

H I L B E R S E I M E R

LUDWIG HILBERSEIMER

RADICAL URBANISM

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The work of the German architect and urban planner, Ludwig K. Hilberseimer (1885-1967), has lately been object of different publications. The research and publications made about his work are quite different among each other. Some authors focus on the 20's and 30's periods, before he went to U.S. at the age of 53. Others concentrate his analysis on the time he was teaching at the IIT in Chicago, especially on Hilberseimer *Decentralized City* proposed for Chicago and Detroit. What is interesting is the fact how the Decentralized City, developed at the IIT School, was a large research process that began before his trip to America in 1938.

Through these pages we trace the line of this research, the forces that shaped it and how strongly this was connected to his most known project, the *High Rise City*, although they had different approaches and context, the High Rise City was developed for an industrial society, and Hilberseimer Decentralized City was developed in a transition from industrial to a post- industrial era, they share similar concepts.

Hilberseimer period in America was the time of the American dream, but also a time for an increasing paranoia result that was the result of the armament run during the cold war. After the great crisis in the U.S. and with the impulse that the Second World War gave to industrial economy, many sectors started to incorporate new production principles. Production processes theorized by Ford, as serial production and decentralization, and Taylor's ideas on control management were topics largely analyzed by Hilberseimer.

In a transition period from serial mass production(1) to an incipient customization, production systems and efficient control in the process influenced Hilberseimer's thoughts about the city and urban structural models.

Hilberseimer's urbanism was radical in the sense that the project followed a straight clear way. It incorporated other fields, such as industrial processes, towards a large-scale plan with the goal to generate organizational models rather than a collage of images.

For Hilberseimer, the aim was not to construct a new city. His aim was to construct architecture for the city he faced. And as Hilberseimer introduced the writers Walt Whitman words in his book *The New City*, let's find where the 'Great City Stands.'

*The place where a great city stands is not the place of stretch'd wharves, docks, manufactures, deposits or produce merely
Nor the place of ceaseless salutes of new comers or the anchors-lifters of the departing,
Nor the place of the tallest and costliest buildings or shops selling goods from the rest of the earth,
Nor the place of the best libraries and schools, nor the place where money is plentiest,
Nor the place of the most numerous population...*

1 The Will of Aesthetics

Art & Aesthetics

The beginning of the twentieth century was a turbulent time. Accepted beliefs about religion, politics, science and technology had undergone attack from likes of Charles Darwin, Friedrich Nietzsche, Karl Marx, Sigmund Freud, and Albert Einstein. Industrialization and growth of capitalism served to highlight the discrepancies between the working and the wealthy class. Europe was becoming divided against itself, resulting in the First World War. Visual artists, architects, poets and typographers all began to turn towards an abstraction that relied less on the forms of the uncertain and changing world, rather on universal values, based on philosophical or mystical doctrines. New modes of communication with words and images emerged. By 1922, when the term 'graphic designer' first appeared in print, design professionals had created a discipline that combined art with public, mass communication. It was the time when many magazines appeared and disappeared. From 1919 to 1925 Hilberseimer was member of different groups such as the *Arbeitsrat für Kunst*(2) and the *November-Gruppe* and an active contributor to different magazines in Berlin and Europe. *Der Einzige*(3), *Das Kunstblatt*, *Faust*, *Kunst und Künstler*, *Sturm*, *Die Kommune*, *Ma* from Hungaria, *Vesc* from Russian(4), *De Stijl* from Holland, and *The G Magazine* were some magazines, in which he wrote a series of articles of art criticism mostly dedicated to Figurative Art. Most of his essays were related to theoretical topics and conceptions on art and culture and under strong influence by Nietzsche's work. His fascination for Nietzsche first works becomes clear through Hilberseimer article *Creation and Development*: "The entire aesthetic tradition was thrown into confusion by it. Instead of putting his attention to the overrated Apollonian aspect of Greek art, Nietzsche concentrated in the Dionysian aspect, till then scorned an underrated... One suddenly understood the fundamental importance of primitiveness as against that reproductiveness that turned into habituation to dominion over materials, killed will-

power and saw good in the development of knowledge and the world of art."(5) For Nietzsche there was no other more obsessive topic than his constant reference to the creative capacity, capacity as an act of will. He defined two powers on art, Apollo and Dionysius. Apollo is the representation of Beauty; Dionysius is the representation of the will, the force behind the creativity process. For Hilberseimer creativity was a matter of decision, a will, and a search for true that had to be analyzed also in opposite ideas. There is no clear information, which were exactly the texts of Nietzsche that Hilberseimer read. But we can assume that this line of thoughts was very much influenced by the chapter of the redemption in *So speak Zarathustra*. Zarathustra said that the will had to be educated "has to want to go back". So to say that the will had to assume also what it did not want in order to find the truth.(6) During his urban and architectural production Hilberseimer thesis were always developed with their parallel contra argument, which then could test the initial thesis. In his article *Creation and Development*, Hilberseimer exalted the figure of Dionysius. He claimed to go back to primitiveness. This seems a contradiction when in 1922 he became very critical to Expressionism and to Capitalism because from his point of view Expressionism took inspiration from Primitive Art that made it subjective to each culture. What is important is that at this time he started to get rid of the subjective knowledge in order to find the truth. The Nietzsche that Hilberseimer referred to is not that one of the Expressionists, the one who is going back to men. His Nietzsche is the hunter of truth. This promise would be present through all his urbanistic works. In 1922 he also criticized Cubism because it was going back to Classicism. Influenced by an exhibition in Berlin about Russian Suprematism and Constructivism he embraced Abstract Art. At that time Hans Richter together with Werner Graeff, El Lissitzky and Mies van der Rohe were the editors of the *G Magazin*. Its sub-heading was *Zeitschrift für elementare Gestaltung* and it survived from 1923 until 1926. The name was a creation by El Lissitzky and the idea derived from Theo Van Doesburg.(7) The idea, as Richter declared, was born "from the

need to say what we could not tolerate"(8), and at the same time from the creation of a forum for ideas that after the Dada period and with Constructivism characterized the cultural representation of the new era. Like many of the artists and architects that explored the *Neue Sachlichkeit* (International) in the 1920s, Hilberseimer was interested in theorizing a modern architectural practice that responded to the development of industrial technologies and the corresponding transformation of the individual in society. He was strongly influenced by Marx in their search for an artistic language free from class specificity, elitism and aesthetics. In 1920 he contributed with his critics in a socialist magazine, the *Sozialistische Monatshefte*. Founded in 1895 this socialist review monthly published was an expression of revisionist tendencies around the figure of Edward Bernstein. At the beginning Hilberseimer's column was dedicated to the figurative arts, regularly reviewing the new exhibitions, avant-garde tendencies and techniques and publications of history and art criticism. Later, in 1921, he became regular reviewer of this publication and wrote about painting, architecture and urban planning. Then Hilberseimer's view of the world opened towards a socialist utopia was spread by the *Sozialistische Monatshefte*. It was in 1925 when the shift to architectural and urban topics was clearly expressed by his total break with texts about art. His attention focused back to architecture. After this change only for one occasion he came back to art critic with the article *Kunstentwicklung und Weltgeschehen*, written on the occasion of the publication of Paul Ligetl's book *Der Weg aus dem Chaos*.(9) He began to Associate with architects similarly influenced by the shift to a radically abstract and technological art and architecture. The slogan of these artists was *Elementary Forming*, as a way to evade styles, imitations and artistic conventions. From this moment he would focus towards a new urbanism and architectural creation.

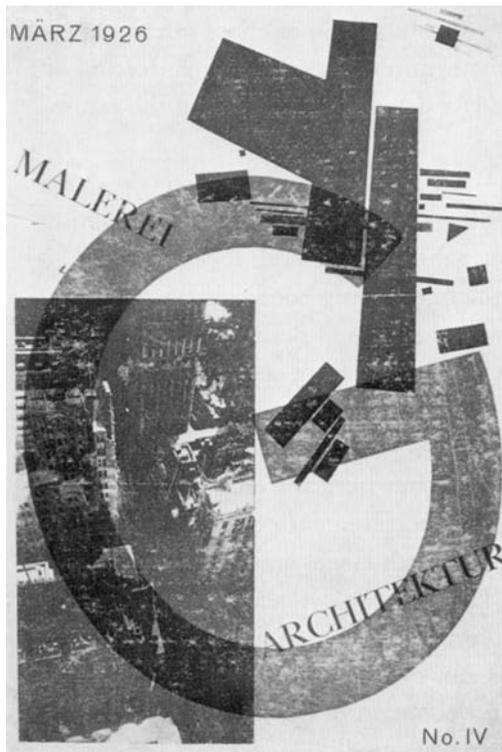


Fig. 1 Cover of The G Magazine (No. IV, March 1926)

The Art of Architecture

"Architecture, as an art, is an organic whole in which nothing is superfluous and arbitrary". These are the words how Hilberseimer started his text, *Art and Architecture*,⁽¹⁰⁾ that reestablished the concept of architecture as an art. With this statement, after having written mostly as an art critic, he put architecture above functional concepts and laws.

From his point of view aesthetic laws, if they existed, could only be discovered through created works that then revealed them. For Hilberseimer's architecture, as an art, was above and before all the theories that created it. Quoting Aristotle he made an emphasis on this point, "Arts come before their theories. No knowledge of theories would help to create a work of Art". But for him there were two things that gave conditions to the architectonic object and later on his work as urban planner become fundamental: *culture and technique*. "Architecture, even in his highest levels, was always determined by the society that made its creation possible and by the material means available."

Hilberseimer consider the architectural language to be complex. In order to make it understandable and usable Hilberseimer decomposed it in two components, in *Forms and Proportions*.

"Proportions are the relations between the parts and their whole, and their whole and its parts, a relation however, in which the whole is more than the sum of the parts". The feeling of proportion should be eternal and immanent in man, and culture and technique would determine its expression. According to Hilberseimer forms could be divided in four groups:

Symbolic The form expresses a significant meaning

Structural The form is a result of an structural system expression

Refinement The form is a result of optical sensitivities

Decorative The formalistic expression without a concept.

He exemplified this division of forms with a Doric Temple. The symbolic form is the temple itself, a representation of the house of God, which is recognized as such. The structural forms are the elements of

construction that architecturally express the structure. The refinement forms are those whose purpose is to satisfy aesthetics needs. Finally the decorative form is an empty play where a symbolic value object is de-contextualized in time and used to create a decoration element for another architectural object.

More than the belief that architecture is made by the rational game of purpose, structure and material, the *irrational and emotional factors* have a great importance, because "they result in a spiritual urge, in a will to form (...) without the rational factors, architecture would be nothing but an empty play with form; without these irrational factors architecture would only be a kind of engineering."

According to Hilberseimer we could interpretate this approach in our time by giving to each his proper place and balance according to requirements and possibilities. "Make structure and form identical and to bring both into harmony with each other is one of the aims of our age". Through the comparison of the house as a shelter for everyday life and the Cathedral as the glorification of God, Hilberseimer made the difference among architectural types evident. The house is the subject for rational requirements, a fulfillment of temporary needs, where "content dominates form". The Cathedral aims at the eternal, is an object of an elevated level, a symbol of a metaphysical conception, its "form dominates content."

Hilberseimer claimed that objects on a low level should be developed with the same care as objects of the higher order. The ordinary house should not be neglected architecturally and has to be perfected as such as possible. But it would never been considered to be an art object, "the object itself does not make art."

So if we follow this logic, where architecture is an art but a house is not an object of art, then the habitation problem is not an architectural object for Hilberseimer.

In the past the importance of the cathedral and the temple was clearly expressed in relation to the city. Hilberseimer claimed that the cathedral dominated the town and hence subordinated the houses to it. The temple became a kind of entrance to a skyscraper that symbolized

security, the Cathedral an ornament to crown the skyscraper, in a kind of domination. Architecture became also a "form decorating" an object under economic pressure of the modern life, "in which money dominates everything and has become a symbol too."

For Hilberseimer the architectural expression of culture and the ethnic division is very well illustrated by the gateways such as the Lion Gate in Mycenae, the Labná in Yucatán and the Dabhoi, India.

Different persons make all the three in different times. They used the same material, stone. Each one has its own form related to his culture with some similarities in the character. Pottery, stone, woodwork and metalwork are man's oldest crafts. For Hilberseimer the hands of the potter represented an effective tool by which he mastered material.

The forms of the object are originated by technique. The weaver and the factors that increased the technical character of weaving also characterized the artistic freedom and directness of the potter. "...the identity of structure and form is so impressive that makes craft into art." According to Hilberseimer technical architecture was mostly characterized by the fortifications of medieval towns. The structural meanings were the architectural meanings, and these technical buildings would be the only ones that could free architecture from "superimposed decorations." The aim of his own age should be "an architecture in which structure and form are identical, where the structure is expressed architecturally, where not the architect but the object finds itself expression." In his book *Großstadt Architektur*, he also put emphasis on the role of construction, "more than a transatlantic or than a decorative scheme one can learn by looking at a train and taking the example from the economic of the space that is there realized. (...) It is the constructive function that has to be perceived as architecture." (11) So for him a work of art was made by means of quality, creative ability, and the spirit in which the materials were used "makes a building into a work of architecture and eventually into a work of art."

