HISTORY OF CIAM AND TEAM 10

Baykan GÜNAY

1. This paper was prepared for a history course held in the Faculty of Architecture, METU. Its basic theme was to search for the background, development and impacts of one of the basic schools in the 20th century architecture and urbanism. However, in structuring the paper, a duality originally propounded by Françoise Choay turned out to be a topic by itself since it actually reflected, at the general level, two basic approaches to design processes: the "culturalist" and the "progressist" approaches.

Although Choay's primary usage of these models intended to cover planning activity in the 19th century, their limits can be extended to the 20th century and to the understanding of architectural and urban planning ideologies in different societies. In this respect their relevance for our society are valid both in theory and practice.

In the spring of 1986 Charles Broadbent addressing a speech in the Faculty of Architecture, METU, mentioned another duality which he claimed was in the agenda of the Western World concerning urban design approaches: empiricism and rationalism. While the former pertained to the senses, the latter he discussed, was an outcome of the logical side of the human brain. My basic objection had then been that, this duality formulated in this manner lacked a societal basis which is most important with regards to real life situations. Hence, I consider the "progressist-culturalist" duality as a more correct way of analysing urban design processes.

Man lives in an environment continuously developing and it takes time for an environment to develop to its full and complete form within the life span of a human being. To give an example, the street I live in has a story of thirty years and it is still not complete, or the Ankara of my childhood is now an historical event. In this connection I feel that a society never lives the present time, but lives in a

INTRODUCTION [1]

CIAM *(Congrès Internationaux d'Architecture Moderne)* is an important milestone in the development of the 20th century architecture and town planning theory and practice. Called the Modern Movement, this practice was

the product of 19th century rationalism and the urge for social development. It was essentially a move towards integration: to use the forces of the society, industry and the arts in a coherent and harmonious way. Thus the 19th century preoccupation with style was ignored and architects became interested in METHOD—ORGANIZATION AND TECHNOLOGY. In the twenties this urge found expression in the work of Walter Gropius (in the Bauhaus and later in his famous housing schemes), in J.J.P. Oud in Holland and particularly in the polemical writing and buildings of Le Corbusier in Paris. Gropius spoke of teamwork (as opposed to the star architect), Oud of standardization, Le Corbusier of technology (Lewis, 1976, 6).

In the twenties while the modern movement was on the way, certain events brought together the many architects of European countries who were in fact working with similar styles. Most important of such events were:
. Düsseldorf Congress of Progressive Architects (1922)
. The international competition for the Chicago Tribune (1922)
. The international competition for the League of Nations (1927)
. The Stuttgart Exhibition organized by the German Werkbund (1927).

While the competitions reflected the clash between Neo-classicist academicians and practitioners of the modern movement, the Stuttgart Exhibition marked a collection of works by prominent architects of the new approach. Under the presidency of Mies van der Rohe, Behrens, Gropius, Hilbersheimer, Poelzig, B. and M.Taut, Oud, Le Corbusier and others performed an experiment displaying new town planning concepts like independence from roadside, separation of pedestrian-vehicular traffic and architectural concepts of functionalism, geometry, purism, standardization using modern materials (Figure 1).

Le Corbusier considers the competition for the League of Nations as an important step in the formation of CIAM. Here the scheme of Le Corbusier (Figure 2) is partially accepted where

the functional advantages gained approval, the new architectural language they entailed did not ..... and they ended up with a borrowed functional organism dressed up in a Neo-classical garb (Figure 3) (Benevolo, 1971, 477).

strange configuration of the past and the future. Along this line of thought the progressist-culturalist duality becomes a real tool in understanding design ideologies and in this paper it has been applied to the analysis of CIAM and Team 10 movements.
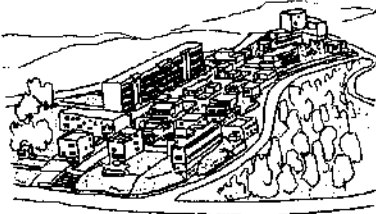

