

## Architecture of Workplaces 1. Lecture 9

### From location to layout

3. Location near to natural resources: water mill was to be settled on river banks as the water was necessary to drive the partly mechanized production process.

5. Factories were settled on river banks as the water was necessary to drive the partly mechanized production process. The invention of the steam engine and then the use of electricity as energy source enabled the location of production sites independent of naturally supplied drive propulsion.

6. Salt mine as natural resource, plant, administration and living in the ensemble  
At the same time in France: the Royal Salt Works the production is mantled with an aesthetics of monumentality. The work is an important example of an early Enlightenment project in which the architect based his design on a philosophy that favored arranging buildings according to a **rational geometry and a hierarchical relation** between the parts of the project.

Ledoux designed the semicircular complex to reflect a hierarchical organization of work. The complete plan included the building of an ideal city forming a perfect circle, like that of the sun. Louis XV had signed the edict authorizing the construction of the salt works on 29 April 1773, and after approval of Ledoux' second design, construction began in 1775. The city was never started, however. All that was completed was the diameter and a semicircle of buildings of the salt works.

7-9. To gain bigger profit – big concentration of production, chaotic layout conditions  
The high concentration of industrial settlements and the immigration of workers have led to enormous urban problems. Industry's increasing demand for workers and the lack of means of transport led to locating production facilities, factories near existing settlements, which developed extremely through the influx of population. This development caused chaotic social and infrastructural conditions.

10-11. Robert Owen (1771-1858) was a Welsh social reformer and one of the founders of **utopian socialism** and the cooperative movement. His proposals for the treatment of poverty were based on these principles. Communities of about twelve hundred people each should be settled on quantities of land from 4 to 6 km<sup>2</sup>, all living in one large building in the form of a square („township”), with public kitchen and mess-rooms. Each family should have its own private apartments and the entire care of the children till the age of three, after which they should be brought up by the community; their parents would have access to them at meals and all other proper times. He pursued to create a life of **complete equality** in regards to wages in which each person in the society (after the age of 15) would receive according to their needs. These communities might be established by individuals, by parishes, by counties, or by the state; in every case there should be effective supervision by duly qualified persons. **Work, and the enjoyment of its results should be in common.** The size of his community was no doubt partly suggested by his village of New Lanark; and he soon proceeded to advocate such a **scheme as the best form for the re-organization of society** in general. Its fully developed form (as it did not change much during Owen's lifetime) was as follows. He considered an association of from 500 to 3000 as the fit number for a good working community. While mainly agricultural, it should possess all the best machinery, should offer every variety of employment, and should, as far as possible, be self-contained. "As these townships" (as he also called them) "should increase in number, **unions of them federatively united shall be formed** in circles of tens, hundreds and thousands", till they should embrace the whole world in a common interest.

12. Idealistic plan of the industrial city  
Garnier (1869-1948) was a noted architect and city planner. He was most active in his hometown of Lyon. He is considered the forerunner of 20th century French architects. In 1901, after extensive study of sociological and architectural problems, he began to formulate an elaborate solution to the perceived issues concerning urban design. His basic idea included the **separation** of spaces **by function through zoning** into several categories: industrial, civic, residential, health related, and entertainment. Garnier published his major treatise "Une cité industrielle" in 1918.

13. Garnier designed a city that was partially adopted in the French city of Lyon. Une Cité Industrielle was designed as an utopian form of living, for 35,000 inhabitants. It was located between a mountain and a river to facilitate access to hydroelectric power. The plan allowed schools and vocational-type schools to be near the industries they were related to, so that people could be more easily educated. There were no churches or law enforcement buildings, in hope that man could rule himself. In the following decades this idea of **functional separation** was taken up by the members of CIAM.

14. The picture of the industrial zone. It was located between a mountain and a river to facilitate access to hydroelectric power.

15-16. The Athens Charter 1933 formulated the requirements for health cities, setting out in **three sections: living, recreation and work**. Acceptable densities, **green belts separating industrial and residential areas**, shielding from emissions. Easy reachable, central administrative functions, authorities and tradesmen's workshops inside residential areas.

17-19. The plan of the ideal industrial zone; production functions set in green

The theme of Le Corbusier's plans was to bring "soleil, espace, verdure" (sun, space, and green) to the city, for example to make the city into a huge "radiant" version of Howard's Garden Cities. His solution is to open up the center of the city, erect a few towering skyscrapers, expand the parks and open spaces between them, and construct high-speed roadways and tramways on two levels radiating from the center. To achieve open space for those who live in apartments, build tall, thin apartment houses. Equip these with elevators. Set buildings on pillars that exposes the ground level.

For the year 1945 is planned to rebuild the city of St-Die, within the plans was to build eight Unité de Habitación, which would not be carried out, after being rejected the plan for the village, the Minister of Reconstruction did not insist on respect for which would take many years almost entirely rebuilt.

Jean Jacques Duval, was a supporter of the plan for reconstruction was affected due to the destruction of its textiles factory by the Germans so they decided to invite his friend Le Corbusier to design and build a new factory in St-Die. The building itself was slow and tedious due to the circumstances facing the country.

For Le Corbusier mean once again put into practice the five points of architecture, so that the plant would reach almost parallel to what would represent Unite d'habitation in Marseilles to be completed a few months after the end of this.

Separation of workers', pedestrian and traffic on different levels

The main concerns that have become targets of Jean Jacques Duval for the factory were three points which agreed with Le Corbusier for the project:

Make this plant the most functional possible

Not to exceed the budget allocated for the reconstruction of war damages

Giving the employee the entire staff better working conditions and aesthetic satisfaction.

When analyzing the works Le Corbusier made, we can discover a host of concepts that unify his work, but here we can discover the **concept of "green factory" (the natural conditions: sun, space and green)** that applied in their ideas of industrial linear city. Manages a clear outline for the proper functioning of **textile production** from the third level to end the activity begins on the first floor where you saved the finished garments.

On the other side Le Corbusier reflects the five points of architecture in this work, however there are three that characterize precisely:

The ratios are made based on Modulor

The section is strongly expressed.

The carpentry, plumbing are intensely colored in accordance with the solid character of concrete.

21. Aluminium- and chemical industry needs a lot of energy, nuclear energy needs a lot of cooling water

24. Concentration of industry is more economical.

26-27. Industrial park around a used-to-be grain silo, different plot sizes for different needs.

28. Homogenous function – mainly logistics

44. The building is composed of 20x20x7m modular units. It continues in a chessboard pattern covering the whole plot. As a backbone an internal street runs parallel with the main facade and connects the five separate production workshops.