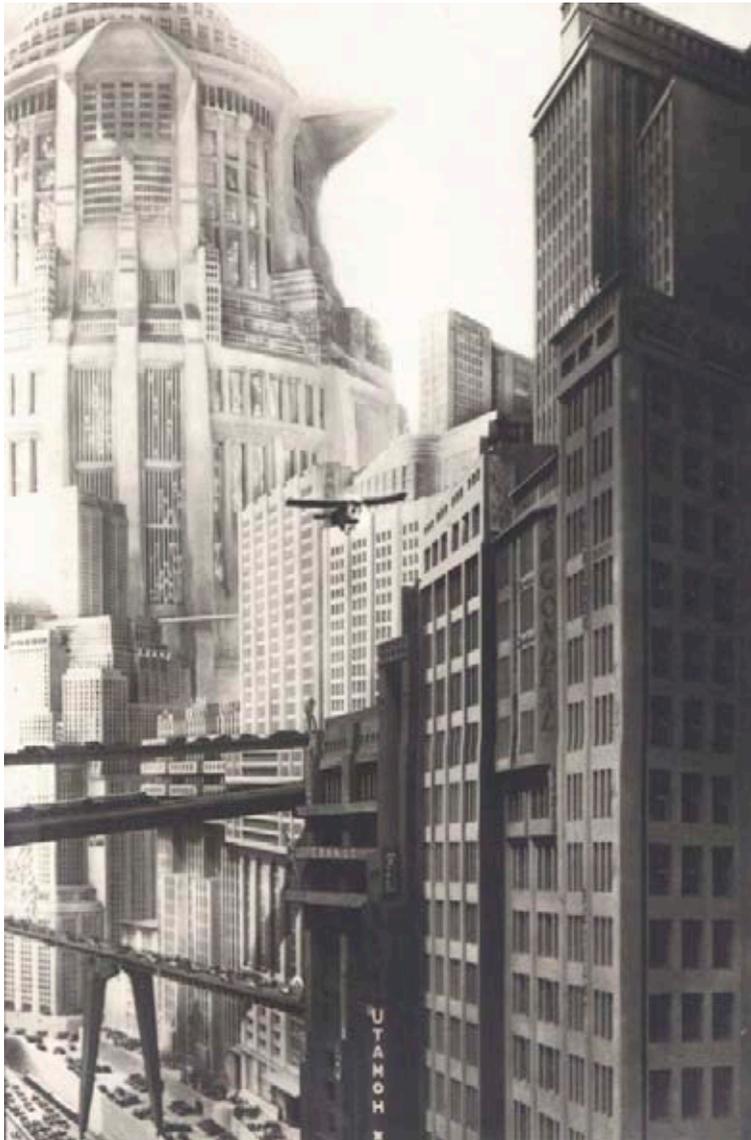


Fig. 2 In the 20's American Skyscrapers views and futuristic collages were largely published in Europe.

Radical Gray - The project of the High Rise City

In 1924 Hilberseimer projected the High-rise City published in 1927 in his book *Großstadt Architektur*. There, Hilberseimer exposed largely his principles on city planning and architecture. We will look at the project, its origins and influences in the industrial production, American high rise cities, and the Satellite City Model, especially the Project for The City of Three Million Inhabitants of Le Corbusier, because from this analysis is possible to trace back different relations between the developments of the high-rise city and the later Decentralized City project in the period of the United States.

During the 20's American influence was quite important in Europe, reinforced by the American entry to the First World War, it was very present in both the cultural and in technological aspects. In 1893 an important event concentrated the view of European architects on America. That was the Chicago world's fair. European architects looked at the United States as an important reference. Europeans studied the projects of garden cities in that country of wide spread industries and the American Park movement at the outset of the twentieth century.(12) There was an important relation of American cities with German planners and also Russian. The 20's were the moment of the machine age; industrial production principals were wide spread around different parts of the world. Taylorist and Fordist organization was common also in architectural thinking in the wake of I World War. Ford's mass production assembly line achieves an important manufacturing principal, "complete interchangeability of parts and simplicity of interlocking." Ford, in contrast to Adam Smith's "invisible hand" theory, pursued a fully vertical production policy: from the mining of raw materials to their processing and transport to the plant, everything was owned by Ford. Taylorism 'System management' aimed primarily to increase output by organizing work more efficiently. Higher productivity that included controlled division of labor tasks would allow for better wages, more

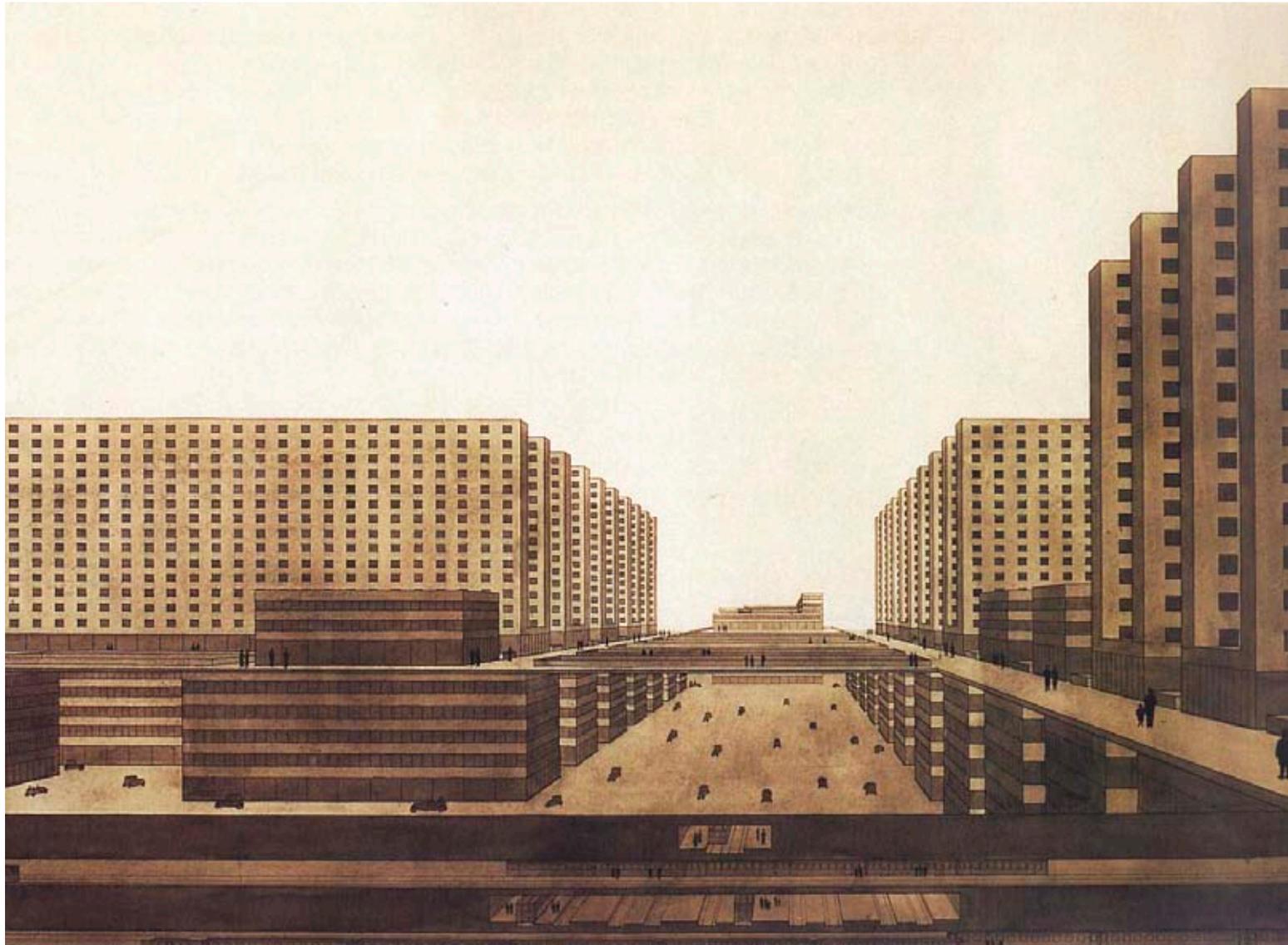


Fig. 3 View of the High Rise City Project (L. Hilberseimer, 1924)

controlled division of labor tasks would allow for better wages, more harmonious labor-management relations, and ideally, lower prices on manufactured goods. These lower prices, in turn, would decrease the cost of living for consumers, including factory workers. He told students "Remember that the kind of engineering that is most wanted is that which saves money: that your employer is first of all in business to make money and not to great and brilliant things, If a man won't do what is right, make him."(13)

By 1915 his theories on scientific management were widely applied throughout the western world. Fordism was wide spread also in Communist Russia. Within the ideas of decentralization theorized by Henry Ford, an essential component of the urbanism was the car because of the advantages identified by communists in having individualized transportation. In Germany, Under the Weimar republic and following German defeat, the American influence strengthens in the country, also because of the role of American capital on the reconstruction of German industry consolidated on 1924. In the idealization of the American City, illustrations played a key role. Images of the American metropolis transformed perceptions of the city in whole Europe. The use of cross sections became quite popular. In the 20's views of American skyscrapers were related in the work of Hilberseimer. Especially influential were the photographs of The German Expressionist architect Erich Mendelsohn and The Wiley Corbett (1873- 1954) visions on the American city with traffic solutions at different levels. At that time Hilberseimer seems to be focus on Skyscraper cities as Chicago and New York rather than looking at the American garden towns.

In 1922 Hilberseimer participated in 1922 had place the international competition of the Chicago Tribune. It had the presence of a large number of German entries as occasion for "the first European response to a specifically American brief, moreover one with ties to the first 'tall buildings' of the nineteenth century."(14) The socialist Hilberseimer of the 20's criticized the lack of order of American skyscrapers, its ornament and individuality. He studied different solu-

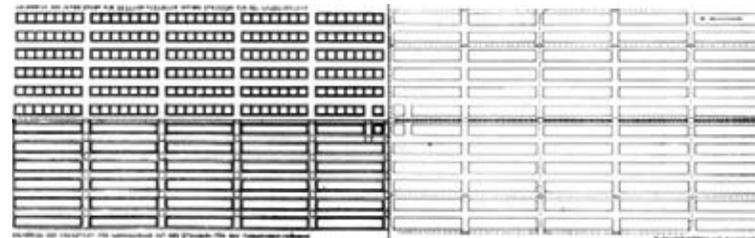
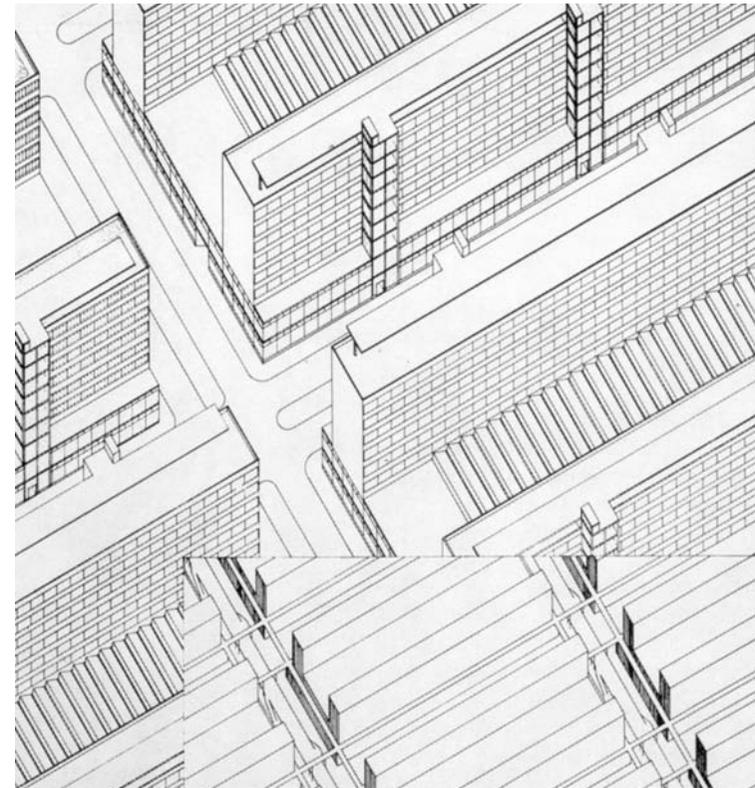


Fig. 4. Axonometric and plan showing the relation between buildings and traffic arteries (L. Hilberseimer, 1924)

tions for the American traffic problems like the proposed solutions of upper floor streets that later will be highly influential on the project of the High Rise city. Another important influence on the project on the High Rise City was the model on the Satellite city especially The City for The Three Million Inhabitants of Le Corbusier. Hilberseimer analyses different projects and solutions for the traffic in cities. The model of satellite cities was quite popular at that time. Studying Berlin, Hilberseimer analyzes the satellite city proposal of Martin Machler. Machler's proposal solved housing program at the periphery of the city and the traffic infrastructure by different arteries leading to the city center. For Hilberseimer, although even if the project solves the problem of dwelling on the surrounding areas, the traffic problem is still present, especially considering the future growth of the city. That is a problem that Hilberseimer notes in general in the satellite city model. He will dedicate his efforts to solve this problem in that period.

