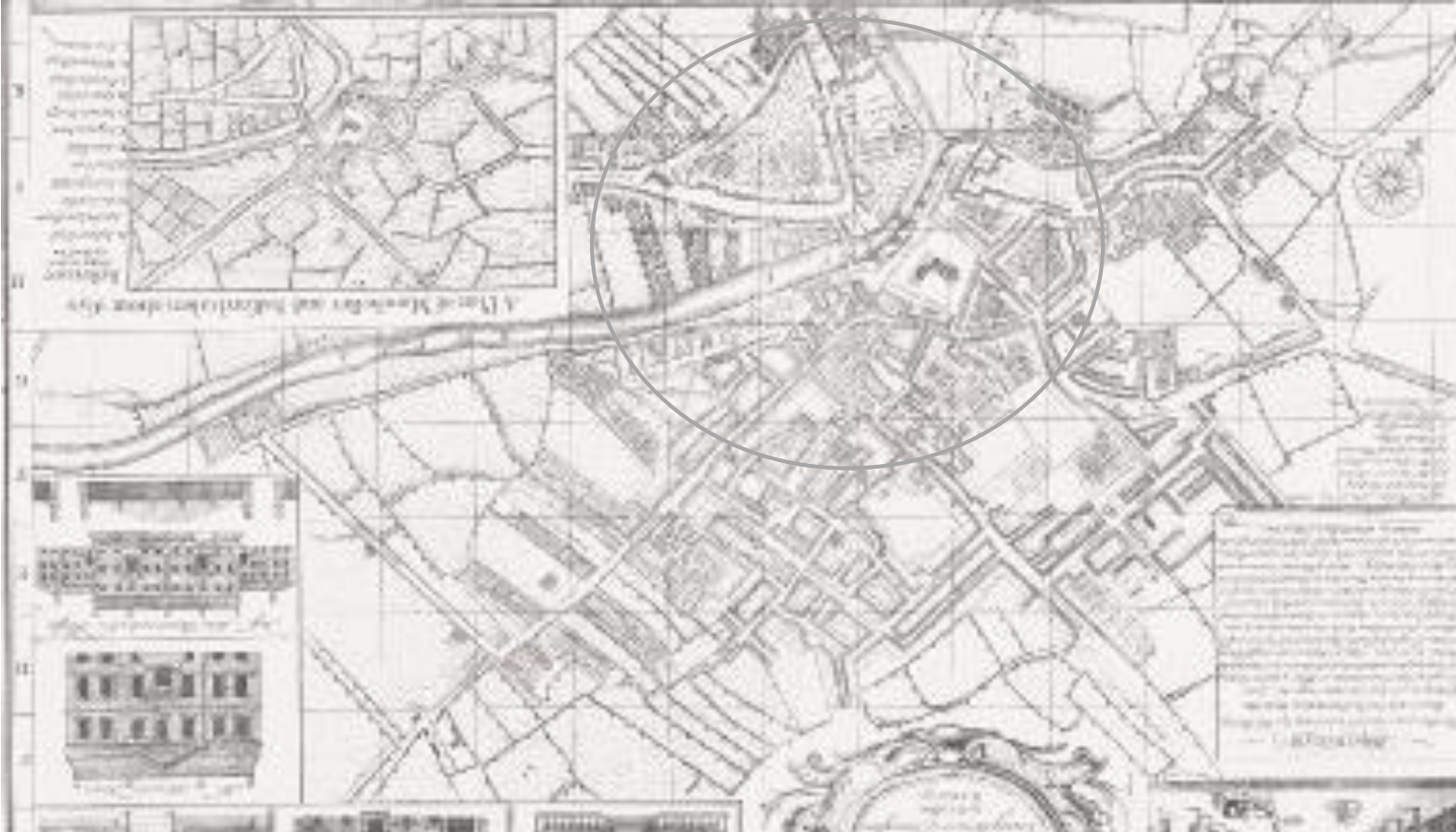


- 35. St. Peter's Church
- 36. Victoria Station
- 37. Albert Square
- 38. Broad Street
- 39. St. Peter's Church
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- 60. Victoria Station
- 61. Albert Square
- 62. Broad Street
- 63. St. Peter's Church
- 64. Victoria Station

© William and Thomas Agnew & Sons, Manchester & London



**New public buildings, residential squares lined with new town houses, and affluent family houses surround the map, celebrating Manchester's culture, style and wealth.**

However, both the main plan and the view of Manchester and Salford depicted at the bottom of the map, show how Manchester is still enveloped by fields. This will change dramatically over the next fifty years.



A plan of the towns of Manchester & Salford in the County Palatine of Lancaster. Published by John Berry and Russel Casson, 1746.

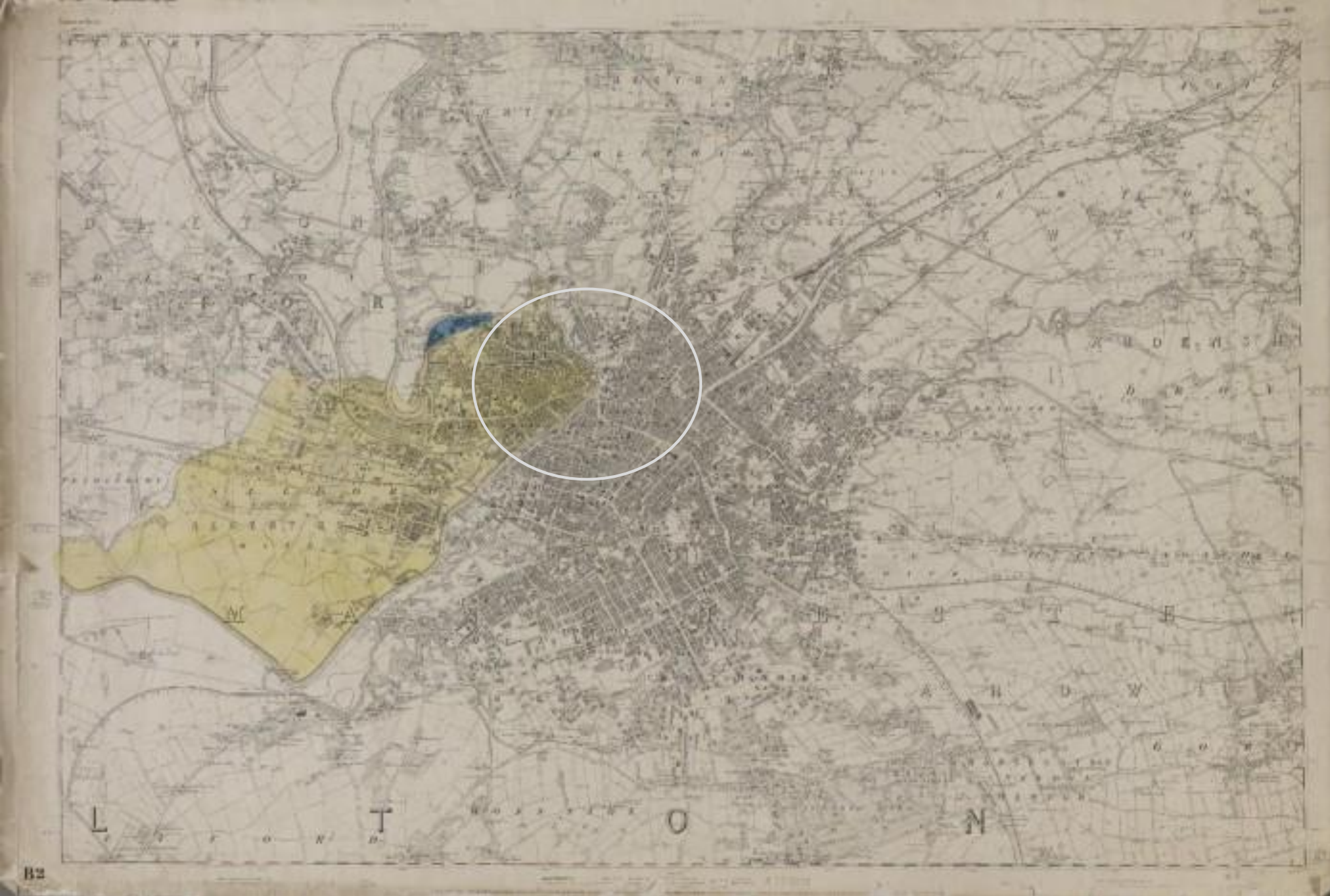


At the start of the 18th century, Manchester had a population of fewer than 10,000. By the end of the century, it had grown almost tenfold, to 89,000.

Green intentionally extended the map beyond the boundaries of the town centre, recognising that rapid expansion would soon consume the surrounding pastures

المراعي

A Plan of Manchester and Salford, completed in 1794.