Figure 1. The *Weissenhof Siedlung*, Stuttgart 1927

2. "In the world of architecture while a contest registering the temperature of our epoch was played to its conclusion, and when the consolidated forces of the Academies became apparent in their triumph, ideas were exchanged across the frontiers, contacts were made, and on a summer day in 1928 ... individuals were brought together who having examined the problem posed by the art of building at the present time, according to a program drawn up in Paris, could affirm a definite point of view and announce their intention to join together to set architecture henceforth before its true tasks." (Le Corbusier, 1973, 4).
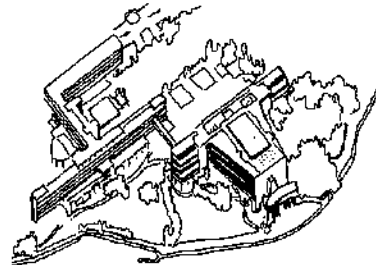

Figure 2. *League of Nations*, project by Le Corbusier, Geneva 1927

3. "He concentrated his efforts on the creation of new boulevards. These would constitute a badly needed road system for Paris as well as opportunities for private real estate ventures ... The city razed the houses and planted the trees while speculators built the houses along new boulevards according to uniform designs. The uniform designs with the trees gave an air of urbane distinction. But the poor were ruthlessly crowded into even smaller and more expensive dwellings." (Spreiregen, 1965, 27).

Figure 3. *League of Nations* as realized, Geneva

4. "Men in all walks of life raised their voices against the inequities, the ugliness and the congestion of the city. John Ruskin and William Morris pleaded for craftsmanship, Charles Dickens portrayed the evils of the workhouses, Patrick Geddes in his "outlook tower" urged a broader vision, Karl Marx threatened, Robert Owen experimented, Ebenezer Howard reasoned, Jacop Riis exposed. Many turned the light of critical analysis upon the city, tested the forces of disintegration in the laboratories of their keen minds and dared to describe cities men could build when they acquired the will." (Gallion, 1963, 357).

The foundation of CIAM is attributed to general upheaval against conservative academies by Le Corbusier[2]. Hence the representatives of the modern movement met in La Sarraz (Switzerland) in 1928 to form the CIAM. Giedion points out that, "congress" here means more than meeting and carries the connotation of "marching together".

Beginning in 1928 and terminating in 1956 the Congresses of Modern International Architecture have dealt with the modern problems of architecture and town planning. Since the work of CIAM has been mostly devoted to urbanization problems, first the development of city planning theory and practice of 19th century will be discussed.

THEORETICAL BACKGROUND

Human settlements throughout man's history have mainly undergone three phases:

1. Rural settlements emerging with agriculture
2. Urban settlements emerging as centres controlling agricultural surplus where administrative, commercial and small production functions are concentrated
3. Industrial cities and metropolises

The first two phases are studied under the heading of "Pre - Industrial City" where, though many styles are encountered (Greek, Roman, Medieval, Baroque, Renaissance, etc.), the size of the city was limited depending mainly on control of agricultural production, and where the main source of production and transportation relied upon organic sources of energy.

On the other hand, the modern city has grown with the industry which depends upon inorganic energy, and it has faced new problems posed in the process.

In the field of urbanization:

. fast growth of the city
. industrial growth in the city and pollution
. housing
. transportation and infrastructure
. high densities and congestion

in the field of architecture:

. new technology
. new methods
. new space understanding and
. new styles

became the major points of discussion.

19th century industrialization has generated new classes breaking away with the groups of the pre-industrial society. The magnitude, power and aspirations of the new classes have begun to shape up the urbanization and architectural theory and practice.

Influence of the groups controlling industrial production and commercial activity on architecture have been revivals of styles extending from Greek to Baroque. The change was so fast that, what the architect could offer to the aspirations of such groups in building activity were the Neo-Classical styles.