Just two years before the high-rise City, Corbusier had exposed The City for The Three Million Inhabitants in France. Hilberseimer made a thorough analysis of it, in terms of density, program and infrastructure. In The City for The Three Million Inhabitants, a compact and dense organ composes the urban structure, with a flexible extended one, with industry and the garden city. Between both there is an open zone, a garden or a forest. In Hilberseimer view, Le Corbusier was not radical enough. While the project solved for him spatial qualities for the city and open spaces, it does not solve the traffic problem, future growth and flexibility.

The Cell City

In 1927 Hilberseimer exposed in *Großstadt Architektur*, the High Rise City made in 1924. It is probably the most well known project of Hilberseimer, represented with an even more widely known water-color, paradigmatic prospective section of the city. The High Rise City was a model completely based on practical aspects. It was designed in terms of the existing technologies, the economic and

social context. It strongly differentiated from the cities of the past that for Hilberseimer were designed based upon religious and cultural arguments. "It was an answer for a man not any more subjective and individual but objective and collective."⁽¹⁵⁾ Hilberseimer's idea of the city was based on an organization scheme of relations between parts. The communal block replaced the single house. The importance of the collectivity in the block overcomes the individual. His model was conceived for a system with a strong central power. The city is the center of that power. The city should be the base of the organization of large economic complexes into the nation state. At the larger scale, nation states should organize in larger units. Any individual expression is erased by order and rationality. High Rise City was a socialist city.

But if we erase the architecture of the icon what remains behind is a diagrammatic organization scheme for the city. This was Hilberseimer main interest. The basic unit was the Cell that contained one community. As in medieval cities living and working were contained into the same building. The High Rise City operated in a similar way; activities were organized vertically in it. Horizontal and Vertical circulation systems were going from home to work and thereby solving the commuting problems of centrality of the satellite city. The project of High-Rise city was considered by him to be a real vertical city more radical than The City for The Three Million Inhabitants of Le Corbusier that still seemed to be an horizontal city in spite of its tall towers.



Fig. 5 The printing media played a key role in the diffusion of a broader culture (Life Magazine, February 1929)

From Gray to Green - Hilberseimer's Decentralized City

In the 30's, the situation in Germany was difficult for many modern architects. The Bauhaus had to close. Although Mies wanted to collaborate with the Nazis several times especially with the Reichsbank competition made in 1933, he had increasing difficulties with the Gestapo. Some Bauhaus professors were considered suspicious like Hilberseimer and Kandinsky. In 1936 Mies received an invitation from the Illinois Institute of Technology to direct the School of Architecture in Chicago. Later invited by Mies, Hilberseimer arrived also to the United States in 1938.

At that time New York was opening the World of Tomorrow Fair, the last large demonstration of potentials of the new machines before its destructive power by World War II. Four years latter, Chicago was exhibiting "the century of progress fair". Visitors could visit the Ford and General Motors mass assembly lines in Chicago. In New York *Democracy* was exhibited an idealized future world of machines with the slogan "science finds-industry applies-man conforms." The *City*, movie directed by Ralph Steiner and Willard van Dyke was exhibited as a celebration of greenbelt towns. Despite the economic profile of superficial prosperity in the 20's, the depression of the 30's followed by the "miracle recovery" and growth of the 40's there were increasing diversity in consumer products and faster communications. Since the 20's a revolution started in technology and the world of communications, mass media, radio, magazines, newspapers and cinema were expanding to a broader popular culture. Walt Disney launched *Snow White and the Seven Dwarfs* in color in 1937.

Musical films were popular during World War II.

The presentation of entertainment, fashion, and politics, was disperse and decentralized from one side of the U.S. to the other. They become increasingly politicized and standardized, giving a strong mass cultural unity to the vast national territory. It was an age of machinery, motorcars, airplanes, cameras, hydroelectric power, internal combustion, engines, radio and yarns of artificial fiber. The car

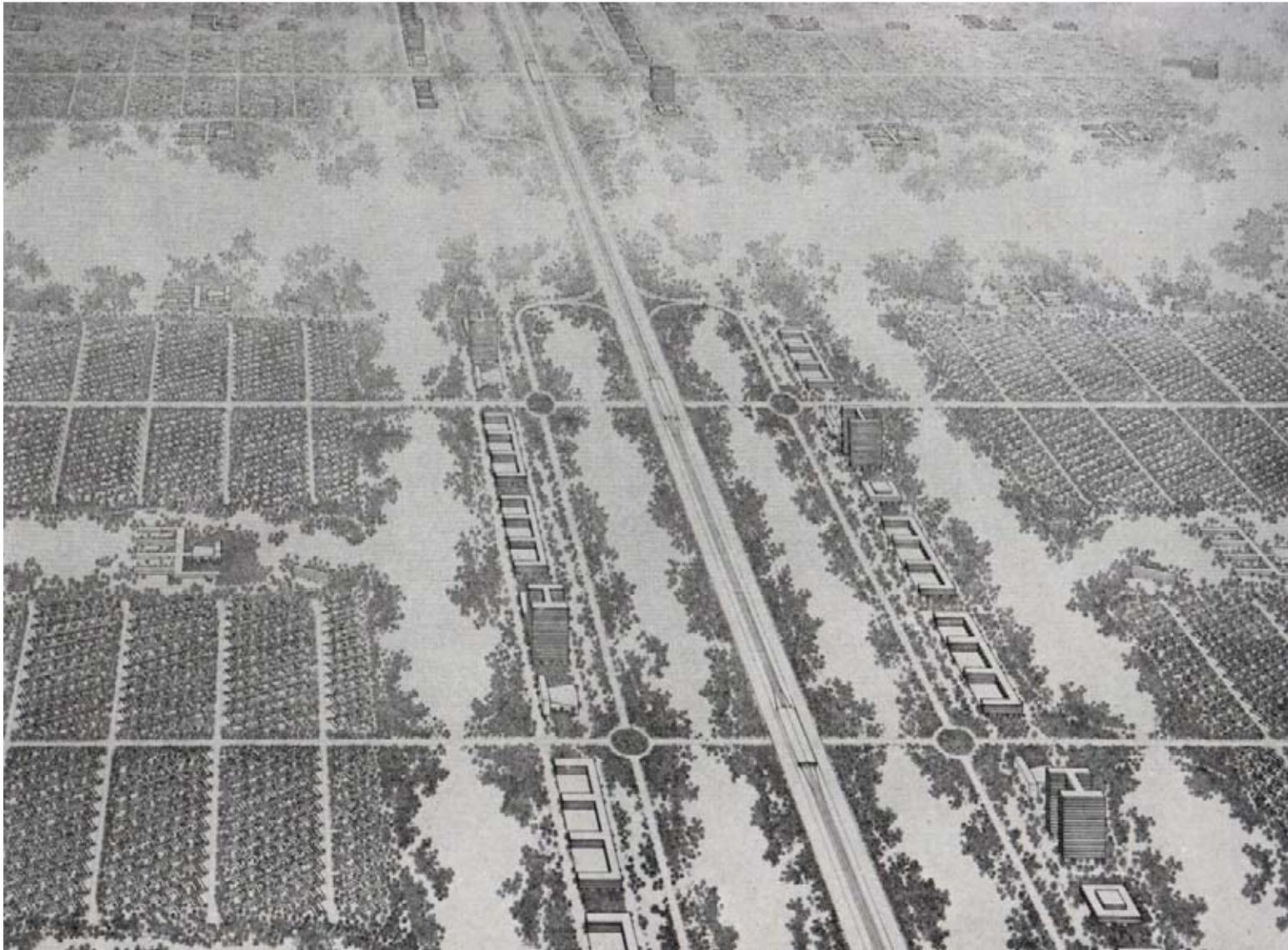


Fig. 6 Panoramic view of Hilberseimer's Decentralized City (L. Hilberseimer 1944)

was decisive in the new society, not just as agent of mobility but also a potent symbol of new way of life. Since previous decades, the car started to be increasingly important. In 1920 there were all together 7.5 million cars in The U.S. roads. In 1930 there were 26.5 million or one car every 5 Americans. Mobility increased enormously. The rise in the number of miles traveled was equally dramatic. In the 1920's private intercity motorcar traffic soon exceeded rail traffic and by 1930 it was six times greater.⁽¹⁶⁾ Motorization included not only cars but also buses and trucks which were extensively used to transport goods and services as the mail, farm produce, livestock and manufactured goods. In particular trucks expanded in the 1930's. Buses became a strong alternative in front of trains. By the mid 20's, the automobile industry was the dominant among American economy and pushed other American industries. It was a period also of increasing growth of the American cities and with it modern urban problems as traffic and pollution but also social changes arose.

There was a large migration from the countryside to the cities, especially black population from the south and immigrants from Europe moved into the American cities, because there was industrial labor demanded. Sub urbanization strongly increased in different parts of the United States.

Hilberseimer Decentralized city was published for the first time in The New city in 1944. It proposed an alternative model for the city and suburbs.

The Decentralized City

Hilberseimer Decentralized City was a respond to the problems caused by the industrial age. Pollution, insalubrities, crime and traffic in city centers. As the first stage of industrialization was based on concentration of production and a separation between city and country, the second age should be directed towards decentralization and diversification of production, both agricultural and industrial, and to a closer relation between city and country. But it is also an alternative of the garden cities and sub urbanization based just on housing.

Hilberseimer considers the block or gridiron system as archaic; the new unit should replace it. The structure of such a unit should be such as to permit a general solution of all the different parts of the city and their relation to each other, allowing unlimited urban growth. According to David Spaeth, Urban-planning projects, such as Ciudad Lineal of Soria and Mata, Tony Garnier's Industrial city (1917) and Howard's Garden City (1902) were important influences of Hilberseimer.⁽¹⁷⁾ But Howard and Garnier proposals were based on a total new city and new society. Howard's 32.000 people seemed too large for a town and too isolated because of the green belt with the city as a centric medieval village. And the Ciudad Lineal had the length as a limitation of growth as it was increasing commuting distances.

The Settlement Unit

The settlement is the basic social unit of Hilberseimer's Decentralized City. It was the basic unit of production, agricultural and industrial. In principle it should contained the basic program for the community living in it. It varied in size and character according to the specific case. But the size should be no so large in order to keep a small community and for keeping walking distances for the people living inside.

In the Settlement unit model Hilberseimer creates a system for low-density with separated mix use units and non-hierarchical.

Settlements units were differentiated one to the other and combined in groups. The diagram for the settlement unit was proposed as abstract operational model, not a solved design project.

Three elements, the traffic arteries, the settlement buildings and the nature organized it. Each one worked separated one the other without conflict, each one working by its own logic. In fact, in different urban analysis Hilberseimer expressed his admiration of the Bath urban expansion during the eighteen-century. He admired the free-standing buildings as objects, "developing according to their own Law",⁽¹⁸⁾ into the English organic landscape and no determined by

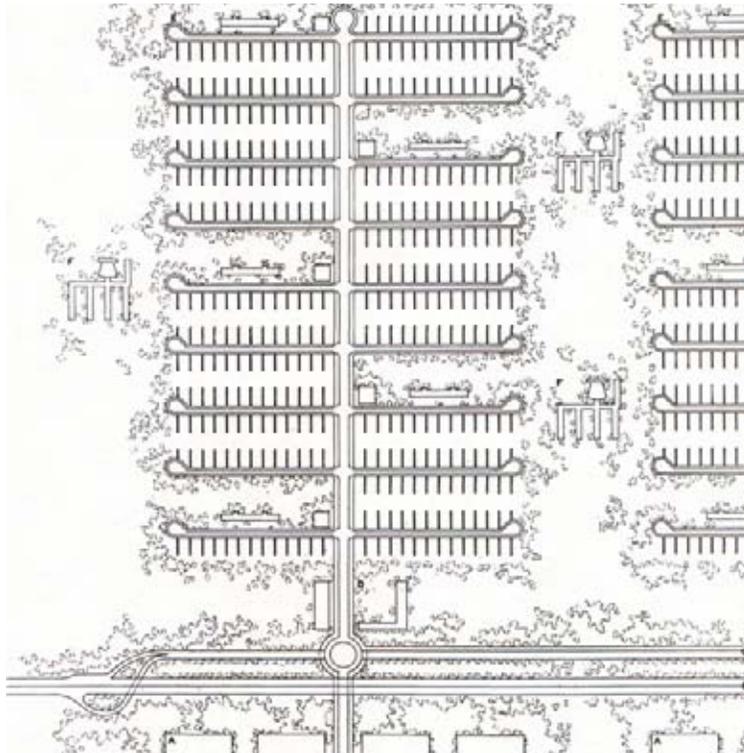


Fig. 7 A New Settlement Unit. A-Industry, B-Main highway, C-Local highway, D-Commercial area, E-Residential area, F-Schools in the Park area



Fig. 8 Housing Typologies in the settlement units

traffic roads. "The streets let to buildings but do not determine their location. Buildings and streets have special functions to fulfill which may, but need not, coincide."(19)

Traffic arteries

The treatment of the traffic arteries was an important shift regards the treatment of the infrastructure in Hilberseimer's Decentralized City. Infrastructure was not organized by the open structure of the grid of The High rise. It appears as a combined system of open highway and closed structures, the fish spine. It wasn't neutral but brought to specific places with already exists (Cul de Sac structure).