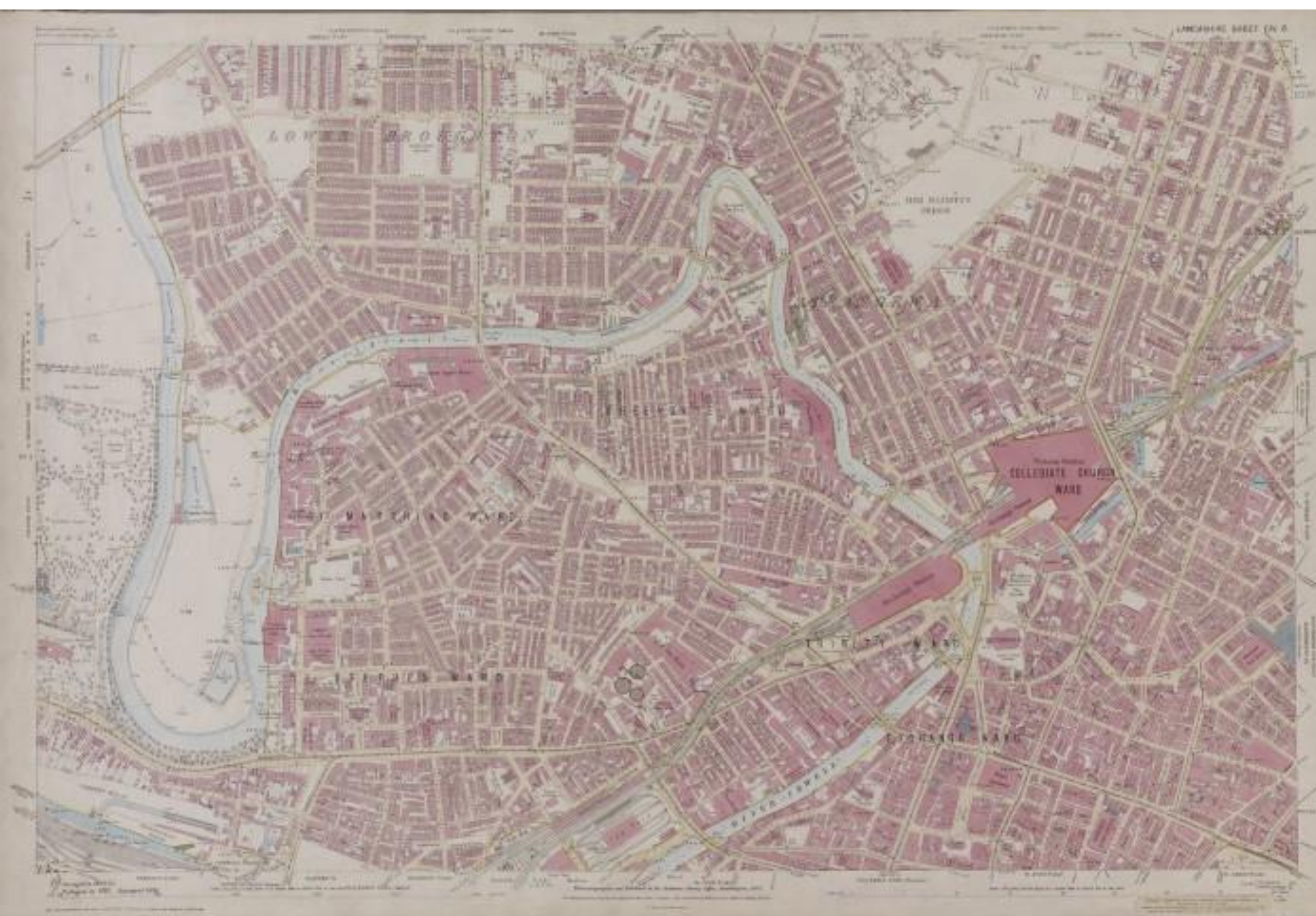


This map shows how the landscape has been transformed in the fifty years .

From a small market town in the early 18th century, Manchester was growing at a phenomenal rate. It's population had grown from less than 10,000 in the early 1700s to 400,000 by the time this map was published in 1851.

Manchester sheet 104, surveyed 1845, published 1848





The rich detail on these maps help us to analyse land use by identifying buildings such as mills, warehouses, gas works and types of housing. The proximity of factories and railways to back to back housing can be seen, as well as the distribution of public houses, schools and places of worship.

Map of 1892



# **Architecture Beyond the Industrial Revolution**

**Schools and Architectural Movements acted as cues and initiators for  
Modernity**

## Rationalism and Structural Rationalism

In architecture, the concept of **rationalism** refers to a **building committed to a logical, mathematically ordered design**. Rationalism as a movement implied the complete **devotion to logical, functional, and mathematically ordered architecture**. Rationalism has often been proposed as a way to create an environment perfect for rational beings

# Rationalism

Enlightenment rationalism  
(17<sup>th</sup> century )

Early 20<sup>th</sup> Century  
Rationalism

Neo Rationalism (late  
20<sup>th</sup> century)

### Enlightenment rationalism (17<sup>th</sup> century )

The Enlightenment was defined by the idea that nothing should be trusted that could not be proven. Science emerged as the new language of Europe, championed by people like Isaac Newton. Enlightenment architects sought to create **buildings that encouraged human logic and rationality**. Building on the Renaissance interpretations of classical architecture, Enlightenment architects developed the first unified style of rationalism.

### Early 20<sup>th</sup> Century Rationalism

The 20<sup>th</sup> century architects began reconsidering the aesthetic of a structure without ornamentation. The building was the design composed of basic geometric shapes , functional space and a logical aesthetic .

**Structural rationalism** This idea is related to the rational recognition of the structure of Gothic architecture. Architects like Henry Labrouste, Eugène Viollet le Duc

## The Route to Modernity الطريق الى الحداثة

Modernity calls for an architecture that responds to the times and its requirements and uses modern technology to develop appropriate solutions for the emerging architectural functions rationalism While the pioneers of rational modernity were interested in constructing buildings that mimic the spirit of the industrial age by paying attention to the functional and construction aspects, and thus they formed a new language that is not based on the language of the Gothic or classical form, but rather responds to building materials, new construction methods, scientific logic and modern technology.

الحداثة تدعو الى عمارة تتجاوب مع العصر ومتطلباته وتستخدم التكنولوجيا الحديثة في وضع حلول مناسبة للوظائف المعمارية المستجدة rationalism في حين اهتم رواد الحداثة العقلانية بتشديد مباني تحاكي روح العصر الصناعي من خلال الاهتمام بالجوانب الوظيفية functional والانشائية construction وبذلك شكلوا لغة جديدة لا تركز على لغة الشكل القوطي او الكلاسيكي بل تتجاوب مع مواد البناء وطرق الانشاء الجديدة والمنطق العلمي والتكنولوجيا الحديثة

Structural buildings have emerged that have been able to reach sensitive centers and sites in cities Regression of solid stone buildings to structural buildings with transparency that we did not know before The emergence of the structural engineer and the decline of the architect

ظهرت المباني الهيكلية التي تمكنت من الوصول الى مراكز ومواقع حساسة في المدن . تراجع المباني الحجرية المصممة الى مباني هيكلية ذات شفافية لم نعهدها من قبل , ظهور المهندس الانشائي وتراجع المعماري

## Beaux Arts School

This style, known as Beaux Arts, after the school of the same name, which is an architectural school located in France within the fine arts department. **It is considered an assembly architecture** **عمارة تجميعية** based on the study of architecture in the Greek, Roman, Renaissance and Gothic eras and assembling its elements in a new way to form a purely national French architecture. The origins of the school go back to 1648 when the "Académie des Beaux-Arts" was founded by Cardinal Mazarin to educate the most talented students in drawing, painting, sculpture, engraving, Architecture and other media. Beaux-Arts emerged as the dominant style of architecture in the United States between the late 19th century and early 20th century.

its pioneers

Leon Vaudoyer



National School of Fine Arts interior and Exterior

## Main Characteristics:

- Technology and industry were very important to Beaux Arts architects and this reflected wider trends of the period, most notably the Industrial Revolution. **Beaux Arts architecture pioneered the use of new materials such as cast iron, pairing it with large areas of glass to create light-filled spaces.**
- Classical details continued to be prominent within the Beaux Arts canon, but these were used in an increasingly eclectic fashion. Although notions of symmetry and the widespread use of columns remained important.
- Symmetrical articulation
- Lavish and intensive surface decoration
- Coupled columns
- An active roofline (for a classical style) with dramatic roof-top figure sculpture
- Fully and boldly formed ornamental sculpture employed elsewhere on the facades
- Axial floor plans that establish vistas through different spaces

## Henry Labrouste – 1801-1875

He was noted for his use of iron frame construction, and was one of the first to realize the importance of its use.

His famous building was St. Genevieve's library built between 1843 and 1850 in Paris.

He set the ground for the functionalist school and the importance of function form and structure. As he believed they should all work together.

