Chapter 5: BAUHAUS (German verb for "build") Architecture House

5.1 HISTORY

Staatliches Bauhaus, an art and architecture school in Germany (1919 - 1933)

The **Approach to design** that it developed and taught became one of the most influential currents in **Modernist** architecture. Bauhaus in Germany can be taken as one of the foremost and influencing architectural movement that successfully catered the modern requirements.

Bauhaus was conceived and implemented to come out of the traditional norms of architecture to fit into the modern civilization defined by the machines. It was in the search to fit into the modern life including industry, economy and politics into the ideals formed during the middle ages by John Ruskin and William Morris.

The school was founded by **Walter Gropius** in which he merged **Weimar School of Arts and Crafts** and the **Weimar Academy of Fine Arts**, with the intention of creating a combined architecture school, crafts school and academy of arts. The Bauhaus Art school existed in three different cities; **Weimar** from 1919 to 1925, **Dessau** from 1925 to 1932, **Berlin** from 1932 to 1933 under three different Architect-Directors; German architect **Walter Gropius** (1919 -1928), **Hannes Meyer** (1928 -1930), German architect **Ludwig Mies van der Rohe** (1930 -1933)

The changes of venue and leadership meant a constant shift in focus, technique, instructors and politics. Most of the contents of the workshops had been sold off during World War I. Its manifesto proclaimed that the "**ultimate aim of all creative activity was building**". And it offered classes in architecture only in the year1927. The most profitable tangible product of the Bauhaus was its **wallpapers.**

5.2 BAUHAUS AND GERMAN MODERNISM

Bauhaus style stated as an International Style, was marked by the absence of ornamentation and by harmony between the function of an object or a building and its design.

- Design Innovations associated with the Gropius-

The radically simplified forms, the rationality and functionality, and the idea that mass-production relate with the artistic spirit.

- **Peter Behrens** pioneering industrial design work for the German electrical company AEG successfully integrated art and mass production on a large scale. In 1907, AEG (*AllgemeineElektrizitäts-essellschaft*) retained Behrens as artistic consultant. He designed the entire corporate identity (logotype, product design, publicity, etc.) and for that he is considered the first industrial designer in history. Peter Behrens was never an employee for AEG, but worked in the capacity of artistic consultant. In 1910, Behrens designed the **AEG Turbine Factory.**

Some details of the building:

-Steel frame exposed

-Large window spans; slightly projected "non-load bearing"

-Neo-classical proportions but no details

-Polygonal profile of roof truss

AEG Turbine Factory[1]

- Change from Expressionism to New Objectivity-

Bruno Taut, Hans Poelgiz, Erich Mendelson, Martin Wagner- designed socially progressive housing units built in Weimar Germany

5.3 PRINCIPLES

The Bauhaus was founded in a time of eclecticism in architectural and other design. The modern movement, then in its infancy, was deeply affected by this new school that revolutionized the principles of design and their teaching. The most important principles were:

- The machine and industrial production are the new media of design and designers must understand and exploit the media; to accomplish this, designers and others involved must collaborate rather than working only as individuals;
- All elements of design are completely interdependent on one another; education of designers must integrate practical training in workshops actually engaged in production with sound training in the theoretical aspects of design.

As Gropius said, "The object of the Bauhaus was not to propagate any ' style', system of dogma but simply to exert a revitalizing influence on design."

5.4 CHARACTERISTICS

Main objectives were to **unify art, craft, and technology**. Machine was considered a positive element, and therefore industrial and **product design** were important components. **Basic Design** course (**Vorkurs-** initial) was taught; which in the modern days has become the foundational courses offered in architectural schools across the globe. There was **no teaching of history** in the school because **everything was designed and created according to first principles** rather than by following precedent.

[1] https://upload.wikimedia.org/wikipedia/commons/thumb/c/cd/Berlin_AEG_Turbinenfabrik.jpg/220px-Berlin_AEG_Turbinenfabrik.jpg

One of the most important contributions of the Bauhaus is in the field of **furniture design**. Two of the world famous examples are: ubiquitous **Cantilever chair** by Dutch designer **Mart Stam**, using the tensile properties of steel, and the **Wassily Chair** designed by **Marcel Breuer**.

The physical plant at Dessau survived the War operated as a design school with some architectural facilities by the Communist **German Democratic Republic**, including the live stage productions in the theater, **Bauhausbühne** ("Bauhaus Stage"). Which was reorganized continued after German reunification.