Closed areas were created in the city by the fish spine. Intersections and corners disappeared been replaced by an efficiency and secure Loop. Albert Pope would notice how Hilberseimer's erosion of the urban grid and the fish spine predicts the ladder or closed systems of exclusion on the contemporary city. Not just in the suburbia with the housing communities but also in inner cities with the office buildings atriums and the shopping mall.

Buildings

Freestanding buildings in the Settlement Unit were connected to the fish spine structure. Living, working, commerce, parking, administration buildings and recreation areas were in the settlement separated by a clear zone. On one side there are the industrial buildings, across the highway in a green belt, we find the administrative and commercial buildings for visitors and behind them different housing types. From the house, the park can be directly accessed without crossing any roads. Other programs like schools and educational facilities would be located in the large green zones.

Different typologies of housing were studied within the settlement unit such as Low houses for families and apartment blocks for single people and couples. As cars, houses can be mass prefabricated and assembled in different dwellings; prize would decrease without making them stereotypical.



Fig. 9 Pattern of buildings and streets can be broken by trees and merged into the landscape resulting in natural concealment

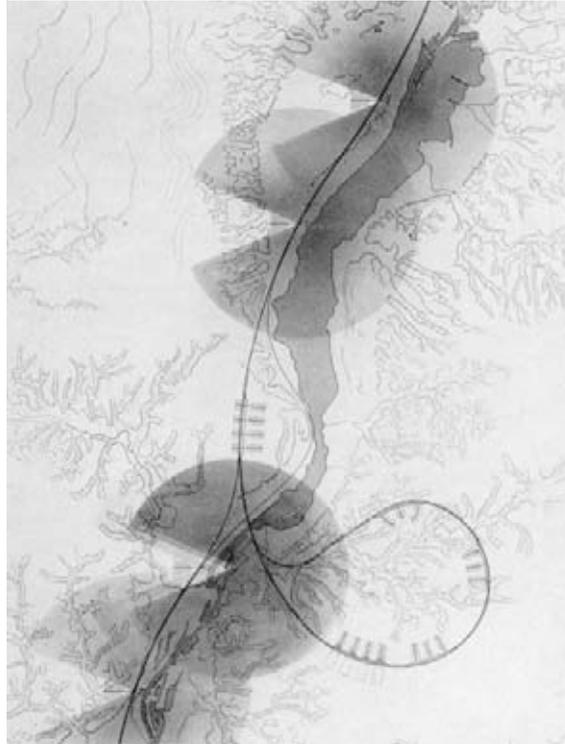


Fig. 10 City Development along a river

Nature and Landscape

The settlement unit is an abstract system that should adapt to the specificity of each place, understanding the landscape, natural and artificial: the land, geography, topography and resources of the region. In the project the nature is treated artificially to serve man. In the settlement unit, everything is surrounded by nature. It was used to simulate lower density. It allowed man a direct relation with nature. Low housing was hidden by trees and shrubs resulting in what Hilberseimer called a natural camouflage, while higher apartment buildings raised above the green in order to offer a variety of options and views. The apparition of Nature in Hilberseimer urbanism had different implications. It was related to bring together agricultural and industrial production. Vegetable gardens next to the settlements would be used for both recreation and agricultural production as "production park system" decreasing recreational areas maintenance. But it meant also an important decrease of density. Not just in real terms but also as simulator of spaciousness and privacy. This is the first time recreation was mentioned in the plan. This implied a shift in the way society and individual were considered in this project compared to the previous ones.



Fig. 11 Eastern United States. Industries are decentralized and extended to the south

The Region - Scaling the unit

Local, state or regional planning can be adequate only if is related to a national planning. Hilberseimer's national planning must develop according to comprehensible principles, in which local and regional planning are interrelated parts. He analyses Chicago city in order to illustrate how local planning is not sufficient. The area show on his diagrams extends far beyond the limits of the existing metropolis and its suburbs. Chicago city was, in fact, extended and spread into several states, The City was affected by them and is affecting them.

Therefore an adequate plan must be a plan for an entire region.

Hilberseimer defines the Region as "an interrelated part of a nation, a natural unit, self-contained by reason of its geographical characteristics, its natural resources, the conditions of its soil, the natural and artificial transportation used and developed by its people."(20) It should be an organic unit, an economic, social and cultural region with homogeneity of living conditions. For Hilberseimer the organic interrelationship of such regions would bring about an harmonious and balanced economy not only with in the regions, but also in the nation as a whole.

The region has to be self-sustained and unit based in balanced production; it means that agriculture and industry will process the raw materials that the region provides and would create diverse employs. Sustainability is applied also in as a defensive tool, as Hilberseimer mentions: "The establishment of a self-sustaining region essential today for our national defense and for the security of our people."(21) Trade is indispensable. Its function however, is to supplement that deficiencies of one region with the abundance of another. Regional economy merely suggests that a region ought to produce and consume a large proportion of the food and goods it needs, importing nothing that it might produce itself.

Hilberseimer notes that a city is always in a state of transition. "The problem of a planer is to shape that transition towards a desired end. The same thing is true for a region. The only difference lies in the region's greater complexity."(22)

Comparing High Rise City with Decentralized City

If we compare the High Rise City and Hilberseimer's Decentralized City, both images seem quite different, however there share many principles. In the High Rise City, the disposition of housing and working activities into units makes a model which is not hierarchical, even if there is a center. The city was made of independent elements and was able to grow endlessly without depending on that center. The principals of Decentralization were already formulated in the High Rise City. Ford's concept was very popular at that time in Germany within socialist and communist groups. His ideas already strongly influenced Hilberseimer at that time. Both High Rise City and Decentralized city were organized by the disposition of closed systems, the units, organized by program activities and circulation linked with a system of external infrastructure. The High rise solved it vertically and the Decentralized City horizontally. In the High Rise City the project addressed mainly traffic problems and future growth of the city. In the second it addressed a broader number of fields as sociological, ecological, economical and defensive aspects as what evident in the extension of research fields In Hilberseimer US period probably influenced by the ecological school of Chicago. What lies behind both projects is the projection of an abstract model for the city strongly related on production processes and the absent of public space everything under a strong control.

Erasing the urban grid - The Chicago project

Hilberseimer and Mies were colleagues for many years at the ITT in Chicago. While Mies kept practicing and constructing, Hilberseimer dedicated his profession to research as professor in the ITT School. The decentralized city was a project that Hilberseimer tested for many years with his students for different American cities and especially in his project for the renovation of the South Side of Chicago. We will look at two specific cases, the South Side project in Chicago and the Lafayette project in Detroit, where Hilberseimer's planning

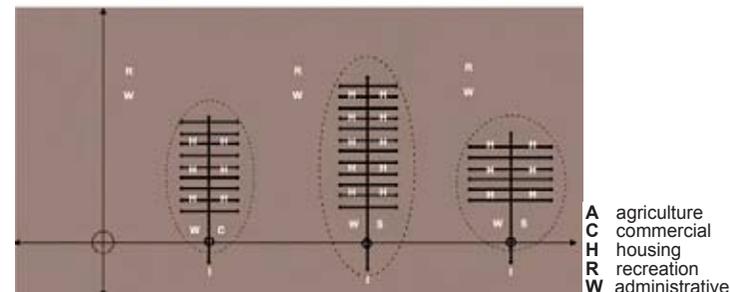
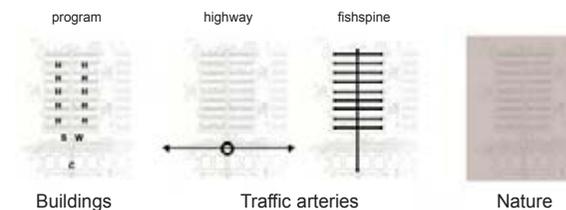
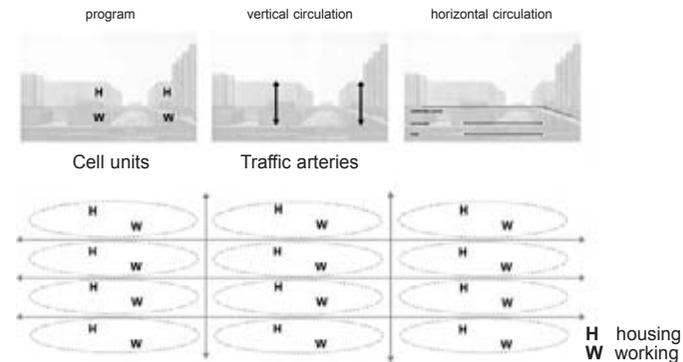


Fig. 12, 13 High Rise City and Decentralized City elements and plans.

ideas were tested in real commissions, and therefore understand specific aspects of the context, research and ideas around the concept of the settlement unit and decentralization.

South Side Project

With Mies and Hilberseimer, other figures were important in the south side plan as Gropius, real-state developer Fred Kramer, President Henry Herald and Louis Wirth, a sociologist of Chicago University. The Chicago project has to be seen in the context of the Near South side of Chicago in the 40's. The Near South side plan inaugurated an era of large-scale urban renewal and redevelopment. It should be understood within the American urbanism of the 40's. The great depression, the Second World War, the increasing obsolescence of urban industrial renewal and the aging of urban infrastructure contributed to the rapid decline of different cities and the growth of sub urbanization. In the 40's Federal State and local governments worked together with corporate capitalists, real state developers, civic leaders and architects in a model called 'cooperative federalism'. This model of joined forces of public and private is related to the economist John Maynard Keynes. He wrote about the importance of the *aidez-faire* instead of the *Laissez-faire*. This means that intervention of public investors is necessary within the capitalism. Maynard Keynes sustains that American new dealers afraid of an uncontrolled new depression, were pleased to incorporate Keynes ideas. Urban planning shifted from aesthetic order to urban policy and legislation. "Influenced by Keynes, American urban policy became, (...) the foundation for a new form of architectural development that consciously sought to reflect this complex alliance of public and private domains."(23)

The south side projects were mainly devoted to private and semiprivate institutions that nevertheless engaged and redefined the postwar public realm. The urban strategy aimed to promote again the metropolitan model with civic and commercial collaboration.

In the 40's the South Side was considered as highly decay area. High

density of people, especially ethnic minorities, inhabited the area with its original grid that was too narrow for traffic. Race riots took place in 1919 generating the mobilization out of the south from the white's population. White's population gave up residences but not ownership; neglecting opportunities in the area the life quality declined quickly. Chicago's black population increased during the First World War. Many jazz and blues musicians moved to Chicago at that time, including Louis Armstrong and Bessie Smith. By the 30's the area of the South Side had a reputation of music scene and exoticism, but also of insecurity, drugs use and prostitution. The renovation of the South side was considered as "surgery for a city."(24) The Chicago Plan Commission, CPC, conducted between 1938 and 1941 was a land-use survey for all Chicago. The survey collected vital information related to building stock and social background, particularly on juvenile delinquency. There was a close relation between the Chicago School's urban sociological interest and methods and the private interests of the real estate market.(25)

The CPC operation was a Keynesian triumvirate of federal policy money, private money, interests, and social interests, defining urban planning until the recession of the 70's. It was a private organization composed mainly by important businessmen that could afford. The idea was to assess Chicago for an own private interests to a more general public one. The statistical analysis was employing scientific sociological methods, promoted by Robert Park and Louis Wirth at the U. of Chicago in the beginning the 10's and 20's. According to the studies, the Near South Side was the largest area of blight in Chicago and one of the largest in the whole North America. In 1941 the CPC announced a policy of clearance and redevelopment of the area, especially between 26th and 31st Streets, Lake Park Avenue, and the Rock Island railroad/ New York Central lines.(26) Within New Deal legislation laws of federal assistance for slum clearance were established around 1937. The Illinois Neighborhood Redevelopment Corporation law would lead to additional state and federally mandated private assisted slum clearance including the federal Housing act