He maintained a traditional skin in his buildings



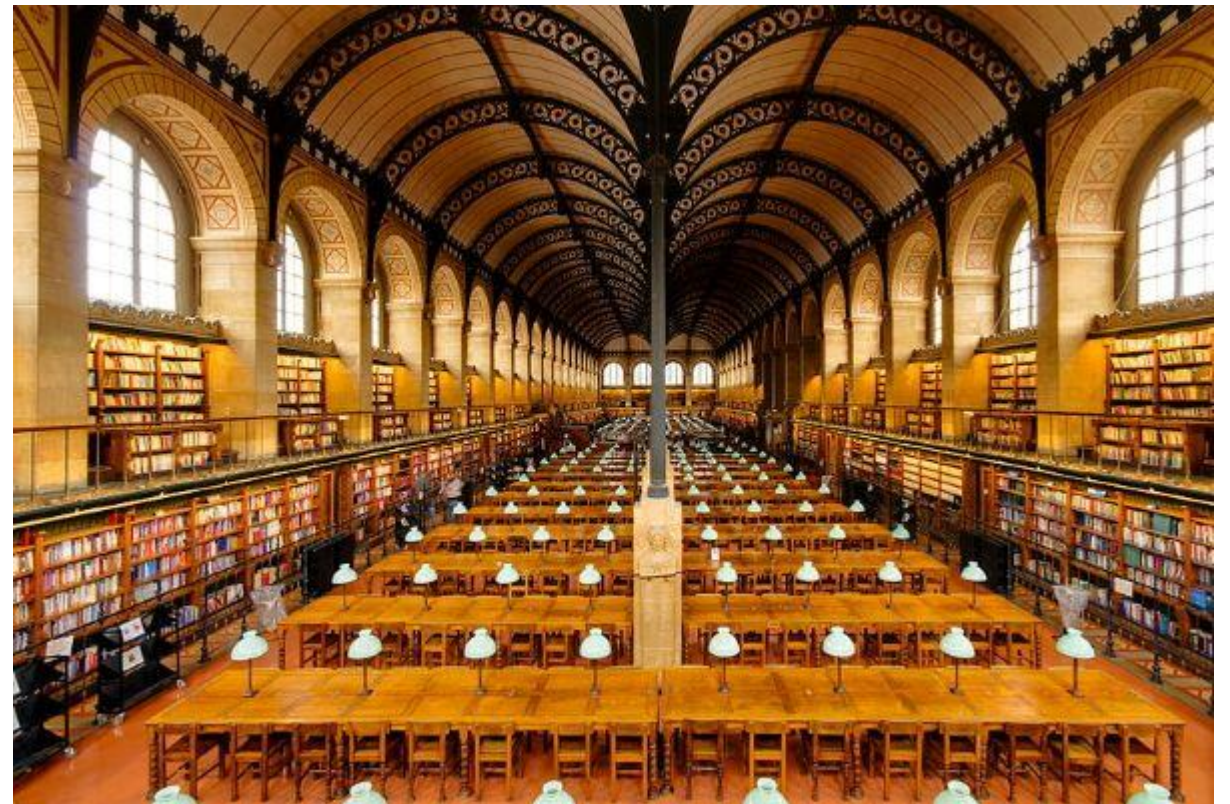
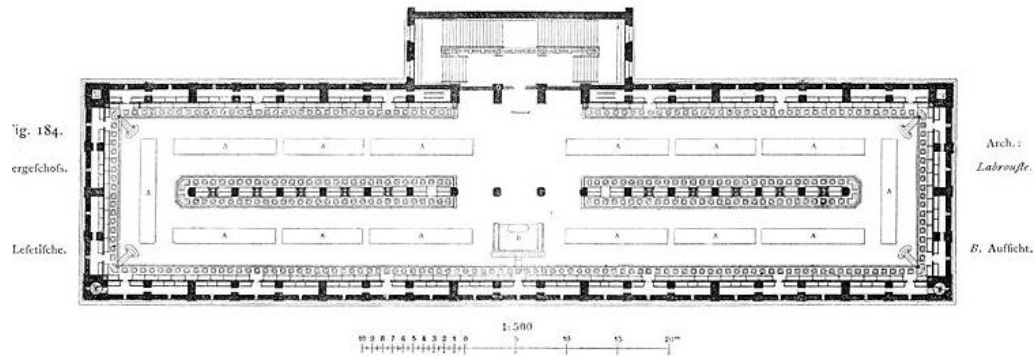
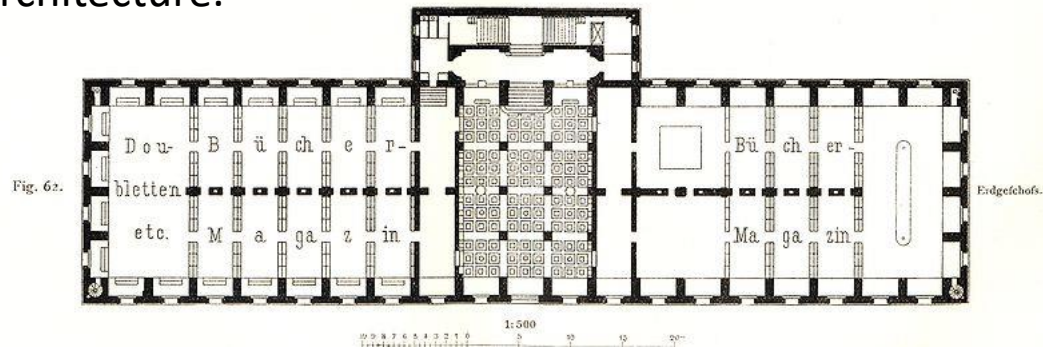
St. Genevieve's library



## St. Genevieve's library

This monumental two-story building, built out of limestone, employs symmetrical columns and arches to convey a classical effect and these are combined with elements of a Renaissance *palazzo*.

The reading room takes up the entire second level and unusually, the primary decorative elements of the building were placed here, rather than on the facade. The building was particularly innovative due to its internal cast iron framework, a new architectural material, and Labrouste's design pioneered the Beaux-Arts use of the latest technologies. In the reading room, this frame is celebrated, rather than concealed, with sixteen columns supporting a dramatic barrel-vaulted ceiling. This, in addition to the large windows, create an impression of light and space. Both Labrouste's use of new materials and the openness of the reading room also had a significant influence, not only on the Beaux Arts movement, but on the later development of modern architecture.



View of the reading room.

Henri Labrouste  
(French, 1801-1875).  
Bibliothèque Sainte-  
Geneviève, Paris,  
1838-1850. View of  
the reading room.



## Grand Palais

**Location-** Champs-Élysées in the 8th arrondissement of Paris, France

**Year constructed-** Construction began in 1897

for the 1900 Exposition Universelle

**Designed by-** Group of four architects, Henri Deglane, Albert Louvet, Albert Thomas and Charles Girault, each with a separate area of responsibility.

The Grand Palais (Great Palace), also known as Grand Palais des Champs – Elysees, built-in Beaux-arts style .

The structure is a blend of Baroque and Classicism which exhibits ,The Beaux-arts movement held adoration for detailing, ornamentation, decoration, and grandiosity to reflect in architecture. This building used innovation in terms of materials to give justice for the conceived style. Materials were majorly steel, stone and glass in different parts of the structure.



## Eugène Viollet-le-Duc

He fought the collectivist trend with his publications and criticized the Beaux-arts school. In 1830, Viollet-le-Duc refused to enter the Ecole des Beaux-Arts and instead chose to go into practical training with architects Jacques-Marie Huvé and of François-René Leclerc.

The architecture of Beaux Arts School was always heavily classical with large amounts of ornamentation. Grand columns and arches contrasted with simple utilitarian spaces. **Viollet-le-Duc rejected this style and instead looked back to Gothic architecture.**

Setting a set of goals as foundations for modern architecture, namely:

**-Use of building materials in proportion to the reality of the desired job .**

-Using modern building materials in the right way according to their characteristics and not as a substitute / imitation of traditional building materials



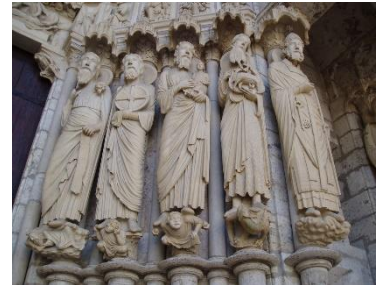
Iron frame construction by Eugène Viollet-le-Duc

**How Viollet-le-Duc left his mark on Notre-Dame cathedral**  
**He had advanced knowledge of structural physics which he used to save crumbling buildings** like the church of La Madeleine in Vezelay. In 1844 he was appointed to renovate France's most famous church, Notre Dame de Paris. He left his mark in many parts of the church both outside and inside. The famous gargoyles, which many visitors believe to be medieval, are in fact additions made by Viollet-le-Duc.

*"To restore a building is not to preserve it, to repair, or rebuild it; it is to reinstate it in a condition of completeness which could never have existed at any given time,"* wrote Viollet-le-Duc in his book the Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle

Nothing he built at Notre-Dame was as controversial, or as beloved, as the 180-foot spire. The cathedral had no spire when he began work in 1844 (the previous one had been removed in 1786). It also had no gargoyle scuppers, and no metal transept statues. These modern improvements were entirely conceived and designed by France's 19th century restoration genius.