5.5 New Direction

Bauhaus, initially, was the result of the efforts of a single person, Gropius Walter, who grasped the opportunity to fulfill his ambition of attaining the social goals he had long awaited to express. The opportunity was realized when he was appointed as director of not only the school of design but also the school of applied arts. With the unification of these two schools in **1919** Gropius installed the phase of integration of architecture, science and technology, the intention being to absorb the spirit of engineering into art and spirit of art into industrial design and architecture.

Walter Gropius (1883-1969) came from the school of industrial art 'Grossherzoglich-Sächsische Kunstbewerbe' founded by Henry van de Velden in 1906. The influence of artists on the German industrial produce had remained rather modest and the forces had to be united.

At the beginning of October 1907 a hundred architects, designers, factory owners, and friends of art met in Munich. They together founded the 'Deutscher Werkbund'. Its aim was to improve the form and quality of utility wares.

Werkbund had partly got its influences from the English movement of Arts and Crafts. It was, however, more open to machine production; but at the same time it had almost a missionary character. The openness to the industrialized society still was one of the mainstays of Werkbund's success. Nevertheless, there was no real break-through before World War I. Behrens' work for AEG was the first large-scale demonstration of the viability and vitality of the Werkbund's initiatives and objectives.

5.6 The Influence of the War

After World War I industrial art was not any longer an individualistic phenomenon. Goals for the activities were set collectively inside industrial art and at the same time there was an endeavor to give new arguments for the necessity of a change. Naturally, the opposing forces had also been strengthened by the upheavals caused by the First World War. The move from abundance to poverty - especially in the subdued Germany struggling with great economical problems - created a new kind of consciousness. To begin with it appeared in the late expressionistic emotional manifestations and before long also in a formal asceticism. Bauhaus was a reaction to these social changes. Social starting points and new aesthetic goals were not easy to combine with the new human being. The result was sometimes a puritanism that emphasized squareness.

On the other hand smooth, tensely stretched or softly flowing forms could be combined with brilliant, pure colors. After the mid 1920s a certain hygienic freshness also filled the furnished rooms, and all kinds of abundance had to step aside. No wonder, then, that the shining tubular steel was invented as furniture material.

IMPACT OF WAR AMONG ARCHITECTS

It had major impact on art and architecture trends in **Western Europe**, the **United States** and **Israel** in the decades following its demise, as many of the artists involved fled or were exiled by the **Nazi regime**.

Gropius, Breuer, and **Moholy-Nagy** re-assembled in **England** during the mid 1930s to live and work in the **Isokon project** before the war.

In late 1930s **Mies van der Rohe** re-settled in **Chicago** and became one of the pre-eminent architects in the world

Moholy-Nagy also went to **Chicago** and founded the **New Bauhaus** school under the sponsorship of industrialist and philanthropist **Walter Paepcke**. **Herbert Bayer**, also sponsored by Paepcke, moved to **Aspen, Colorado** in support of Paepcke's Aspen projects.

Gropius and Breuer both went to teach at the **Harvard Graduate School of Design** and worked together before their professional split in 1941. The Harvard School was enormously influential in the late 1940s and early 1950s, producing such students as **Philip Johnson, I.M. Pei, Lawrence Halprin** and **Paul Rudolph**, among many others.

5.7 Starting Goals

The Bauhaus style of architecture would proceed from certain assumptions:

(1) The new architecture was to be created for the workers,
(2) The new architecture was to reject all things bourgeois; and
(3) The new architecture would return to the original Classical principles of Western architecture.

On the basis of the experiences gained at the Weimar Bauhaus, Gropius summed up his central starting points in 1925:
"Bauhaus wishes to serve the actual development of housing, from simple utensils to the complete dwelling house. Convinced of the fact that a house and the utensils have to be in a sensible relation to each other, Bauhaus tries to find the form of every object in its natural functions and presuppositions by systematically experimenting in theory and practice - in forms, in the technical and economic spheres... a subject is defined according to its being. In order that it - a dish, a chair, a house - could be designed in such a mode that it will function well, you have to study its nature to begin with... the study of this nature results in; when all the modern production means, construction, and material are strictly observed, the result are forms that - differing from the common ones - often feel strange and startling'.[2]

To Gropius changing the form of a product also meant a new definition of the requirements presented to the designer: *'Bauhaus wishes to... educate a new type of worker for industry and*

[2] **(**Bauhaus Manifesto**, 1919)**

handicrafts, so far missing, who simultaneously has the command over techniques as well as form... in the future, handicraft will show in a new function unit as a supporter of industrial experimental production. Speculative experimentation in laboratory workshops create models - types - for the production to realize'.[3]

5.8 The Preliminary Course

In the focus of the basic education that everybody had to attend was the Preliminary Course. It was the Swiss painter Johannes Itten that brought the idea and method of a preliminary course to Bauhaus. Hungarian Laszlo Moholy-Nagy and German Josef Albers developed the preliminary course further. Model drawing was also included in the basic education. The Bauhaus method of preliminary courses was adopted by art and design schools all over the world. Works by old masters were analyzed. Their structure, composition, colour, and use of light became objects of study.