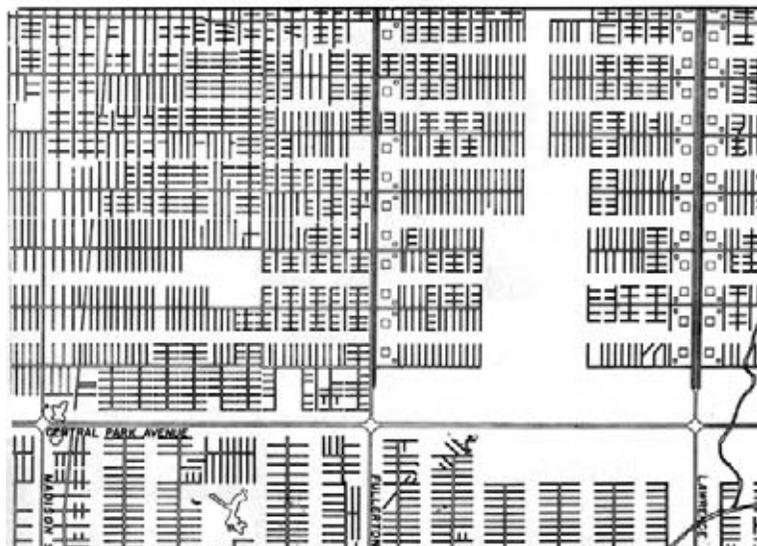
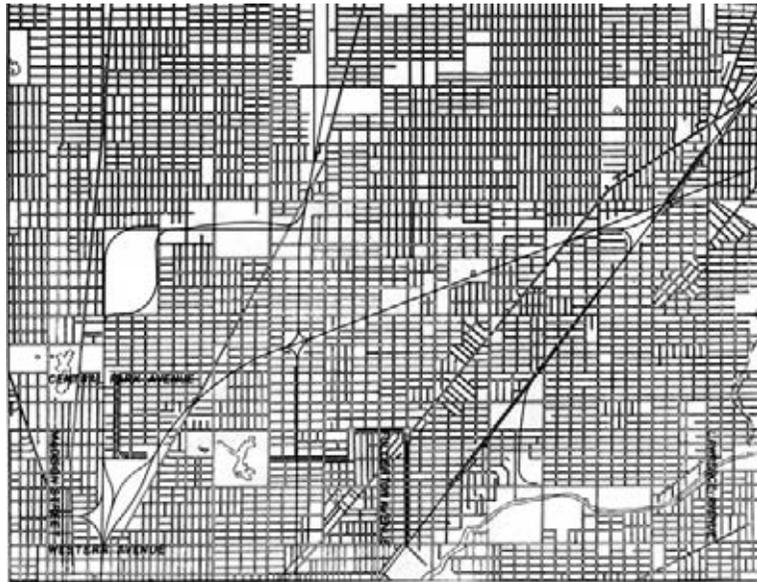


Fig. 14 Chicago North Side Section. Different Stages of Redevelopment.

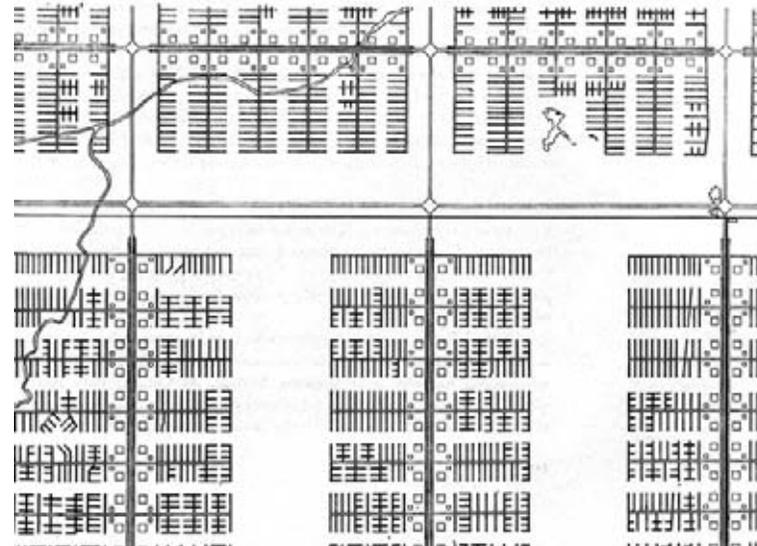
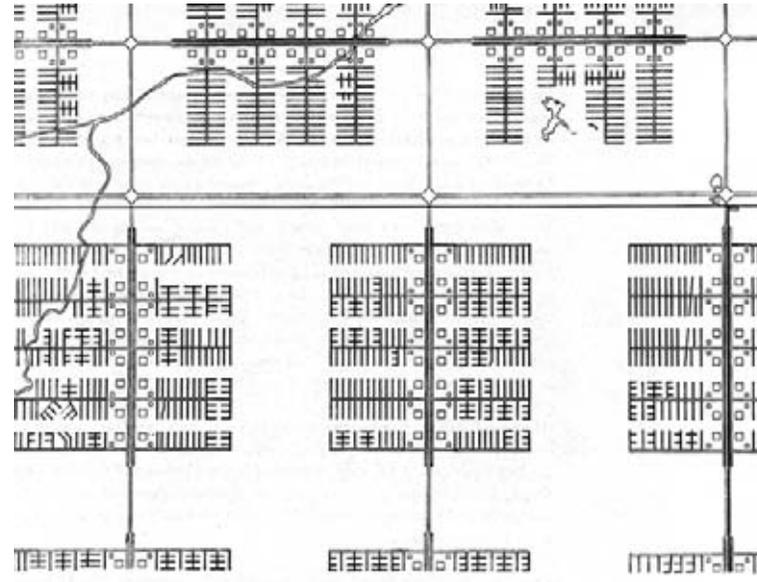


Fig. 15 Chicago North Side Section. Two Possible final Stages with Rectangular and Square communities

of 1949. At IIT's request, the CPC expanded the site on the near south side including the area in between 31st and 35th Streets, lake Michigan and the Railroads tracks.(27) The influence of Hilberseimer on Mies ITT campus project is well known. Hilberseimer made also different theoretical proposals for the whole area with his Students as well as for other Cities testing the settlement unit concept. His project was a radical erasing process of the urban grid restructuring the whole area in different stages. The area and the whole city could arrive at the settlement unit condition. It was not an adding but rather a removing system. Taking away part of the streets, closed units would be created. Cul de sacs would keep traffic out of residential areas and would bring a large open void space to the city. An 'Urbs in Hortis' Hilberseimer called Chicago as garden city with green all over for recreation.

Lafayette Project

In 1955 after applying his ideas in existing situations such as in the South Side of Chicago, Hilberseimer had a real commission in the Lafayette project with Mies, Alfred Caldwell as landscape Architect and Herbert Greenwald as promoter. The site was next to the Detroit city center. Existing structures had been removed. Hilberseimer asked for the remove of streets gridiron as well. The proposal was not exactly a settlement unit but a super block. Actually the settlement unit would require more acres and programs such as working places. Although a drawing of 1956 suggests a close application of the settlement unit on the site. The project consists of two housing units surrounding a 19 acre park. The houses designed by Mies are one and two storey apartment buildings. The block is closed to the traffic. It has left at the perimeter of the project below the level of the housing, separating cars from the housing estate buildings. In that sense, the project responds to the concept of the settlement unit the clear division between buildings, pedestrian and traffic areas. On 1955, during the Lafayette project in Detroit, Mies was convicted of the disappearance of the city and a decentralized model that should be

expanding and changing. Probably influenced by the theories of Hilberseimer in that regard, he said once: "There are no cities, in fact, anymore. It goes on like a forest. That is the reason why we cannot have the old cities any more; that is gone forever, planned city and so on. We should think about the means that we have to live in a jungle, and maybe we do well by that."(28)

5 Setting the Principles - Research

"Reason is the first principle of all human work. Consciously or unconsciously L. Hilberseimer follows this principle and makes in the basis of his work in the complicated field of city planning. He examines the city with unwavering objectivity, investigates each part of it and determines for each part its rightful place in the whole. Thus he brings all the elements of the city into clear, logical order. He avoids imposing upon them arbitrary ideas of any character whatsoever..."
Mies van der Rohe, *The New City* introduction

"The metropolis, said Hilberseimer, is an entirely new creation of large-scale industrial capitalism, without historical precedent."(29) So in order to work with it, the planning principles and elements had to be based on research and investigation; the project should result from an objective observation of the real.

As we described in the first part, *The will of aesthetics*, his work sought always for the truth through the means of an objective and extensive research on different topics related to the cities.

Researching tools

There is no clear information for the European period, which were the research *principles*, as he called it, used by Hilberseimer. What we discovered in his books, *Großstadt Architektur* and *Hallenbauten*, is an extensive analysis of building *typologies*. In *Großstadt Architektur*, Hilberseimer introduced a study of different building typologies according to their functions: Housing, commercial, high

rise, transport and industrial buildings were analyzed separately and independently. The *aerial perspective* was introduced as an inventory of enclosure typologies, more than a illustration of an idea. Some of these typologies, especially the housing, were coming from projects of the late 20's. The L-shape House(30) is the best example that would trace forward until the decentralized schemes in Chicago. The first scheme of this house was based on the analysis of modules and solar studies. Sunlight and typologies were for Hilberseimer strong determinants on the urban density studies, as J. Browson mentioned in an interview: "If you sit down mathematically and start to look at this thing it starts to determine what the consequences are of a density where you have two or three people to the acre-and Hilberseimer would use acres all the time or hectares-two or three people to the acre, ten people to the acre, twenty people to the acre, one hundred twenty people to the acre, eight hundred people to the acre. It has consequences if you're going to say that each man is entitled to sunlight."(31)

In the search for opening in order to get sun, the building would move far from the others and then the density will decrease. Hilberseimer claimed, that it low density was "necessary to avoid social moral and physical diseases". Many studies of sun and relations among buildings were published on his next books dedicated to urban planning.

When Hilberseimer arrived in Chicago, the Ecologist School of Chicago(32) was a strong influence on methodology research. The school was known by its rigorist analysis, its scientific method of analyzing concrete phenomena and for the aim to break with former sociologists. The context of the school was a fast growth of the city due to industrialization and large immigration of people, black population from the south and Europe population from Ireland, Italy, Polish, Jewish, Germans etc...The social integration of these groups was a main topic within the sociological school.(33) These new ideas with rigorist analysis matched perfectly with the approach that Hilberseimer was already doing, and later he incorporated these

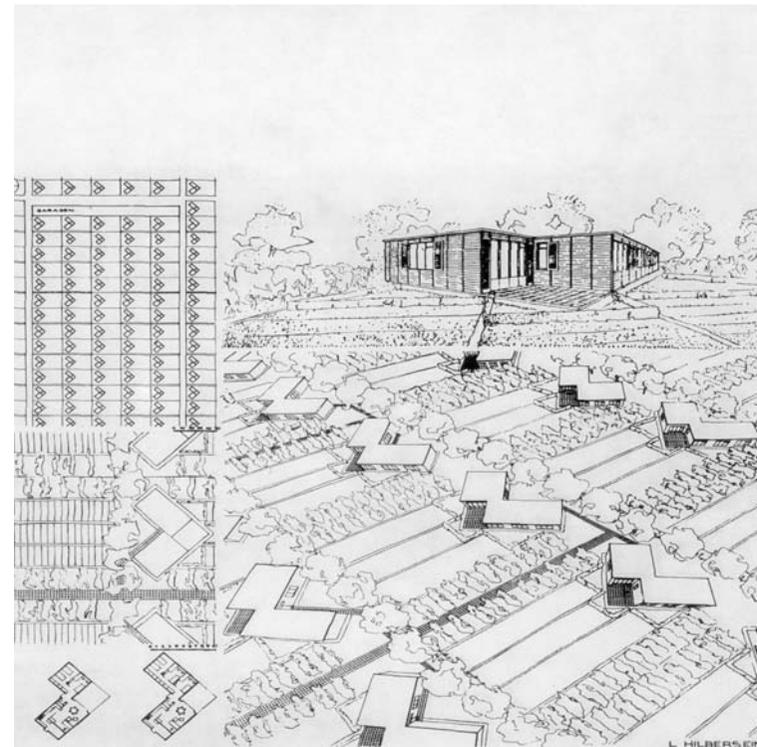


Fig. 16 L-shape housing

methodologies in the work with the students at ITT.

Hilberseimer's books dedicated to urban planning, *The New City*, *The New Regional Pattern*, and *The Nature of Cities*, were structured in the same way. He divided each book in three parts: the first part was dedicated to make an historical analysis and criticism to the city and in many cases to suburbanization. The following part focused on its particular topic. For example, in *The New Regional Pattern* he extensively described what he understood to be as region and what as pattern. In the third part he contextualized the topic and proposed the ways of implementation.

"Historical knowledge is a technique of the first order to preserve and continue a civilization already advanced. Not that it affords positive solutions to the new aspect of vital conditions -life is always different from what it was- but that it prevents us committing the ingenious mistakes of other times."

With these words from Ortega Y Gasset he opened in his book *The New Regional Pattern*, the first chapter "Historical Considerations". Here he compared old cities, like Rome, Florence, Pisa, etc, with the new city. All the *historical analyses* in his books were exposed strongly as 'quasi scientific' research in the frame of the main topic, and the arguments were sustained by photographic and planimetric media.