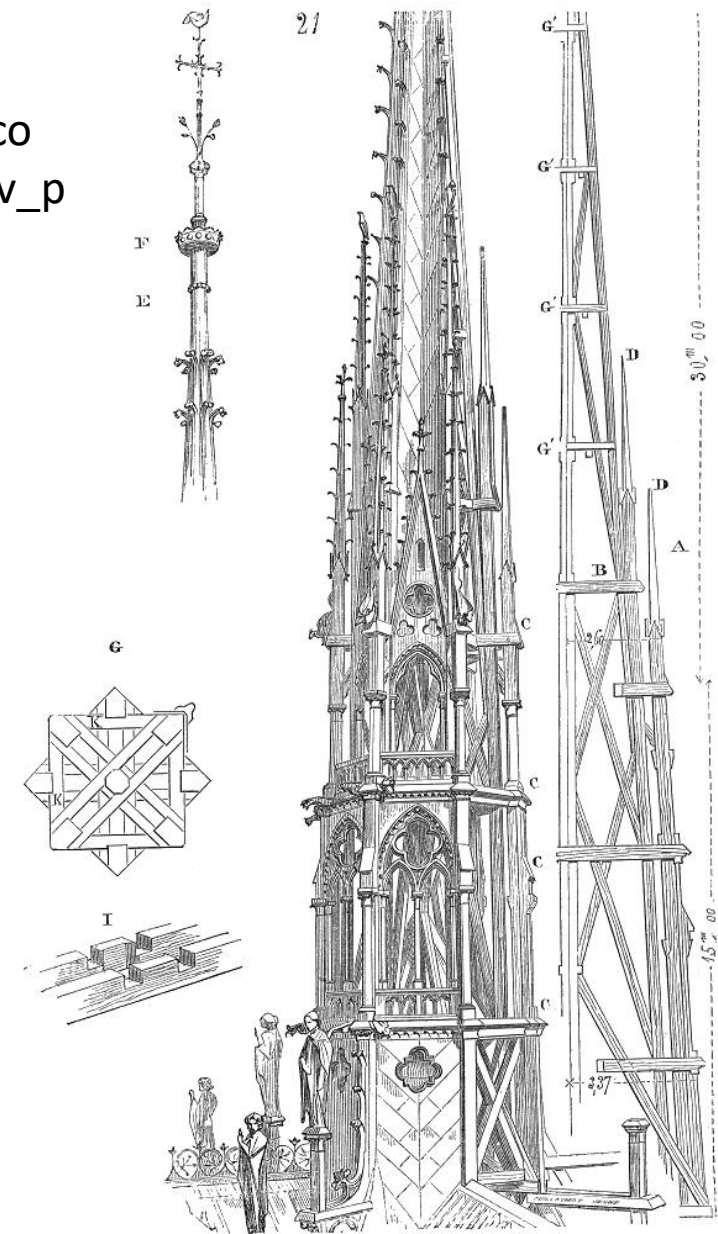
[https://www.youtube.com/watch?v=G2wkWbZv\\_pU](https://www.youtube.com/watch?v=G2wkWbZv_pU)



transept statues



gargoyle scuppers



Drawing of flèche, or spire of Notre Dame by Viollet-le-Duc

## Arts and Crafts Movement

Late 19<sup>th</sup> - Early 20<sup>th</sup> Century

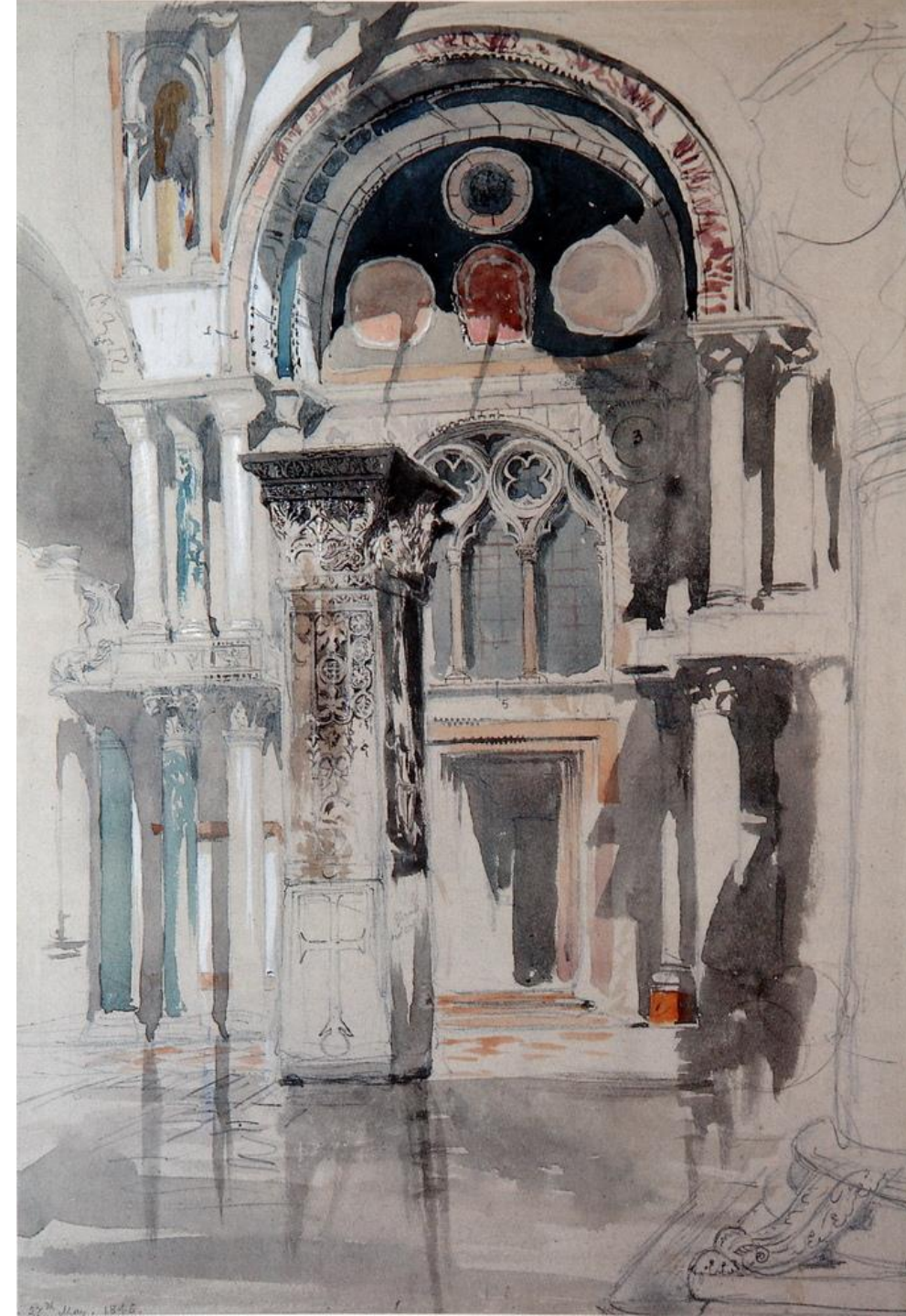
Approximately between 1880-1910

**A style that urged for a return to craftsmanship and which rebelled against industrialization.**

This was an influential movement of the late 19th century which attempted to re-establish the skills of craftsmanship threatened by mass production and industrialization.

Its main protagonist was the designer-cum-poet, William Morris who was inspired by writings of the art critic John Ruskin.

Part of St Mark's, Venice, Sketch after rain. Image Courtesy of John Ruskin



## John Ruskin

John Ruskin (8 February 1819 – 20 January 1900) was an English writer, philosopher and art critic of the Victorian era. He wrote on subjects as varied as geology, architecture and literature.

In the history of the United Kingdom, the Victorian era was the period of Queen Victoria's reign, from 20 June 1837 until her death on 22 January 1901, The period saw the British Empire grow to become the first global industrial power

**Ruskin thought that the machine was the root of social ills**

### His principles

- Beauty and Art are closely connected
- Beauty has a moral function; helps us develop a high moral sense
- Industrial society lacks spiritual values so cannot produce great art