5.9 Own Responsibility

The Preliminary Course aimed at removing the limitations of professionalism. Having passed the Preliminary Course the students were ready to choose the main lines of their studies. They could choose the workshops they wanted. The Bauhaus system allowed for a work practice built on varied social, technical, and methodical basic knowledge.

This new pedagogic approach did, of course, motivate both in vocational subjects and practical workshop work. The Bauhaus workshops were the birthplaces of new industrial designs. The institute included workshops for making models of type houses and all kinds of utensils, and departments of e.g. advertising art, stage planning, photography, and typography. The neoplastic and constructive movements of art did to a great extent steer the form lines of Bauhaus. Teachers were such masters of modern art as Kandinsky and Klee. The Bauhaus idealogy was spread by periodicals and a notable book series called Bauhausbücher.

Many of them were adopted by the factories for production, and they were also eagerly copied. Likewise photography was taken more seriously into the curriculum at the end of the 1920s. Oskar Schlemmer led the work of the exhibition department. He trained painters, technicians, actors, dancers, and directors. One of the main goals of Bauhaus was to renew architecture. The leaders of Bauhaus, Walter Gropius, Hannes Meyer, Ludwig Mies van der Rohe, were architects.

The Bauhaus Master Josef Albers taught in the Preliminary Courses 1923-1933. Before this he had been a pupil of Itten. To begin with the lead the work instruction, the special aim of which was to instruct in the use of tools. From 1928 onwards the responsibility of the complete two-term course was Albers's. Kandinsky's part of the preliminary education was a seminar on analytic drawing and colour. Kandinsky was one of the central personalities of Bauhaus.

The Bauhaus, dedicated to utopian collectivism, chose Expressionism as its form of communism, not Marxism, and the idea of art as a quasi-religion was dominant. In addition to the Bauhaus, other architectural schools or compounds (Futurist, Wendingen, de Stijl, Constructivist, Elementarist) competed with one another for the purest vision. Buildings soon became theories constructed in the form of concrete, steel, wood, stucco, and glass. A

[3] Ibid

building must have a flat roof and a sheer façade, with neither cornices nor eaves. As color was considered bourgeois, buildings were white, gray, beige, or black.

Expressionism and functionalism

Peter Berhens, who was considered as the pioneer of expressionism obviously had had some strong influence about his concept on his fellow architects like Walter Gropius, Mies Van der Rohe, Max Berge etc. the extensive use of glass and metals in the buildings, structural components being exposes to the exterior by using glass as curtain walls, non-traditional form of building defined for certain function in the works of Walter Gropius suggest expressionism is the express one's own will or to express one's emotions against any features.

Consequently the demand of Industrial architecture compelled designer to go for the form which would serve functionally more than aesthetically. This fact was implemented in the built form by giving maximum perimeter in the building (going for rectangular forms).

5.10 PROJECTS:

Adolf Sommerfeld House,Dahlem, Berlin (1921)

This project is one of the better known projects of Gropius with Adolf Meyer. The timber house built for Lumber Merchant and builder is sometimes being criticized as being outside of Gropius' own principles. The design is more easily understood when it is known that the teak timber of which the house was built was salvaged from the dismantled German warship the assembled in a simple method of construction. The building provided the first opportunity for Bauhaus students to become involved in the designing for a real building and they produced the interiors, fittings and furniture

Fagus Factory, Alfeld on the Leine, Germany(1911-1913)

The **Fagus Factory** (German: Fagus Fabrik or Fagus Werk) is a shoe last factory in Alfeld on the Leine in Germany, an important example of early modern architecture. The factory was designed by the architect Eduard Werner, with facades designed by Walter Gropius and Adolf Meyer.

. Fagus Factory[4]

[4]https://upload.wikimedia.org/wikipedia/commons/thumb/b/b3/Fagus_Gropius_Hauptgebaeude_200705_wiki_front.jpg/260px-Fagus_Gropius_Hauptgebaeude_200705_wiki_front.jpg

It was constructed between 1911 and 1913, with additions and interiors completed in 1925. It has strips of steel frame windows and flat roof. Its front facade is windowless and has limestone cladded and has double pitched sky lit roof in side hall.