In the field of urbanization, the attitude of the new ruling classes is best observed in the Haussmann operation of Paris[3]. Problems of urbanization generated in the industrial society have since the beginning been alike; haphazard growth, pollution, ill-housing, transportation, congestion and sanitary problems have always existed but with increasing magnitude.

Beginning with the 19th century the city has faced all these and since then there have emerged views reacting to the situation[4]. The models developed in the industrial society searching for new forms of urbanization are classified by Françoise Choay under the headings of "progressist" and "culturalist"[5].

The two models have developed in a dialectical sense, with give and takes, one following the other or existing at the same time. The basis of the CIAM and its follower Team 10 Movement will be better apprehended when analysed within this context.
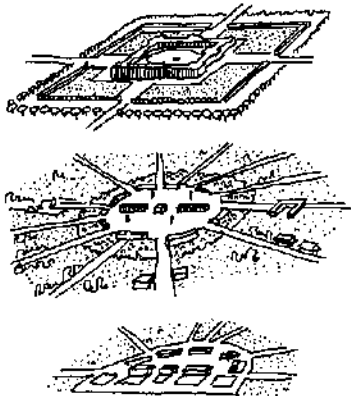
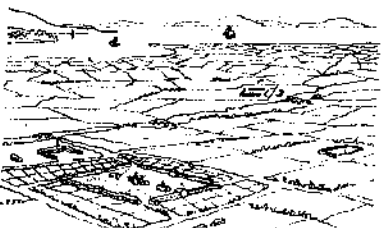Figure 4. Ledoux's 3 plans for Chaux, 1776

Figure 5. Robert Owen's prospectus for a group of Owenite villages, 1817
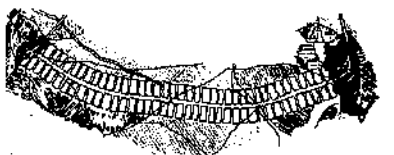

Figure 6. *Phalanstere* by Fourier, 1847

Figure 7. *Linear City* uniting older central places, Soria y Mata, 1880

Figure 8. Realization of Soria's *Ideal Linear City*

A. PROGRESSIST MODELS

The progressist model precedes the cultural. The idea to convert existing urban pattern to the needs of emerging industrial society has inspired the philosophers of the 19th century

> who while condemning the power of the industrial society to alienate yet saw in it the most effective means of liberation, provided that the machine could be used to transform man and his world (Choay, 1969, 31,32).

The first advocates of the model were the socialist utopists, in the first half of the 19th century. Their models consisted of self-sufficient settlement units for workers. The schemes were to be located in the country and would be shaped by the necessities of the community.

As a result

> the progressist spatial pattern is not based on continuity of solids but on a continuity of voids in which constructed elements have burst apart. Air, light and greenery have become symbols of progress and dispersal is considered essential to physical hygiene ... The relationship founded on contiguity which previously prevailed in the organization of urban systems is replaced by a relation founded on association; edifices are grouped in a discontinuous manner, according to function. Devised for reasons of efficiency and productivity, this functional classification is the origin of zoning. In all plans of these authors, housing is separated from recreation and work, the latter being further classified by type (Choay, 1969, 32).

Some of the first progressist models developed by Ledoux, Owen, Fourier, and others (Figures, 4,5,6) may be considered as the roots of CIAMese way of thinking. Their desire to exaggerate open spaces, to reserve different spaces for different functions have been the precursors of CIAM understanding. On the other hand, such schemes of self-sufficient units in the rural landscape would find application in the Unité d'Habitation of Le Corbusier. Their aim to satisfy egalitarian and economic aspirations have led to search for prototype and standard housing which is to be encountered in the progressist movements of the 20th century.

The other contribution of the progressist models has been

> a simple geometric order which strictly precludes the picturesque. The right angle acquires an almost mystical value and the straight line symbolizes the break with the past and the advent of reason ... For them geometry means truth as well as beauty (Choay, 1969, 98).