But he was not only doing historical analysis. He also was *critical* with contemporary architects. Almost like a surgeon he dissected their researches and urban proposals and remade new proposals from these.

Hilberseimer studied, for example, Martin Machler's proposal for the city of Berlin. Machler worked on the expansive organization of the city, which was based on the redistribution of the different sectors, like industry, housing, transport infrastructure etc. From Hilberseimer's point of view the project solved the dwelling problem but not the traffic. Although the project incorporated a net of metro and railway system, the proposal did not consider a future growth of

the city.(34) For Hilberseimer the *speculative forecasting* was very important. It was not enough to have the actual information in order to plan. Rather he considered it crucial to speculate about the behavior of this information into the future.

Similar criticism was applied on The Three million City project by Le Corbusier 1925. Hilberseimer admired the project for qualitative reasons. But in terms of density this project, he said, was not real, because Le Corbusier made a mistake in measuring the housing space, as if it would be working space that actually required less square meters per person. With new calculations and comparisons between density and street area, Hilberseimer illustrated the same concept. Hilberseimer saw the three million project as a plan that organized and brought harmony but it did neither represent a radical transformation nor did it provide real solutions for the problems of that time.

To demonstrate the effects of the industrial revolution upon population Hilberseimer made an analysis of England, where the industrial revolution originated and developed to its highest level. Based on data published by the Fortune magazine(35), the analysis was expressed on comments of Jacques Browson: "Well, we were talking about how you can make more livable communities, and this was a reflection-actually, when you say I was a part of this whole group at school, we were all thinking in that way. But one of the other significant parts of Hilbs's direction or pointing things out was that he made these *population pyramids*, and they're published in his book...a population curve used to be based on a very wide base. When people are born, in the age group, let's say, from zero to three or four years old, there is a very heavy population, and as the attrition of that population grows, relatively few people reach the apex of the pyramid or the triangle. And so, the old people are there at the apex. That was the way that nature took care of that progression. Hilbs was showing what had occurred under an industrial civilization or how this population graph that had the wide base would gradually diminish into the

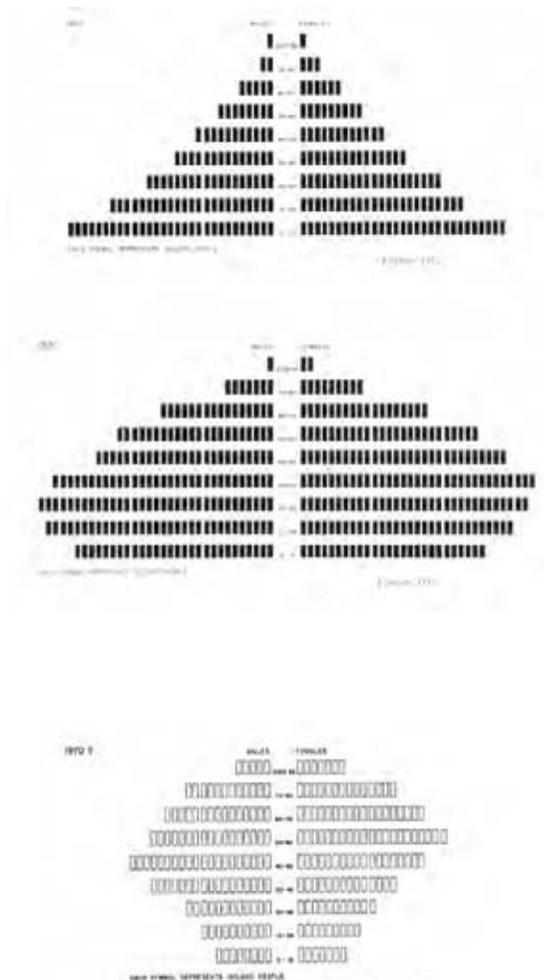


Fig. 17 England. Lifetree 1871, 1931 and 1970

middle of the pyramid and then would widen out and become wider at the top as the population got older. Now, we're talking about studies that were made before anybody that I know of-maybe there were a few people concerned about this, but certainly there were no planning schools interested in what was happening with the aging population. Then Hilbs showed that it appears that this population pyramid is going to turn upside down, where we're going to have a very narrow base and we're going to have a lot of old guys like me hanging around."(36)

It is very interesting that Hilberseimer didn't base his research just on the existing data or on a speculative future. His research was based on the relation between these two and the relation that they create. For example, a population analysis was not based on the population in the year that he made the analysis or on the population number in twenty or forty years later. His study focused on the behavior of this relation in order to identify the tendency and then to be able to develop a system.

To exemplify a possible redistribution of the population, Hilberseimer made a *graphical analysis* of an island.(37) Because of its limits, "changes are more clearly to see than they would be in a larger country."(38) With three images he made a graphic explanation of the problem and how the prediction played the key role. The first image showed the population hundred years ago, when all settlements had been related to each other according to their function. The second showed how the industrialization and mechanization process changed the natural settlement structure, especially influenced by the migration from countryside to cities. Finally the third image showed "at what population we might arrive if we would wisely direct the already prevailing tendency towards decentralization, and how the integration of agriculture and industry could be achieved."(39) The integration of agriculture and industry, Hilberseimer claimed would balance the economy and would stabilize the population.

Due to the large immigration of people and the problem of housing minorities settled in the south area of Chicago, an area that was occu-

pied before by wealthy social classes. When Hilberseimer incorporated his work for the redevelopment of this area, one of the big problems was the slums. The area became unsafe and the shelter of many gangs. Different areas of Chicago city were *mapped* in order to identify the sub-communities, and demonstrate that the slums and the bad living conditions are the generators of this social behavior by arguing the importance of the social integration of these minorities. The analysis shows the delinquency rates on 1930 and was based on the census tracts of Chicago and made with the collaboration of the Social Science Research Committee of the University of Chicago.

The industrialization brought changes on many levels. Hilberseimer undertook an *analysis of the production* lines implemented in Fords and General Motors assembly lines. The production research, in Hilberseimer's view, can help to determine the optimum size of a city. The rotation of the soil use in the agricultural fields in China and Peru was also an object of his interest. This system, he claims, increments the productivity and makes more efficient use of the land. Due to that the relation urban-rural was inversed, agriculture lost its importance and the urban pollution became an important topic. Hilberseimer strategy to solve the problems of the new city was the application of an urban-rural system, which conceived an industrial belt. By *diagrammatic sketch maps* he illustrated this argument on the project for the Eastern part of the U.S. The relation between residential areas and industry was made by the analysis of smoke. Smoke diagrams show how the area of smoke emission influenced the size of the residential area.

The ecological concern was also present in a regional study made on MAUI Island, Hawaii. The site was chosen in order to show easily all the advantages and disadvantages of the use of land and all its applications. The study implemented a diversified economy based on rotational agriculture for the islands. The sources of his research were diverse but the information was mainly based on publications that were prepared and published by the research institutions of the U.S., like the agricultural text used for the planning courses in the IIT. As J,

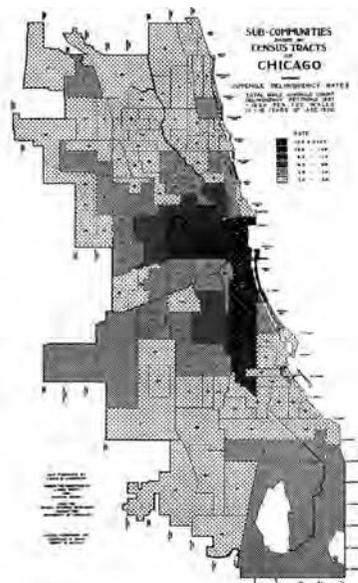


Fig. 18 Map of Juvenile Delinquency Rates. Chicago, 1930

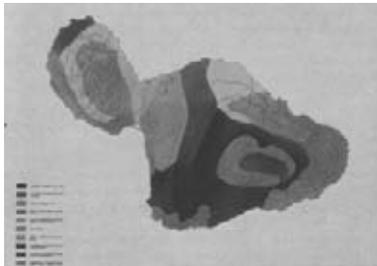
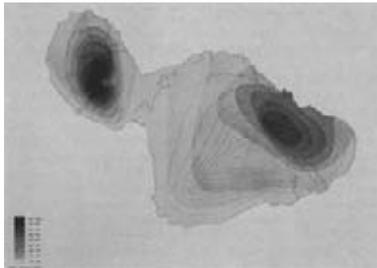
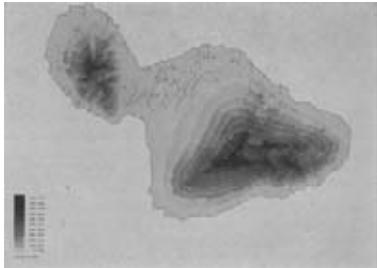
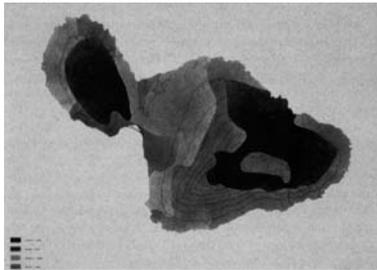


Fig. 19 Maui. Maps of Land Utilization, Topography, Annual Rainfall and Types of Soil,

Browson described: "In 1938, ..., I came under the influence of the WPA, the Works Progress Administration. At that time the WPA was involved in making the first agricultural atlas of the land in the United States. This comes back later with Hilbs because that atlas was used in the planning courses at IIT."(40)

Hilberseimer's regional planning required the study of the 'Ecology of the region'. He claimed that the *use of mapping features* was necessary in order to discover the possible uses of a specific territory. The Chapter the New Regional Pattern, in the book with the same name, is full of these maps with analyses on topography, average length of growing season, mean annual precipitation and summer temperature, to enumerate some of them.

In the introduction to his book, *The Nature of Cities*, Hilberseimer talks how the chapter *Cities and Defense* was incorporated after the effects of the H. Bomb where published. "...decentralization would also bring industry into closer relation with agriculture, to the benefit of both, and would contribute to a solution of some of our social and economic problems. Paradoxically the requirements of military defense may become the deciding factor in achieving these aims."(41)

With these words Hilberseimer claims that airplanes and atomic weapons have made obsolete not only the city walls but also the concentrated city. "Security can only be achieved by the combination of city dispersion and a high degree of self-sustainable regions able to provide for the needs of their people in war or peace".

The incorporation of the defense topic in urban planning and architecture was a strong tendency during the cold war period. Architects like Buckminster Fuller concentrate his research towards the defensive shelter. The Dymaxion Deployment Unit, DDU was a mass production housing unit as the Kidde Kokoon a shelter for a five people family designed under commission of the U.S government by Walter Kidde Nuclear Laboratory. The study of the Hydrogen bomb impact on south industrial Chicago was very much influence by the work of

Alfred Caldwell, especially his article *Atomic Bombs and City Planning*, as the same Caldwell writes: "By this time the war was about over, the German part of it. Coming home one time, I thought to myself, "I haven't seen a newspaper for a week. I'd better stop." I don't know how that happened. I pulled up on Lincoln Avenue near Lawrence and went to the newsstand. There was a newspaper; I never had seen such big headlines in my life: "Atomic Bomb Dropped on Hiroshima." I read it hastily. I came back to the apartment. I called up Hilberseimer and I told him. He was a sedentary man, he was in his apartment-he hadn't been out either. He hadn't heard the radio or anything. I told him, "It's the equivalent of ten thousand tons of TNT." Hilbs said, "Ten thousand tons of TNT?" I said, "Yes." He said, "My God, the world is ruined. The world is ruined if man has that power." Which was quite true, the world is ruined. I came home and I wrote a paper, "Atomic Bombs and City Planning."(42)

The image shows on the book was based on other *technical researches* like "The damage over Hiroshima and Nagasaki after the atomic bomb attack", published in 1946. This analysis exposes the effects against house and against people. The effects of the H Bombe were published on Hilberseimer studies on the geography of the islands. They show how in history Nature was related with the security and defense of cities.