John Ruskin, North West Porch of St Mark's Cathedral, Venice

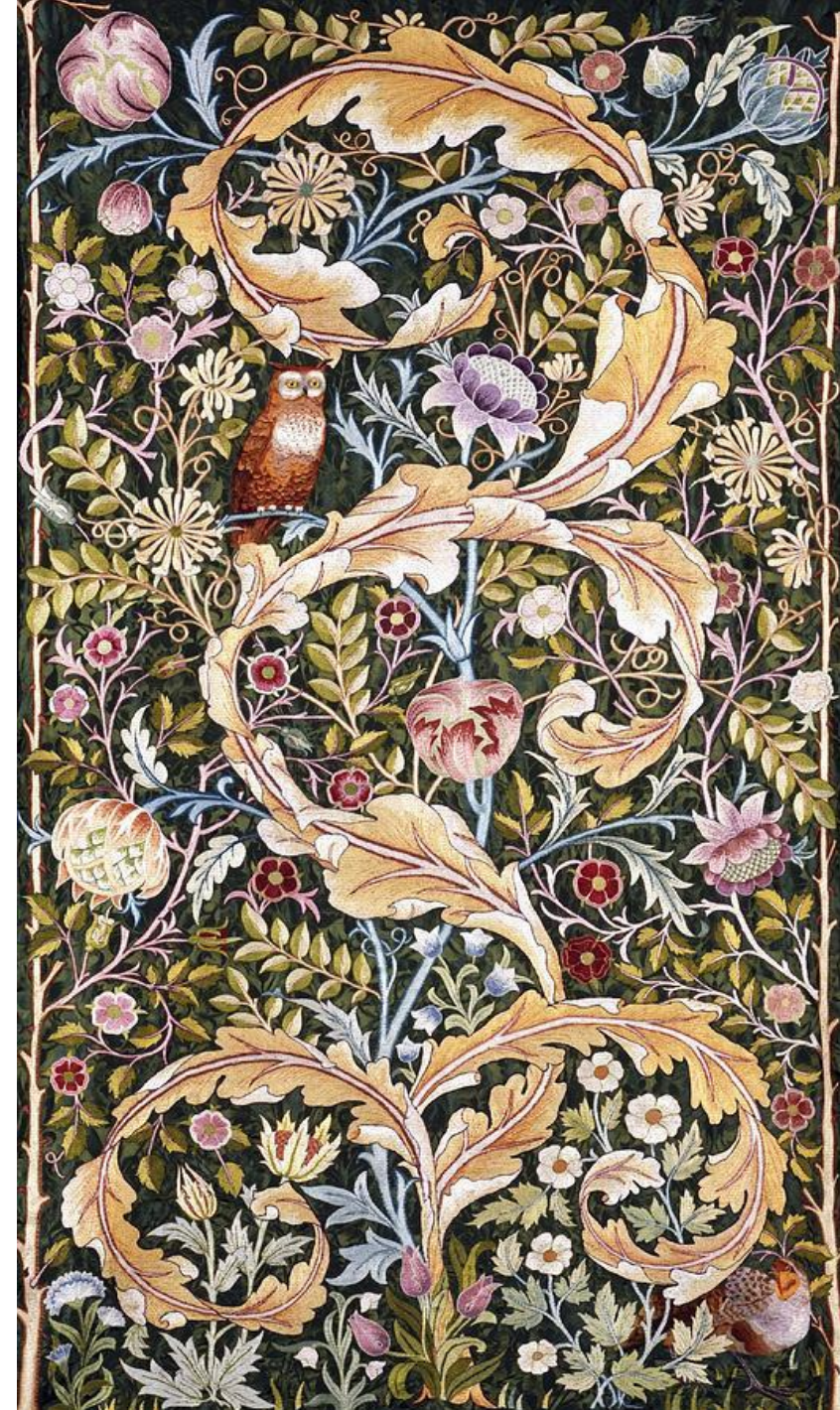
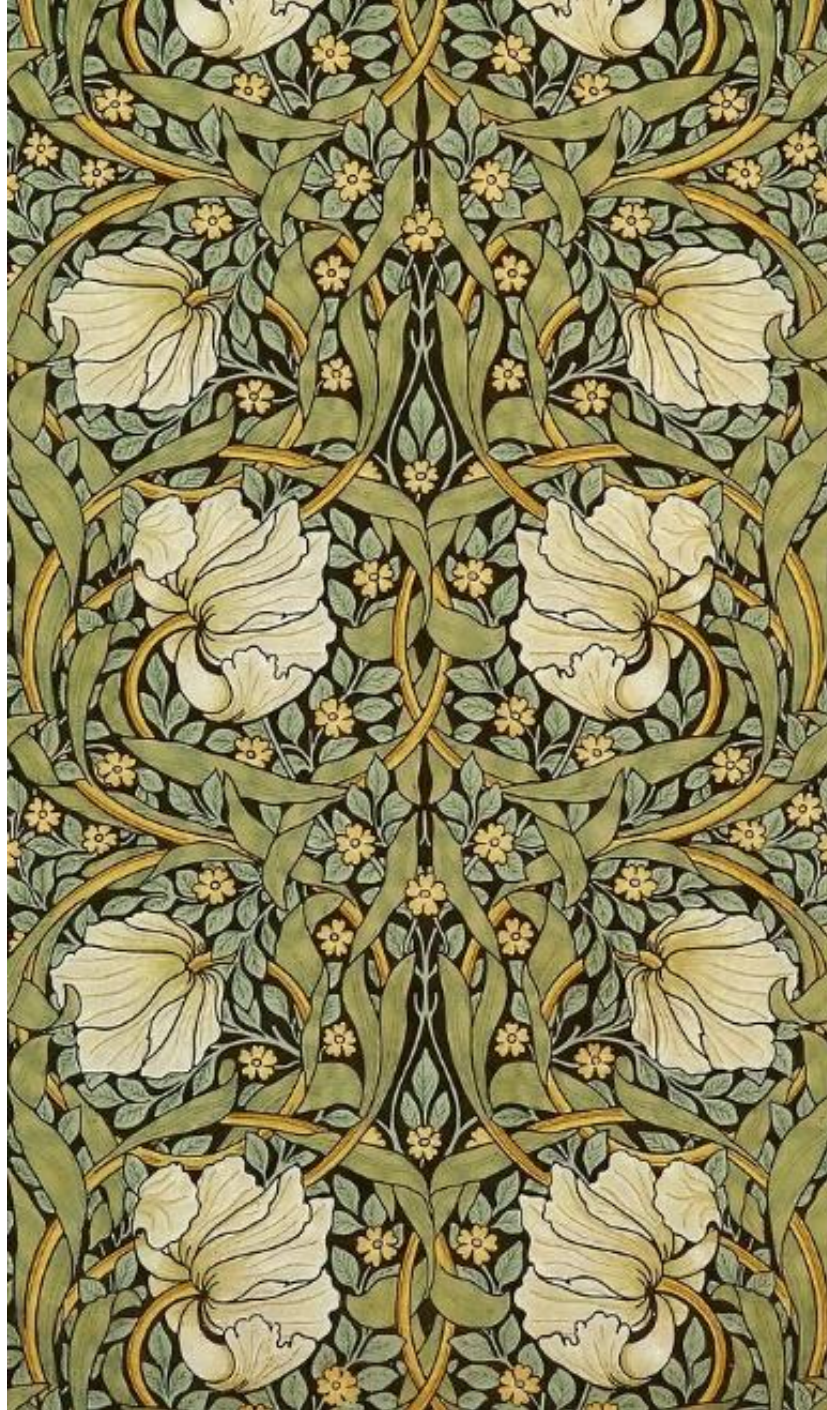
## William Morris

William Morris was a British textile designer, poet, artist, novelist, translator and socialist activist . William was the central figure in the Arts and Crafts Movement. In 1861 he founded his first company which produced a wide range of decorative objects for the home including furniture, fabrics and wallpaper

His Beliefs:

- He believes that nature was perfect example of God's Creation.
- Inspired by John Ruskin

Textures by William Morris





William Morris became one of the most prominent practitioners of the Arts and Crafts Movement.

He has a strong reaction towards industrialization. **He considered anything that was mass produced to be without character.** Free of Neo-Classical Style

-Romantic idealization of the craftsman; taking pride in his personal handiwork.

-It came against machine-made production (which was partly a result of the industrial revolution), against mass production and standardization

### **What to look for in an Arts and Crafts building**

- Clarity of form and structure
- Variety of materials
- Asymmetry
- Traditional construction
- Craftsmanship
- Arts and Crafts objects were simple in form
- superfluous decoration
- They followed the idea of "truth to material"
- Ruskin thought that the machine was the root of social ills



Study of Spray of Dead Oak Leaves – Ruskin .

## Arts and Crafts Movement

### REJECTED

- The excessive ornamentation during the Victorian Age
- The cold Impersonal aesthetics brought on by the Industrial Revolution

### ACCEPTED

- A closer relationship between the designer and the object
- Integration of art into life
- Objects and Furniture that were smaller and less ornamented and more handcrafted

## William Morris and the Red House by Phillip Web

William Morris House – the red house -1859

Designed by Philip Speakman Webb who was an English architect sometimes **called the Father of Arts and Crafts Architecture**. The aesthetic styling of the house is a clear indicator of its designers' fixation on the medieval ideal: its steeply-pitched roofs, prominent chimneys, and cross gables mark the building as an example of simplified Gothic design.

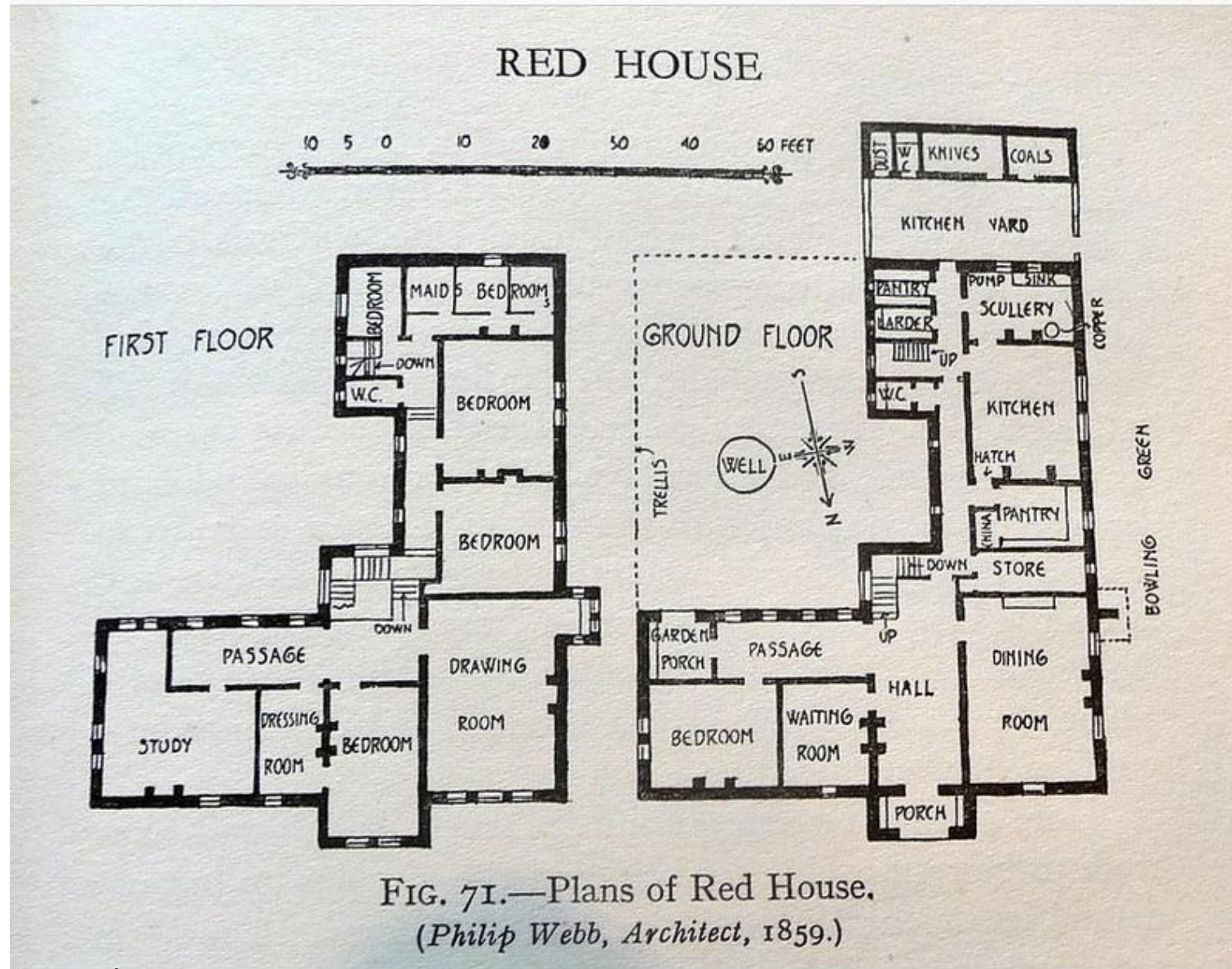
The Gothic style was a favorite of Arts and Crafts practitioners; to them, it hearkened back to an age of greater craftsmanship and human dignity. Having originated in Western Europe, it was also seen as more appropriate for an English site than the Greco-Roman influences of Classicist architecture.