Progressist movement continues in the last half of the 19th century with Soria y Mata's (1844-1920) linear city (Figure 7). Now the cities had grown to such extents that urban transportation had become a real problem. Soria being a theoretician of communications said that "the form of the city is, or must be derived from the necessities of locomotion".

A major spine is the basis of Soria's scheme where details would come afterward;

> along two parallel strips on either side of the spinal column, units designed for housing, work and recreation would spread out, intermingled and unclassified, but interconnected by secondary streets perpendicular to the main thoroughfare. Soria is a fanatic believer in the orthogonal (Choay, 1969, 100).

Space in Soria's model carries the progressist characteristics of standardization, openness and functionalism[6]. When the century turns another progressist model comes to the scene by Tony Garnier (1869-1948). In his industrial city, functions are given different zones separated by continuous stretches of greenery, with an orthogonal street network (Figure 9).

While both Soria and Garnier were important stones in the evolution of the progressist model, especially Garnier has influenced the architecture of Le Corbusier who saw in it

> an attempt to establish order and combine utilitarian and plastic solutions ... the selection of essential volumes and spaces in accordance with practical necessity and the demands of that poetic sense which is peculiar to the architect (Choay, 1969, 102) (Figure 10).

In 1914 another individual Antonio Sant'Elia (1880-1915) provided

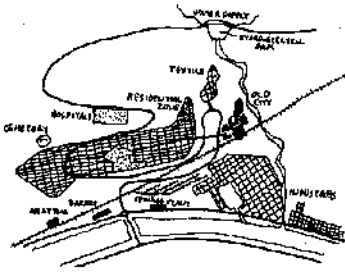> a new, perhaps frightening vision of what might come, an enormous
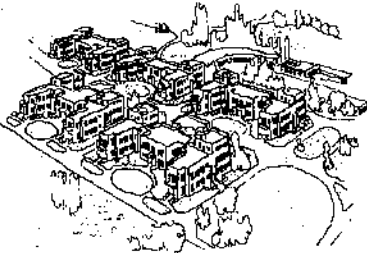
Figure 9. *Industrial City* of Tony Garnier, 1904

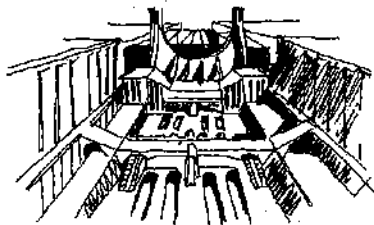

Figure 10. Architecture of the *Industrial City*

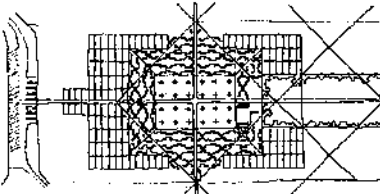Figure 11. *La Città Nuova* by Antonio Sant' Elia, 1912

Figure 12. Plan of the *Contemporary City* by Le Corbusier, 1922
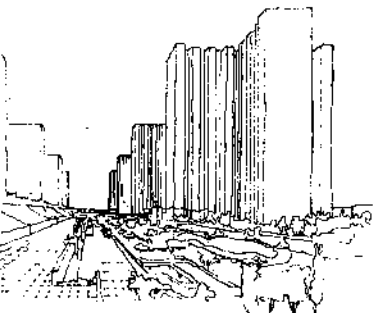

Figure 13. View of the *Contemporary City*.

7. "The culturalist model took shape after the progressist one and unlike the latter emerged not from a revolutionary vision but from criticism of an existing urban situation which was now more thoroughly entrenched.

The new model was retrospective in that it clung to the coherent and exemplary image of the pre-industrial city in opposition to the contemporary image of urban incoherence." (Choay, 1969, 102)

Figure 14. Sitte's informal and formal understanding of space

metropolis - La Città Nuova based on motion, with every element of its design implying either horizontal or vertical circulation (Spreiregen, 1965, 33) (Figure 11).