The IIT and the research

Mies received a proposition to become the Director of the Armour institute in Chicago. At time the school was not so popular, based on the Beaux-Arts system the program was asking to be updated, and reformulated. During the same period Mies had a chance to build the Resor house, a project that as Caldwell describes give him the opportunity to leave Germany: "...they were very rich people. That gave him a chance to leave Germany. The Nazis would let you leave Germany if you were a businessman on business. The idea was that you earn money in a foreign country and then you come back to

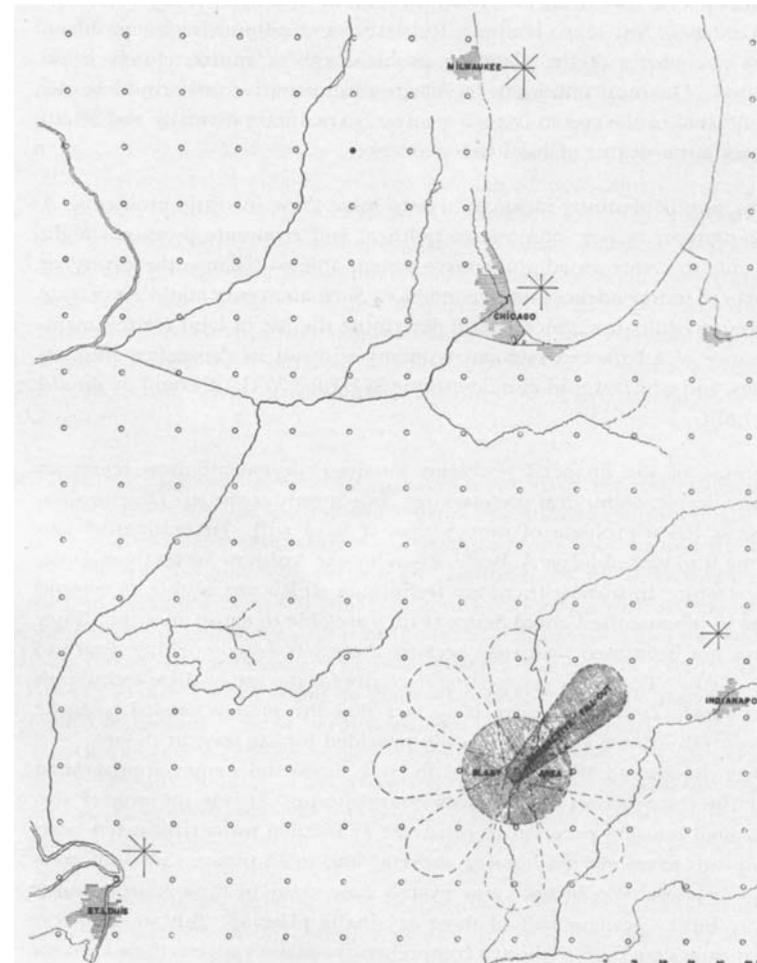


Fig. 20 Chicago. Effect of H Bomb on the size and distribution of cities.

Germany...; they wanted money in the country. That let Mies get out. He came to America and to Chicago. He went up to Taliesin and he talked to Frank Lloyd Wright and he asked him if he should do it. Frank Lloyd Wright said, "Go ahead, do it." Mies said-I asked him-"Would you help me a little bit? Speak ion my behalf?" Wright said, "You're the only architect in Germany, the only architect in Europe. The rest of them are no good. I have no use for Corbusier, all these others. Gropius-I have no use for them. No, you're the only one I believe in. You're good. You are my friend... Of course I will do it for you."(43)

Mies as the last Director of the Bauhaus has the right to reopen the school, a right that he did not want to use. "That's right. Mies had the sole right to that name and he didn't want to have it used. The curriculum that Mies established for IIT was not a Bauhaus curriculum at all. He said, "That will not work. At that time in Germany that was sensible but it will not work here under altogether different conditions and I don't want to even try it." He made an entirely new curriculum."(44)

The curriculum was submitted with a chart laying out a three-pronged program of study. After an initial period of preparation training (drawing, the study of proportions, and the basics of physics), the students would commence studies in three areas: general theory, professional training, and "means, purposes, planning and creating." The first two areas would jointly give the student the technical and theoretical background necessary for the study of materials, elementary building forms, and construction techniques, and for exploration of building types and their relationships in community life and city planning. The final challenging sequence was to produce an "architecture which is creative and living," thus fulfilling the technical, artistic, and cultural requirements of the building art.(45)

In all the publications that make reference to the new program, there is not information of who else collaborates on making the ITT pro-



Fig. 21 Mies van der Rohe and Ludwig Hilberseimer with students at Art Institute of Chicago studio. (21 December, 1942)

gram structure. It looks very familiar the arguments whit the model of research makes by Hilberseimer and exposed on his different books. Is surprising that even when Mies was not precisely a urban planner, the urban planning was incorporated as a medullar part in the program of the ITT being Hilberseimer the head of this program. In the preliminary plan for the architecture curriculum, Mies suggest to incorporate an extensive study of typologies, a research tool largely use by Hilberseimer. "After studying the requirements of various types of buildings and their solution, the students will progress to the study of ordering these types into groups and into unified communities- in other words: city planning."(46)

On the curriculum many projects were incorporates, especially in the South Chicago project, where many of the ideas of the decentralized city where tested and reinforced. The *collaboration of the students* and specially the graduates were very important. Jacques Browson comment over this fact: "In that book, In the Shadow of Mies, it reflects that very few of the graduates participated in the planning process. But that's not entirely so because some of those graduates became very active in the planning of New York City."

The classes where organized whit small groups, some sources speculated that Hilberseimer and Mies's groups varied from three to seven students per course with the idea of create researching groups working on specific topics. "I was a part of a class of, I believe, seven. It was a very small number of students in my class. Mies and Hilbs dealt directly with us, just as they dealt directly with-if you look at the early photographs at the Art Institute, of Mies working with a very small number of students, like Danforth and Genther and Speyer. They would deal with a small group on a much more personal level than they could with a large one. As the classes got bigger, they were turned over more to assistants who worked with the students."(47) In the programs imparted by the department of Urban Planning the research made by the students was very important as itself and as a contribution to the future researches. That's way Hilberseimer encourage the documentation of all the information and

research made by the students groups. We don't precisely which was the system used for this goal what is clear is that he was the one who coordinates and directs all the investigation especially the ones that were made by commissions, like the South Chicago project. "We talked about agriculture, we talked about the devastation of the rain forest, and we talked about the environment. In 1941 they were talking about that. When you look at the thesis that were done by the planning department, that whole idea of a written thesis, the documentation and the putting-together of those things, that was Hilberseimer. When you look in the library at the proposals for Hawaii, you look at the ones that were done in Europe, the ones that were done in Central and South America, those are significant documents for any graduate student to do."(48)

The way he gives direction to the projects was by calibrating the principles. *Principles* were all the variants and influences that determine the direction of the research and because of, the direction and validity of the project. "He talked about principles. Principles, he didn't talk about actual solutions as such, but he talked about principles... particularly at the University of Chicago about how many people should live on a square mile? Most people have no concept-well, we're going to have eighty thousand people live on a square mile, or we're going to have twenty thousand people live on a square mile. You'd ask somebody, "What does that mean? How big is the lot "How much space is each one going to have if they're going to live at that density?" Hilberseimer said, "Why do you tell me that we're going to live eighty thousand? Maybe that's a right number, but on what principles are you basing this kind of statement?"(49)

Model of Implementation and the City Rebuilt

All communities, especially the larger ones, are confronted with the necessity of replanning and rebuilding themselves. For Hilberseimer the task of the present and of the future is to eliminate existing defects by productive reconstruction. "Only by the creation of and adequate city structure can the rebuilding of the city be effective."

Prerequisite to such reconstruction are: a comprehensive city plan which takes everything into consideration and a new kind of zoning which determines where what may be built.

The rebuilding of a city has its importance influence on administration and legislation-local, state and national. Hilberseimer believes that the modern metropolis, because of the rapidity of its technological development, has become too large for effective administration and for some essential services-such as water, power, sewage disposal, and transportation, which the city provides and control. He suggests incorporate a nonpartisan agency, immune to political and economic pressure, "able to create an administrative system to balance the divergent forces of independence and dependence. Such an agency could also create a zoning ordinance which would determine the use of land for the maintenance of a balanced regional economy with all its diversified implications, and which would also determine where and what could or should be built."

The cost of city rebuilding is linked to the regretted tendency to regard money, as he said "not as means to an end, but as the end in itself."(50) Hilberseimer makes reference to Adolph A. Berle, Assistance Secretary of State, to exemplify how in times of war we can see these facts in a different perspective: "In finance, for example, there are techniques which are as able to rebuild and to rehouse the United States as they are to equip an army. They have not been used primarily because there was not compelling desire to use them." Cities buildings and dwellings real economy cannot be archive by saving money trough reduction of space, he believes it can be achieve by reducing the costs of production. "Houses as well as motor cars could be mass fabricated."(51)

Hilberseimer consider other systems of implementation like Gwilyn Gibbon's pooling of ownership. Gibbon suggests a plan to avoid the complications which ensue when individual owners must be dealt by separately. Freed from the obstacles of property boundaries and rights, the reconstruction of some city districts, and the creation of new traffic routs, could thus be more easily effected. Banks and

insurances could also help to the reconstruction of obsolete areas. By eliminating private ownership, where obsolete dwellings must be turn down and replaced by new buildings, the value of buildings will be increase sufficiently to pay off the old mortgages with the earnings gained in the new construction. Hilberseimer suggest also another method to financing the city areas. Freeing the houses from their liabilities by amortizing their mortgages gradually "would permit reconstruction on a large scale without lost in national wealth."(52)

6 The individual and the society

Whit this words: "Man is the project of all planning", Hilberseimer ended his analysis of the city in his book *The New city*. Although this conclusion sounds like an attempt to achieve a city based on the specific desires of the individual; the project has a different connotation. Hilberseimer's project, the decentralized city, was based on the settlement unit. This 'cluster system' was created with the principles of self sustainability and interdependency with other settlement units, which all together would form the city, the region and even more the nation. The common basis of the society was the community, the settlement unit, rather than the individual.

In the previous pages we clearly perceived an intention of Hilberseimer to balance individual and society: "...in as much as society is composed of individuals, city planning should meet the requirements of the individual as well as a society as a whole. City planning must take account of both individual and collective needs and their inter-relations. Sometimes the requirements of the individual are identical to those of society: but more often the two kinds of

need are divergent. Any permanent solution of city planning must therefore balance individual needs with the needs of society, resolving insofar as possible the inherent conflict between individualism and communalism."(53) But after that comment a small note quotes a text from G.K. Chesterton. In that text the author states that the whole collectivist error consisted in saying that because two men can share an umbrella therefore two men can share the handle. Again Hilberseimer expressed his preference for the community, the umbrella, rather than for individual desires and properties. This quote is very much related with a text in which Hilberseimer expressed his preference for a society where the individual was subduing to the collectivity: "...the ideal for the individual is maximum freedom with a minimum of regulation. But we are not living in an ideal world."(54)

From Hilberseimer's point of view the settlement unit would be a highly specialized production system. It is in this point when his vision touched capitalism. Technology, mass production and free trade would create a better society with higher education, more leisure time and free from social and class conflicts. According to Michael Hays, "For Kracauer, as for Hilberseimer, capitalism is a stage in the process of demystification by which history, through unsentimental rationalization, continually dismantles those superstructural and naturalizing myths whose regressive effect is to prolong the notion of some unchanging and proprietary human essence."(55)

The dissolution of social conflicts is achieved by conforming diversified society. With the creation of small communities (settlement units) Hilberseimer's intention is to intensify the identity of each settlement. If the settlement has a strong community feeling, the interaction in all the communal activities will be held in harmony. Translating this to a regional level, all the settlements will have the same importance. Therefore there will not be social hierarchies anymore. Not a single community will have more power or importance

than the others; this will be the control and end of all racial and social class conflicts. "A combination of units would create a more complex community. A city aggregation, combining all the elements developed, would be a diversified city."

Today we might think differently about that, although the ideas continue in New Urbanism. The gated communities, growing phenomena, are a clear example how the separation of communities, more than avoid social conflicts increase the differences between insiders and outsiders.

7 The City as a Production System - Learning from the Car Industry

Hilberseimer's Decentralized City was working within existing technologies. It was very much based in the industrial production models that already existed at that time. In order to understand the production processes at that time and its relation to the Hilberseimer Decentralized City is important to look particularly at the car production, because the car industry set the parameters of decentralized production that were followed by other industries. On the other hand, the car itself facilitated the territorial decentralization of the city in the entire country.

"As railroad and steam power once tended to centralize and concentrate urban settlements, so now electricity and motor vehicles are tending to decentralize them. Even before the advent of electricity, the tide had begun to turn. The automobile accelerated this exodus, and widened its scope (...) Electric power is the real force toward decentralization. Even the smallest settlements can be supplied with water, electricity, heat, and light."(56)



Fig. 22 The Tiller Girls in Berlin, 1920s. The mass ornament is the aesthetic reflex of the rationality aspired to by the prevailing economic system. Siegfried Kracauer

In spite of the massive amount of cars, their production was centralized in hands of three producers: Ford, General Motors and Chrysler. Each one developed particular methods of organization, which were influential not only in Hilberseimer urban planning but also in other areas. Smaller companies hardly survived. Henry Ford ideas influenced the technology development in the US, specially the idea of combining advanced technology with Taylor strong controlled management and the decentralization concept introduced as theory. General Motors started applying Decentralized production as early as 1925. Hilberseimer Decentralized concept was based very much by the industries as Ford and GM and theoretical Production principals by Ford for which "the overhead expenses of living and doing business in the great cities is becoming as large as to be unbearable. It places so great a tax upon life that there is no surplus to live on (...) all the social ailments from which we today suffer originated and center in the big cities. The idea that an industrial country has to concentrate its industries is not well founded. That is only a stage in the industrial development. Industries will decentralize (...) the modern city has been prodigal, it is today bankrupt, and tomorrow it will cease to be. They may also agree the best possible conditions, as far as employees are concerned, are also the best possible conditions from the manufacturing stand point."(57)

Ford established the first examples of modern integrated production in a plant where he produced almost all parts for the model T. But the plant was not so flexible and customers demand changed before production process.