For the first time a complete facade is conceived in glass flat roof with the same feeling for the pure cube. Another exceedingly important quality of Gropius's building is that, the large expanses of clear glass minimize the usual hard separation of exterior and interior.

Building at Dessau, (1926)

Buiding at Dessau was the only building which was completely designed by Gropius himself. It consists of three connected wings for school, workshop, and student dormitories, each of which is a separate entity, but is also connected through wings or bridges. School and workshop are connected through a two story bridge, which spans the approach road from Dessau. The administration was located on the lower level of the bridge, and on the upper level was the private office of the two architects, Walter Gropius and Adolf Meyer, which could be compared to the ship captain's "command bridge" due to its location. The dormitories and the school building are connected through a wing where the assembly hall and the dining room are located, with a stage between.

The basic structure of the Bauhaus consists of a clear and carefully throughout system of connecting wings, which correspond to the internal operating system of the school. The technical construction of the building is demonstrated by the latest technological development of the time: a skeleton of reinforced concrete with brickwork, mushroom shaped ceilings on the lower level, and roofs covered with asphalt tile that can be walked upon.

The continuous glass curtain is brought into abrupt juxtaposition with the horizontal ribbons of white curtain wall at the top and bottom of the building. The glass curtain is simply folded about the corners of the building: in other words, the glass walls blend into each other at just the point where the human eye expects to encounter guaranteed support for the load of the building.

Bauhaus[5]

Two major endeavours of modern architecture are fulfilled here;

- The hovering, vertical grouping of planes which satisfies feeling for a relational space
- The extensive transparency that permits interior and exterior to be seen simultaneously

In relation to the spatial quality, the Bauhaus complex is an arrangement of cubes, one juxtaposed against another- cubes differing in size, material, and location. The aim is not to anchor them to the ground but to have them float or hover upon the site. This is the reason for the wing like connecting bridges and the liberal use of glass. The cubes are juxtaposed and interrelated. They interpenetrate each other so subtly and intimately that the boundaries of the various volumes cannot be sharply picked out. The views eye cannot sum up this complex at one view; it is necessary to go around it on all sides, to see it from above as well as from below.

Apartment at Bauhaus[6]

By 1924 mass housing was the great social issue of Weimar Germany; by 1932 no other country had built more housing for its workers. Most of the buildings for workers were built with tax money. As most of the architects adhered to the principles of the Bauhaus, the result was a classical form of rational social housing with open floor plans, white walls, no drapes, and functional furniture.

[5] https://upload.wikimedia.org/wikipedia/commons/thumb/6/67/6265_Dessau.JPG/250px-6265_Dessau.JPG

[6] https://upload.wikimedia.org/wikipedia/commons/thumb/3/36/Bauhaus-Dessau_Wohnheim_Balkone.jpg/189px-Bauhaus-Dessau_Wohnheim_Balkone.jpg

Student work amounted mainly to unbuilt projects, interior finishes, and craft work like cabinets, chairs and pottery.

5.10 WORK OF HANNES MEYER

During Swiss Communist architect **Hannes Meyer,** the architectural focus shifted away from aesthetics and towards **functionality**. Major commissions: one by the city of Dessau for five tightly designed **apartment buildings** with balcony access "Laubenganghäuser", which are still in use today, and another for the **headquarters** of the **Federal School of the German Trade Unions** (ADGB) in Bernau bei Berlin. Meyer's approach was to "**research users' needs and scientifically develop the design solution"**.

Lubenganghäuser[7]

Mies van der Rohe repudiated Meyer's politics, his supporters and his architectural approach. As opposed to **Gropius' "study of essentials**", and **Meyer's** research into **user requirements**, **Mies** advocated a "**spatial implementation of intellectual decisions**", which effectively meant an adoption of his own aesthetics. Neither Mies nor his Bauhaus students saw any projects built during the 1930s

The Bauhaus contemporaries **Bruno Taut**, **Hans Poelzig** and **Ernst May**, as the city architects of **Berlin**, **Dresden** and **Frankfurt** respectively are rightfully credited with the thousands of socially progressive housing units built in Weimar Germany.

Source:
(Bauhaus Manifesto**, 1919)**

https://en.wikipedia.org/wiki/Bauhaus

https://en.wikipedia.org/wiki/AEG_turbine_factory

https://en.wikipedia.org/wiki/Fagus_Factory

Paper read:
https://www.academia.edu/5058717/Walter_Gropius_The_History_and_Legacy_of_the_Bauhaus

[7]https://upload.wikimedia.org/wikipedia/commons/thumb/2/20/Laubenganghaus1.JPG/220px-Laubenganghaus1.JPG