While advocates of the various models until the twenties have mostly been individuals, the period marks the emergence of groups. While Futurists, Constructivists and the Bauhaus make up the progressist side of theory, de Stijl and Expressionists may be considered to promote the culturalist view. Thus the idea of "teamwork" develops instead of the individual moves.

The Bauhaus (1919), besides teamwork, has professed standardization and rationalization in architecture. For its followers

> forms of New Architecture are not the personal whims of a handful of architects avid for innovation at all cost, but simply the inevitable logical product of the intellectual, social and technical conditions of our age (Gropius, 1965, 20).

The new possibilities and materials of the industrial age have always fascinated the architects of the progressist model, i.e. standardization, purification, geometry, rationalization. However, in actual practice the industrial city had created an environment of problems: ill-housing, dilapidation followed by slum formations, inefficient transportation and an urban order of chaos.

Revolutionary reactions against such an urban disorder in the twenties have influenced two important schemes by Le Corbusier: Une Ville Contemporaine and Plan Voisin for Paris in 1922 (Figures 12,13).

In both cases, features of the early progressist models are apparent: buildings in open spaces formed of discontinuous blocks and functional separation reacting to the existing urban order. His desire for the machine and technology (the motorcar, elevators, conditioned air, etc.) ends up in schemes where skyscrapers are located in vast open areas and where each function has its own place. Traffic is also handled in the functional manner of hierarchy and pedestrian segregation.

Twenties have thus marked a period of reactions. In the field of architecture, the academicians who were trying to prolong a style of ornamentalism, and in the field of urbanization, the created urban environment were reacted to by the architects of the new movement. The competitions and exhibitions, mentioned in the introduction of this study, have only helped the formation of the International Congresses for Modern Architecture.

Before going into the discussion of CIAM Movement the culturalist model will briefly be handled.

B. CULTURALIST MODELS[7]

The culturalist model seeks for both the urban structure and architecture of pre-industrial society[8]. The second generation representatives of the culturalist model do not reject the industrial society but try to adapt its space understanding to that of the pre-industrial city. The most famous is Camillo Sitte (1843-1903) who after dissecting the Classical, Medieval and Baroque urban structures, finds some fundamental elements in these pre-industrial forms[9].

> Space is continuous and buildings have meaning only insofar as they are related to each other; for Sitte, the modern disease of isolated construction is to be condemned ... In the distribution of solids and voids, the only criteria should be irregularity, imagination and asymmetry. This is to condemn the straight line, regularity and symmetry (Choay, 1969, 104, 105) (Figure 14).
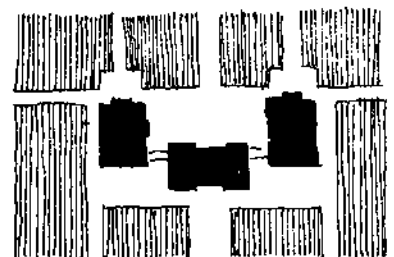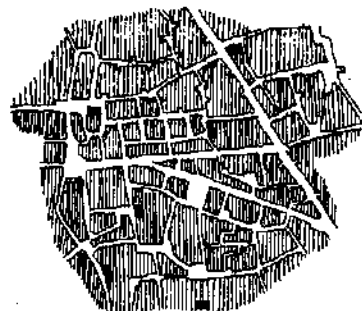
8. "Culturalist cities are small and concentrated, consequently their urban fabric is continuous. Yet within the closed woven fabric, variety, irregularity and asymmetry prevail; standardization is condemned ... The culturalist city derived its significance from the variety of façades whose gables and openings are never identically designed and form the contrast between private buildings and the grander, more sumptuous civic buildings." (Choay, 1969, 103)