The L-shape of the house's footprint allows it to partially wrap around a garden, simultaneously creating an asymmetry typical of medieval structures built and renovated incrementally over time.



- clay tiling
  - brick arches
  - circular openings
- all are means of articulating a form of vernacular expression.



While the architecture of the house was Webb's domain, the creation of its furnishings fell to Morris, his wife Jane, and painter Edward Burne-Jones. Their collaborative works throughout the house were as much a celebration of medieval craftsmanship as the building which contained them: everything from the wallpapers to the built-in furniture bore their creative touch.



## The Green Dining Room

This Green Dining Room (also known as the Morris Room) is one of three refreshment rooms created for the South Kensington Museum during the 1860s.

The individuals chiefly involved in this project were Morris, Philip Webb, and Edward Burne-Jones. Each worked on the sections of the room that best suited their skills. **The Green Dining Room thus embodies the spirit of collaborative work among artists and architects.**

Arts and Crafts: Design in a Nutshell

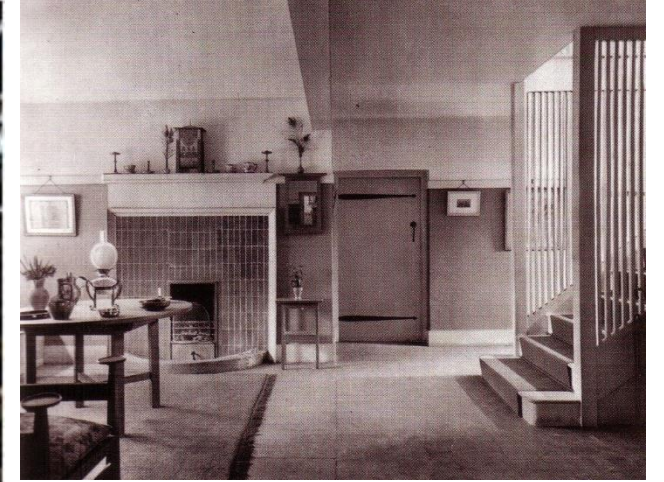
<https://www.youtube.com/watch?v=CBq73yxha0o>



Charles Francis Annesley Voysey is widely regarded as one of the finest architects of the Arts & Crafts movement.



**The Orchard, Chorleywood**



This is the house that Voysey built for himself .He furnished it extensively with his own designs

## Art Nouveaux 1880 -1910's

Is an ornamental style of art that flourished between about 1890 and 1910 throughout Europe and the United States. Art Nouveau is characterized by its use of a long, sinuous, organic line and was employed most often in architecture, interior design, jewelry and glass design, posters, and illustration.

- It was the first systematic attempt to replace classical systems of architecture and the decorative arts from the 17<sup>th</sup> century and teachings of the Beaux-Arts academy
- it abandoned the post-renaissance convention of realism
- inspired by Japanese arts, middle ages and rococo
- Inspired by its antecedent the Arts and Crafts movement
- Reform of the industrial arts



Antoni Gaudi, The front side of Casa Batllo seen from public street,



# Art Nouveaux

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graph TD; A[Art Nouveaux] --> B[Inspirations]; B --> C[Arts and Crafts Movement]; B --> D[Japanese Art]; C --> E["Led by William Morris<br/>Reaction against the designs and compositions of the Victorian Age<br/>Handcraftsmanship"]; D --> F["The flat perspective and strong colors of Japanese wood<br/>Olive, green, pink and blue"]
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## Inspirations

### Arts and Crafts Movement

Led by William Morris  
Reaction against the designs and compositions of the Victorian Age  
Handcraftsmanship

### Japanese Art

The flat perspective and strong colors of Japanese wood  
Olive, green, pink and blue

## Characteristics:

- Asymmetrical shapes
- spatial organization of its parts according to function rather than the rules of symmetry and proportion
- Extensive use of arches and curved forms
- Mosaics
- Stained glass

**In the philosophy of the movement, art should be a way of life.**

**Artists/Architects desired to break all connections to classical times .**

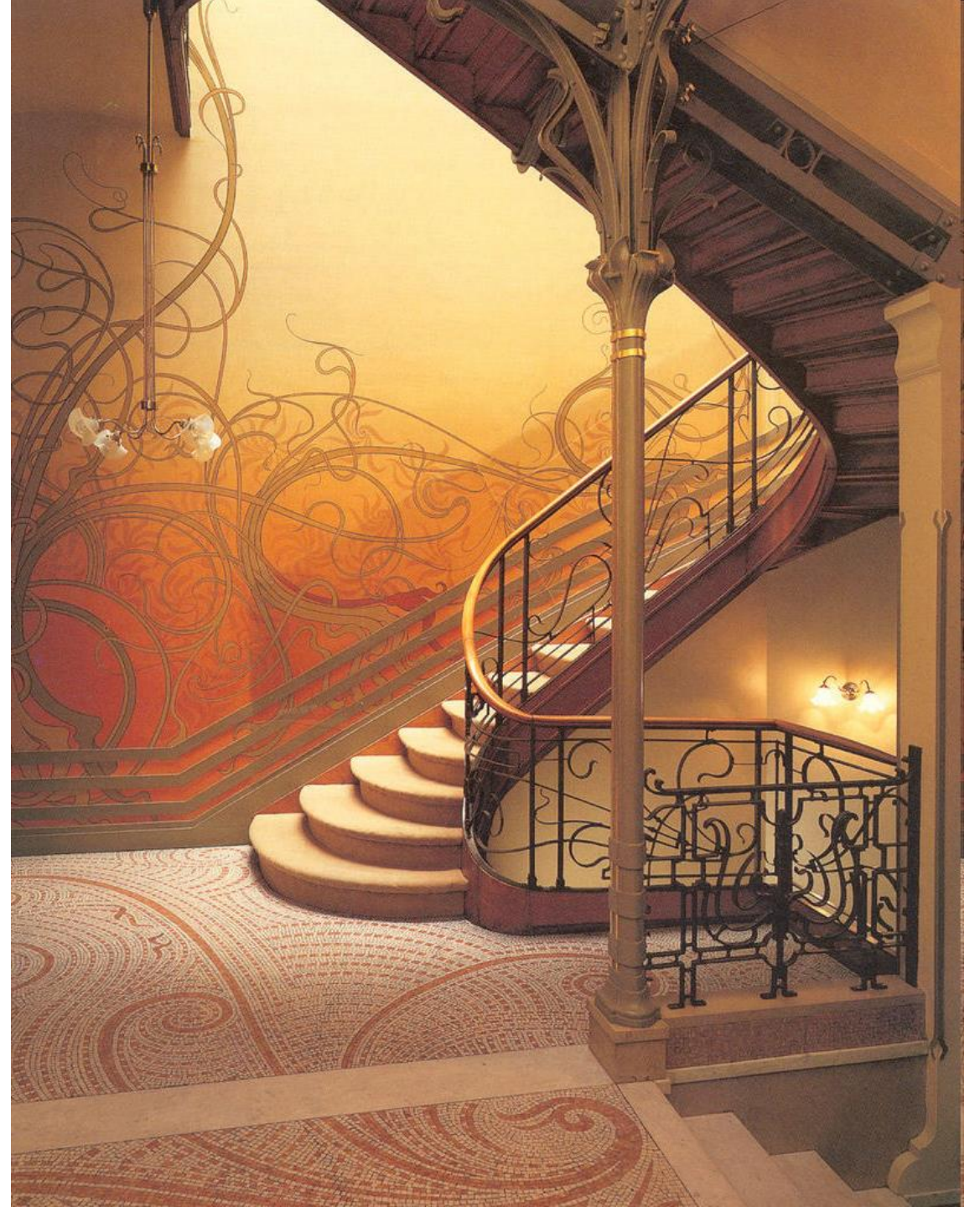
Art Nouveau was underlined by a particular way of thinking about modern society and new production methods, attempting to redefine the meaning and nature of the work of art.