Meanwhile General Motors reorganized his own organization, production and marketing. General Motors implemented operating divisions of elements such as car, truck, parts, and accessories to retain their own autonomy. After World War I Ford dominated car factories nationally and abroad. Competition increased from General Motors and the Chrysler Corporation. General Motors' success was based on marketing strategies that included the development of an extensive



Fig. 23 Automobile assembly line.

range of models, an annual model, massive advertising, schemes of easy ways of payment and regular analysis form the market. Already in the 20's General Motors created a wide range in styles based on the same essential design being able to provide subtle changes in body, attachments, and color within different price ranges. Their cars became more comfortable and with more models. The companies' strategy created a new decentralized type of management. By 1925 General Motors 'new decentralized industry' set a model not only for the other auto manufacturers Ford and Chrysler but also for other areas of American Industry. Just as the great industrial concerns of the late nineteenth century had used the railroads as their model for organization at a time when railroads were at the heart of the American economy, so in the mid-twentieth century other industries and manufacturing enterprises adapted the structure of auto manufacturers when automobile production was central to the entire system of industry and manufacturing.(58) This became a revolutionary alternative model to the centralized, functionally departmentalized structure that is, a department for each major function- production, sales, purchasing, research, and so forth that had been developed in the second part of the nineteenth century, first by the railroads and then by the early large integrated industrial enterprises. It provided as well a more effective administrative form than the loosely controlled holding company in which only financial ties connected the several operating subsidiaries with each other and with the general office. On the other hand, Taylorist system of Control management was increasingly applied in different industries.

There are close relations between the industrial production and the Decentralized city. The industrial production industry tended to decentralization reaching an efficient performance by spreading the different parts of production process, kept separate each element of production, reaching efficiency and flexibility to adapt to new demands. Behind the decentralization alternative to resolve urban problems as future growth and traffic, the idea of flexibility was also

mayor issue. By classifying the settlement elements and keeping them separate from each other, the nature, the buildings and the infrastructure, would create a settlement model able to adapt to different conditions with better performance of each one of the elements. Exactly in the same way as General Motors was producing cars Hilberseimer proposed mass housing production. As Industry was increasingly based on marketing, purchasing habits, customer's research and forecasts, also research in sociology was essential where approaching the city planning. Ford emphasized the importance of having a vertical organization. In the same direction, the decentralized city was formulated; strong control and planning were absolutely necessary. In fact, Hilberseimer was never keen to the idea of large privatization and loosing control. And as in the system management created by Taylor, his city is composed of separated parts, each one independent but at the end highly controlled management. The control in the car industry as we now know didn't meant homogenization or eradication of individual freedom of choice, but the opposite. It increased diversity, offered freedom of choice produced by a regime of controlled management. On the Decentralized city, the plan established the possibility for individuals to choose their place to live and how to move, but also type of dwelling for example. As for the industries, decentralization power rates would indeed be lower than those in the metropolises and great cities, with their vast undeveloped areas requiring expensive supply and drainage lines and complicated transportation systems; in that way also decentralization was stimulated for other non industrial sectors of the city that spread on the territory. Decentralization was to bring closer the city and the countryside, industrial and agricultural production solving many problems of cities at that time as traffic and contamination. Based in industrial production principals, it would also address the issues in other fields, social and economical aspects for example, in a way it would fight unemployment based in Hilberseimer analysis in the abandonment by people of the countryside and agriculture activities in one hand, and mass migration to the cities unable to absorbed the larger popula-

tions, employ them and offer healthy conditions. Hilberseimer understood and rationalized the complexity of reality by focusing in scientific research methods and setting the parameters for an abstract model for planning the city.

Conclusion

If one read the work of Hilberseimer in a chronological order one might think that there are two independent parts: The High Rise City in Europe and the Decentralized City in the US. First he applied his theoretical and research method in a socialistic system and later he implemented it in a capitalistic one. But if we look at his urban process vision of the city as a whole, we realize that it is one project in two different contexts.

Under this aspect his research, which truly can be considered to be very radical at his time from the 20's to 50's, still has kept its characteristics. It is able to respond to some aspects of the today city, if we understand it in our constantly changing reality. In the words of Hilberseimer, "The only one sure thing is change."

Hilberseimer based and placed his model for the city, whether it was within a socialist context (on The High Rise) or within a capitalist one (as in the Decentralized City) way at a time when industry started to decentralize production processes. By looking at the city purely as a productive system, he found the possibility to simplify the complexity of reality, referring to the social, political etc. In this method one finds the radicalism of Hilberseimer.

As in the industrial production processes, the key point in Hilberseimer urbanism was not just each single part but the relation between parts of the city, and how they would perform together into

an organization system able to adapt to different conditions in the time. That is why he relied much more on the diagram and not on the plan, section or image, as the right tool for the representation of an urban model. But here might be a source of his professional failure. His representation was too abstract and too academic. Pure accumulation of data was not a goal as it looks like in Hilberseimer's researches. The way of doing research can not anymore be based only in the simple application of actual data or in the speculation of this, more than that it should regard the relation of both. This relation has the potential to give a tendency for a development that then will become the key character of the information.

This research method might open a door in the way to alternate the thinking and the design of our complex cities. Urban planning can overcome the state of being a collage of images or a merely an interpretation of an actual phenomena. It should be based on the invisible structure that organizes the city within itself, in the world and in time. According to Hilberseimer we imagine that urban planning can be regarded as a dynamic organizational model.

Some questions for today:

What are the constituting elements of that invisible structure?

If we regard industrial principles as the base of our society and also of the city are major production principles the protagonists of a new urban planning?

If it is about producing cheaper and more and more is then the total consumption also of places the destination of the city?

If total consumption becomes reality does the city loose her quality of giving place to the unique and unexpected?

If the city is not any more the place of the collective where do the individuals frame themselves?

If the individuals have retreated into other places (wherever, in another city?) than the city how do they constitute their lives?

If industry is interested to reach the retreated individuals how do

they access and address them?

If the key of industry to reach the people lies in customised methods as they are promoted today can we also then customise the city?

If customisation as a production process is the key to organize the city which data we have to process?

If we have to gather this information do we find it still in the center or in the outskirts, in other urban epicenters...?

*...Where the city stands with the brawniest breed of orators and
bards,
Where the city stands that is belov'd by these, and loves them
in return and understands them,
Where no monuments exist to heroes but in the common words
and deeds,
Where thrift is in its place, and prudence is in its place,
Where the men and women think lightly of the laws,
Where the slave ceases, and the master of slaves ceases,
Where the populace rises at once against the never ending audacity
of elected persons,
Where fierce men and women pour forth as the sea to the
whistle of death pours its sweeping and unript waves,
Where outside authority enters always after the precedent of
inside authority,
Where the citizen is always the head and ideal, and President,
Mayor, Governor and what not, are agents for pay,
Where children are taught to be laws to themselves, and to
depend on themselves,
Where equanimity is illustrated in affairs,
Where speculations on the soul are encouraged,
Where women walk in public processions in the streets the
same as the men,
Where they enter the public assembly and take places the
same as the men;
Where the city of the faithfulest friends stands,
Where the city of the cleanliness of the sexes stands,
Where the city of the healthiest fathers stands,
Where the city of the best-bodied mothers stands,
There the great city stands.*

Walt Whitman

Notes

- (1) Ford's assembly line and Taylor's control create an organization management for making an efficient city.
- (2) Catalogue for the *Exhibition Arbeitsrat für Kunst*, Berlin, 1918-1921. Berlin (West) Akademie der Künste, 1980. pg. 16, 138.
- (3) Hilberseimer published his articles under the names: *Schöpfung und Entwicklung, Form und Individuum, Der Naturalismus und Das Primitive in der Kunst, Kunst und Wissen*.
- (4) Russian magazine published in Berlin by El Lissitzky and Ehrenburg.
- (5) L. Hilberseimer, *Schöpfung und Entwicklung*, Der Einzige, 1919, n°1, pg. 5-7
- (6) J.M. Pérez Gay, *Friedrich Nietzsche: Construir el siglo XX*.
- (7) Beside them the following people contributed to the magazine: Werner Graeff, Mies van der Rohe, Raoul Hausmann, Hans Arp, Kurt Schwitters, Ernst Schoen, John Heartfield, Walter Benjamin, Tristan Tzara, Man Ray, and George Grosz.
- (8) *Köpfe und Hinterköpfe*, pg. 67, 75
- (9) Calleway, Munich, 1931
- (10) This chapter is based on the article *The Art of Architecture* by L. Hilberseimer and published in 1941. All notes refer to this article
- (11) L. Hilberseimer, *Großstadt Architektur*, p. 95
- (12) Base occasionally on readings of European experiments.
- (13) J.T. Patterson, *America in the twentieth century; a history*, pg. 23-24
- (14) J.L. Cohen, *Scenes of the World to come*, pg. 110
- (15) L. Hilberseimer, *Großstadt Architektur*, p. 93
- (16) S.D. Cashman, *America in the Twenties and Thirties*, New York University press, 1989 pg. 8
- (17) D. Spaeth, *In the shadow of Mies*, p. 61
- (18) L. Hilberseimer, *The Nature of Cities*, p. 191
- (19) L. Hilberseimer, *The New City*, p. 188
- (20) *Ibid.*, p.166
- (21) *Ibid.*, p.276
- (22) *Ibid.*, p.277
- (23) S. C. Whiting, *Mies in America*, p. 648
- (24) P. Lambert editor, *Mies in America*, p. 653
- (25) Annual report of the Chicago Plan, 1940
- (26) P. Lambert editor, *Mies in America*, p. 654
- (27) Harrington, *In the shadow of Mies*, p. 73
- (28) P. Lambert editor, *Mies in America*, p. 633, MvdR, transcript of interview with John Peter, 1955, LoC, 14-15
- (29) L. Hilberseimer, *The New City*, p.164
- (30) Published two years later in 1932 by Martin Wagner in *Das wachsende Haus*
- (31) Oral history with Jacques Brown. Ryerson & Burnham catalog, Chicago.
- (32) The main figures were Robert Ezra Park, Burgess and Roderick McKenzie
- (33) J.L. Lezama, *Teoria social espacio y ciudad*, El Colegio de México, 1998, p. 191
- (34) *Die Form*, July 1930, pg. 337-341
- (35) *Fortune*, February 1944.
- (36) Oral history with Jacques Brown. Ryerson & Burnham catalog, Chicago
- (37) The location is unknown
- (38) L. Hilberseimer, *The New Regional Pattern*
- (39) *Ibid.*
- (40) Oral history with Jacques Brown. Ryerson & Burnham catalog, Chicago
- (41) L. Hilberseimer, *The New Regional Pattern*
- (42) A. Caldwell, *AIA Journal*, December 1945
- (43) Oral history with A. Caldwell. Ryerson & Burnham catalog, Chicago
- (44) *Ibid.*
- (45) Phyllis Lambert editor, *Mies in America*, pg. 180
- (46) *Ibid.*
- (47) Oral history with Jacques Brown. Ryerson & Burnham catalog, Chicago.
- (48) *Ibid.*
- (49) *Ibid.*
- (50) L. Hilberseimer, *The New City*, p.161
- (51) *Ibid.*
- (52) *Ibid.*, p.164.
- (53) L. Hilberseimer, *The New City*, p. 56
- (54) L. Hilberseimer, *The New Regional Pattern*, p. 87
- (55) K. Michael Hays, *Modernism and the Post humanist Subject: The Architecture of Hannes Meyer and Ludwig Hilberseimer*. Cambridge: MIT Press, 1992., p.264
- (56) L. Hilberseimer, *The nature of Cities*, p. 114
- (57) H. Ford, *My life and Work*, 1922
- (58) S.D. Cashman, *America in the Twenties and Thirties*, New York University press, 1989
- (59) A. Behne, Architekten, in *Frühlicht*, 1921-22, p. 56
- (60) Artist and producer of experimental films who later was a protagonist of the Dadaist Group and of the Elementarist and Constructivist Movements revolving round the review G.
- (61) Born in 1892, he received a degree in law in Breslau in 1913, wrote several books on legal topics after and before the World War I. *The World of Learning*, London 1978, Marion von Hofacker.
- (62) *Sozialistische Monatshefte*, 1923
- (63) Probably as an entry for the competition run by the review *Bauwelt* on 13th December, 1923. *Rassegna*
- (64) Cf. Schulz-Gräber, *Architektur-Führer Berlin DDR*, Berlin 1973
- (65) Exhibition of a city intended to exemplify the scale of German private welfare services by the height of his buildings
- (66) There are speculations about the exact date, some authors' claim that it was in the previous year
- (67) Hilberseimer's Collection. Series 10/1, Box 9, Folder 1