9. "Space is continuous buildings have meaning only insofar as they are related to each other; for Sitte, the modern disease of isolated construction is to be condemned ... In the distribution of solids and voids, the only criteria should be irregularity, imagination and asymmetry. This is to condemn the straight line, regularity and symmetry." (Choay, 1969, 104, 105) (Figure 14)
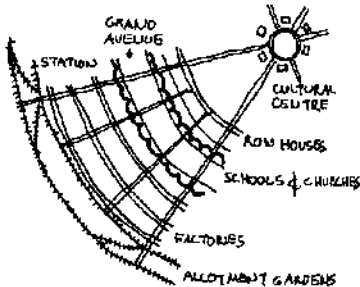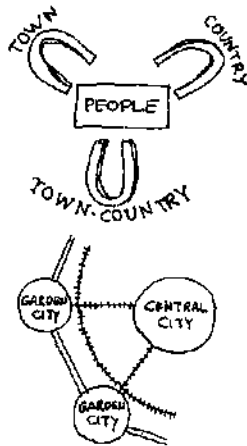

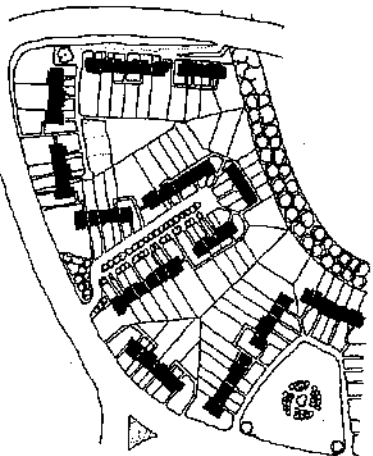Figure 15. Howard's diagrams of the *Garden City*

Figure 16. *Letchworth Garden City*, housing detail

Works of Patrick Geddes (1854-1932) are considered to be origins of modern urban planning techniques. Being an ecologist he has influenced both the progressist and culturalist models. In developing the analytical survey method for appraising urban structures he tried to integrate physical planning with social and economic improvement, thus establishing the roots of regional planning and functional analysis. This attribute of Geddes' work was to be clarified in the Athens Charter of CIAM later. However, on the other hand his survey system was used

> within the context of a culturalist system of values and it remained dependent on the creative intervention of a planner (Choay, 1969, 109).

At the turn of the century an important step in the development of city planning practice was the Garden City of Ebenezer Howard (1850-1928). His model originated from progressist thinking but ended up in culturalist form as it was designed. According to him

> town and country must be married and out of this union will spring a new hope, a new life, a new civilization (Mumford 1938, 396) (Figure 15).

His scheme followed the models of early 19th century progressists in that the city was to be located in the country combining social advantages of the city and the healthy conditions of rural areas. Further

> in its internal development there was to be a balance between home, industry and market; between political, social and recreational functions (Mumford, 1938, 397).

However, on the other hand, growth in his city would be controlled with limited population, and he

> condemns standardization and encourages variety in the handling of space and buildings (Choay, 1969, 108).

Culturalist thinking becomes more clear in the design of the garden city. Sir Raymond Unwin

> who was assigned the task of drafting the plan, used Howard's diagram, but also borrowed heavily from Sitte: layouts of paths, intimacy in space, diversified buildings made to interrelate three dimensionally. Unwin himself acknowledged how much he owed to pre-industrial urban patterns in his aesthetic treatment of space (Choay, 1969, 108) (Figure 16).

The culturalist line seems to fade away preceding the garden cities until after the Second World War, if we do not consider the architectural deeds of the Expressionists and de Stijl. With the emergence of English new towns, the concept will revive again.

The pattern of development of progressist and culturalist thinking I would suggest is that, periods of turbulence enhance progressist thinking. The culturalist model on the other hand requires more stable periods.

While the early progressist models emerged in the wake of industrialization, the 20th century models developed in the turbulent years of the First World War and the following economic depression; and the culturalist models have blossomed in years of stable economic conjunctures in the Western World.

CIAM

International Congresses for Modern Architecture have served as an arena where architects and city planners of mostly the Western World have discussed, debated, sometimes in consensus, sometimes not, the problems of the 20th century architecture and city planning practice.