First appearance in architecture – tassel house by Victor Horta in 1892-93

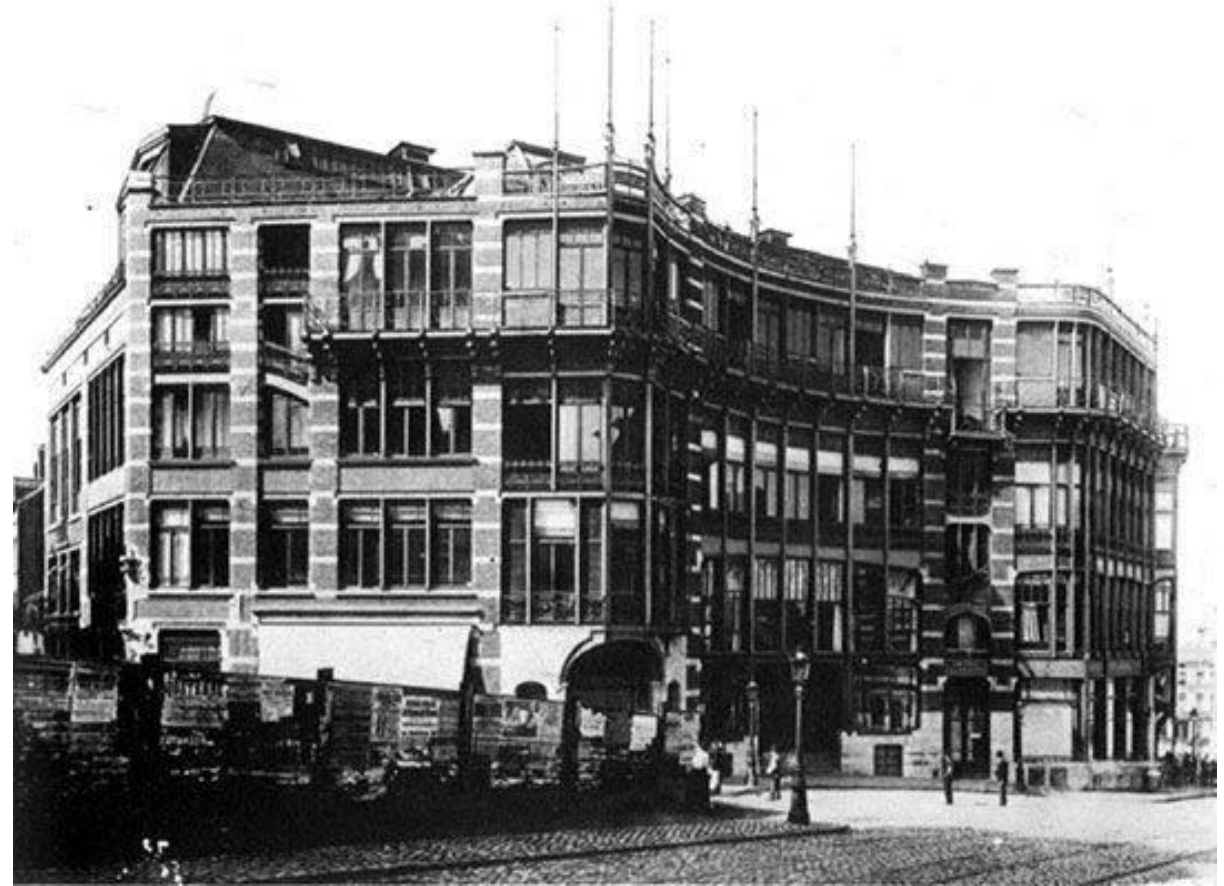


The central sections of these houses contained top lit staircases which became the visual and social hub of the house.

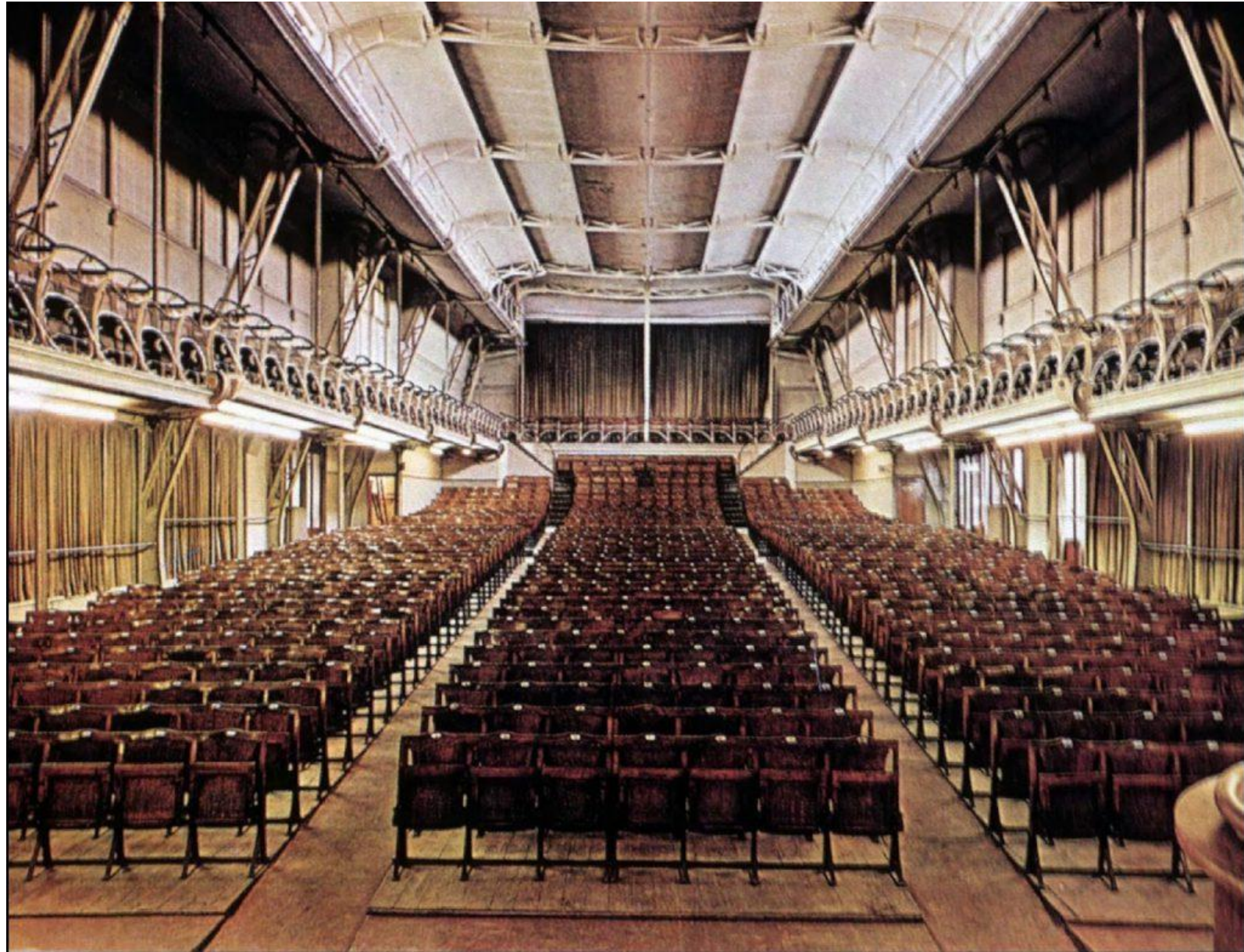


"The House of the People" one of the largest works of Victor Horta, festively opened on 2 April 1899. The *Maison du Peuple* both literally the "House of the People", was a public building in Brussels (Belgium). It was one of the most influential Art Nouveau buildings in Belgium and one of the most notable designs by Belgian architect Victor Horta.

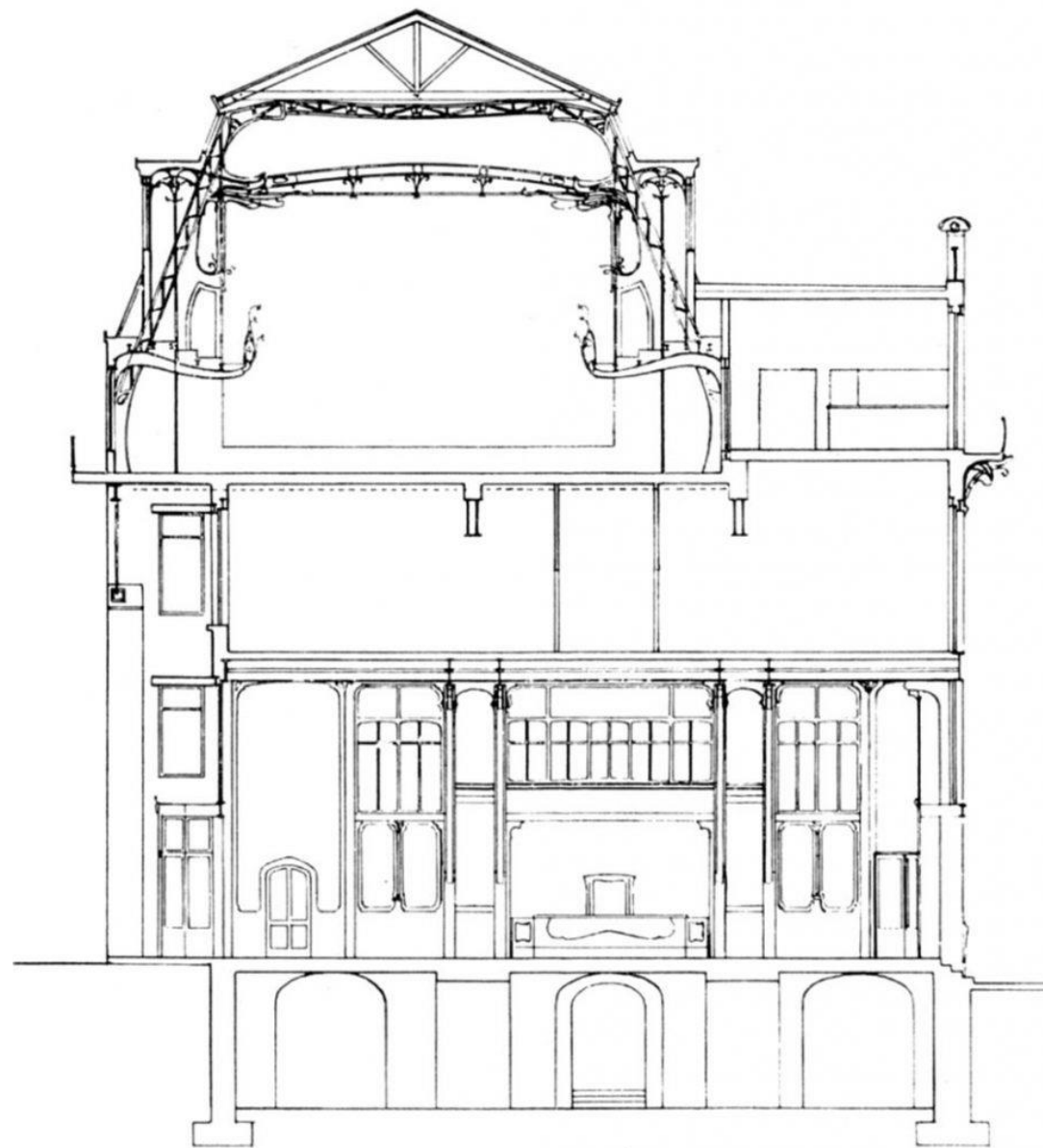
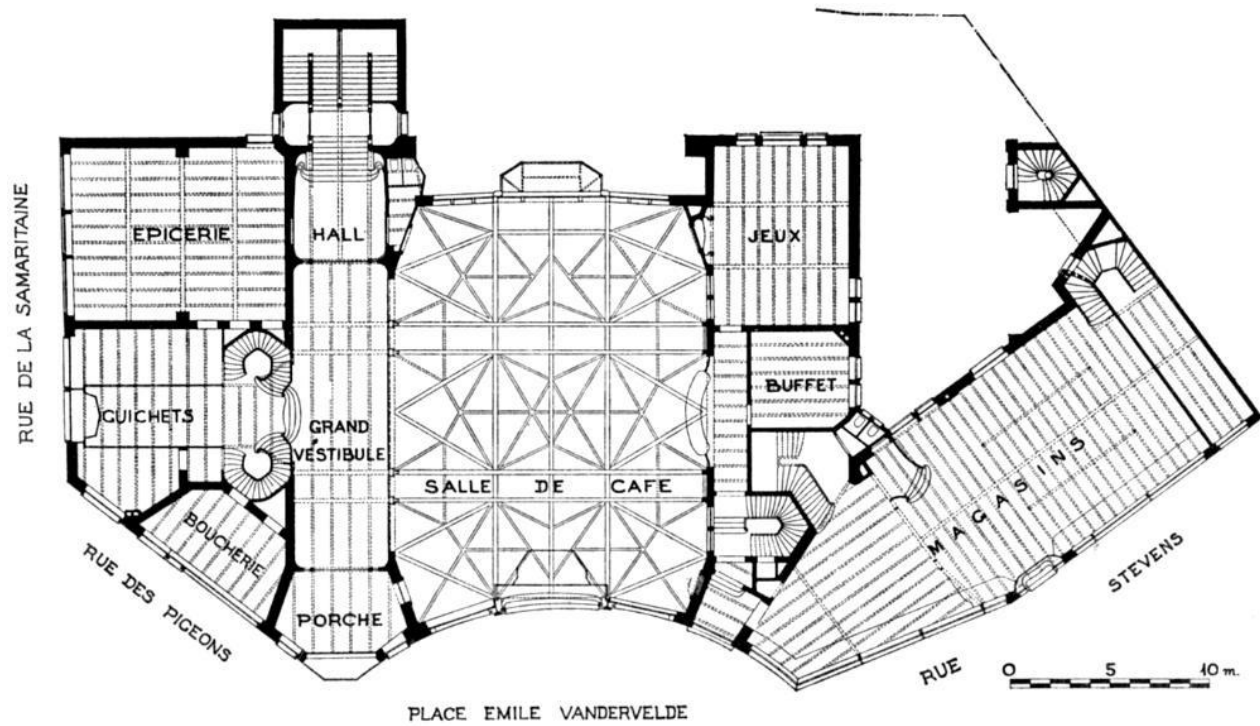
Aesthetically, it was a paean to industrial methods of construction: **its iron frame was clearly visible everywhere on the interior and exterior**, punctuated by rivets, with an interlaced network of iron beams forming the decoration on its ceilings.



The House of the People



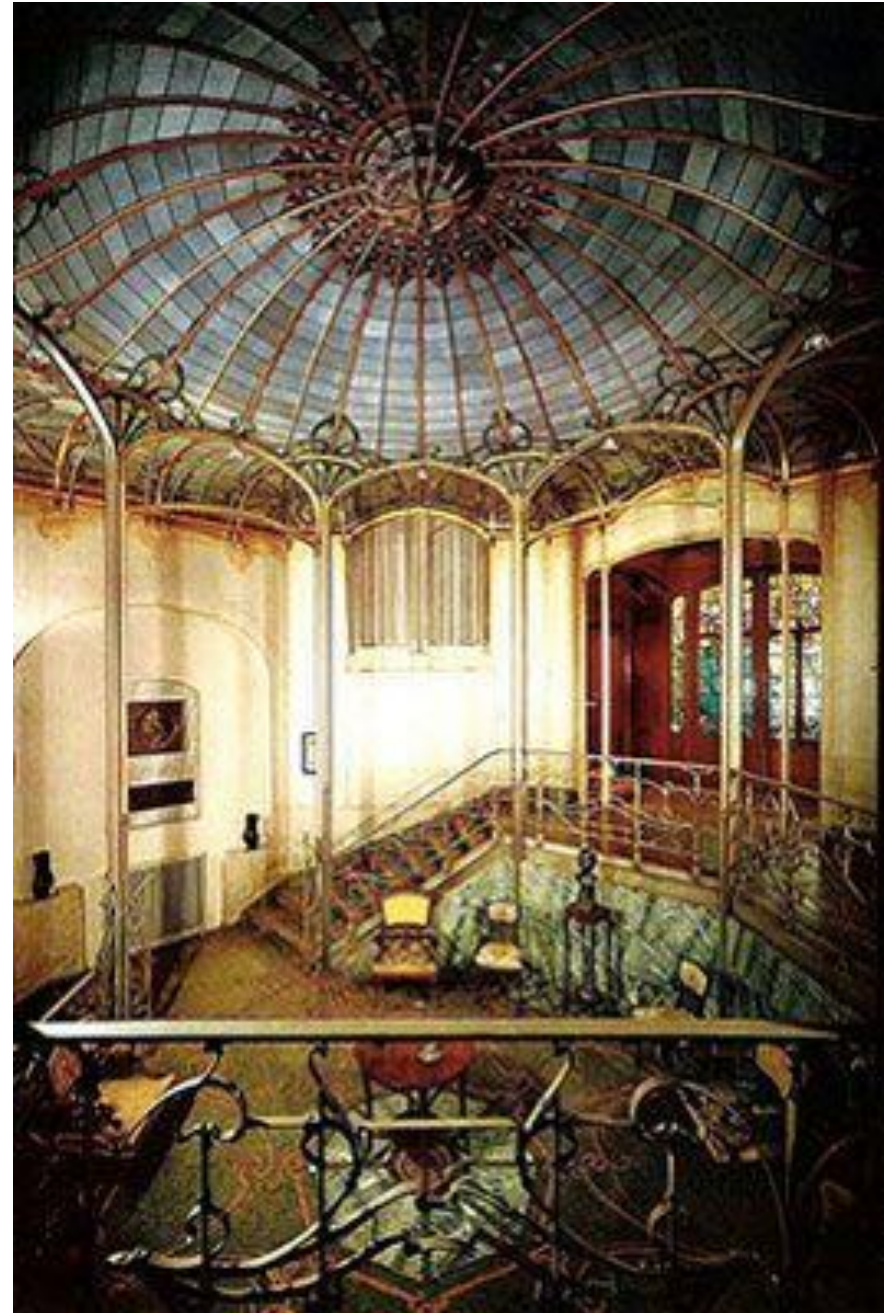
The House of the People Interior



The House of the People Architectural Plan and Section

## Hôtel Van Eetvelde, Brussels

Similar to the Tassel House, the significance of the building lies in its octagonal stair-hall at the center of the initial structure.





Hector Guimard

1900 – Paris, France

1900- the opening of the Paris subway system (metro)  
Cast and Wrought iron



Gaudí's work is the most inventive, daring, and flamboyant of Catalan *Modernisme* (the Catalan strand of Art Nouveau) designers.

**Gaudi was highly influenced by the Gothic architecture and Viollet Le duc's thought, and the fact that the imagination of the architect should be free of all stylistic conventions.**

His work is often characterized by forms suggestive of animals, vegetal and geological formations.

Construction of Sagrada Família began in 1882, more than a century ago. The temple is still under construction, with completion expected in 2026.

Architect [Antoni Gaudi](#) worked on the project until his death in 1926, in full anticipation he would not live to see it finished.



Once completed, La [Sagrada Familia](#) will feature eighteen towers composed to present a unique view of the temple from any single vantage point.







Casa Mila  
1905 -1910



Gaudi suggested that there is no straight line in nature.