The aims of CIAM have been summarized by Cornel van Eesteren in the fifth congress[10]. To communicate its ideology the CIAM has held congresses and meetings, performed exhibitions and published the results of the congresses. CIAM's work will be discussed under the following headings:

A. Organs, working principles, participants
B. Congresses and main subjects of discussion
C. Development of space understanding of CIAM
D. Space understanding of Team 10

A. ORGANS, WORKING PRINCIPLES, PARTICIPANTS

The organs of CIAM were:

10."The CIAM has become a vast laboratory of urbanistic and architectural problems ... The sole object of our efforts is to develop architectural and town planning methods that are appropriate to both the needs and the technical means of our day, so as to contribute toward giving men healthier and happier surroundings." (Sert, 1942, 1)

"Throughout its 28 years, CIAM remained a more or less informal grouping of friends with similar approaches to architecture and planning. Though formally recognized as an influential organization by the United Nations and Unesco, it was never governmentally subsidized and those attending its congresses either paid their own way, or were privately assisted by their friends. All but three of its ten Congresses resulted in some kind of publication, and these were undoubtedly very important in extending the influence of the ideas to which CIAM was devoted. However, its worldwide publicity was due to the personal writings of Le Corbusier and S.Giedion." (Ekistics, 1963, 263)
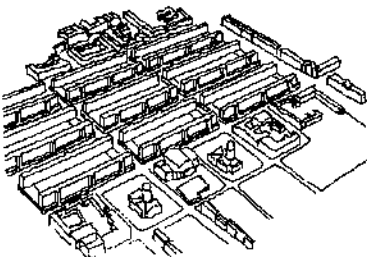

Figure 17. A study for low cost dwelling by Hilbersheimer discussed in CIAM 2, Berlin 1930

11.. Le Corbusier (France)
. Cornet van Eesteren (Holland)
. J.J.P. Oud (Holland)
. Mart Stam (Holland)
. Maxwell Fry (England)
. Sigfried Giedion (Switzerland)
. Walter Gropius (USA)
. Richard Neutra (USA)
. Jose Luis Sert (Spain)
. Walter Loos (Austria)
. Alvar Aalto (Finland)
. Martin Wagner (Turkey)
. Bruno Taut (Turkey)
and many others.

12. "The utilization of the third dimension to liberate generous areas of ground presents many opportunities for the disposition, in the immediate proximity of the dwelling, of all the social organizations that enlighten the tasks of the mistress of the house and the mother of the family : child welfare centres, educational and athletic establishments, and the like." (Le Corbusier, 1973, 21)

13. "18 national groups made plans of 33 cities, representing a great variety of national circumstances and climates ... 3 maps and a report were produced for each city: landuse map, transportation map and a map of the regional setting. The system on which they were drawn up was reproduced using the example of Amsterdam, according to a standard module." (Ekistics, 1963, 263)

"The resulting Charter of Athens, which follows, exerted a tremendous influence on those who took part in drawing it up-and this included almost all the foremost European architects and planners of the time, with some others from other parts of the world. Its statements and recommendations have also, directly or indirectly, been incorporated in most subsequent town planning legislation particularly in Europe and many other emerging nations." (Ekistics, 1963, 264)

1. The congress comprising the general assembly of the members of the Association.
2. CIRPAC (Comité International pour la Resolution des Problemes de L'Architecture Contemporaine) consisting of delegates elected from members to organize the congresses and establish working programs.
3. Working groups formed of architects as well as other specialists like economists, sociologists, etc., to collaborate in collective studies to be presented to the congresses for the development of modern architectural and city planning problems.

The congresses of CIAM and meetings of CIRPAC followed their own pattern convoked on the basis of a definite program of work to be discussed and resolutions to be adopted. Hence each congress was directed to the study of a major theme and other topics.

CIAM attracted many of the famed architects of the Modern Movement, while on the other hand certain national groups were established to collaborate in the congresses. There were important names and groups attending congresses of the pre-war period[11]. Important national groups to contribute to the studies of CIAM have been GATEPAC (Spain), MARS (England), Swiss, Dutch, French, and other groups.

B. CONGRESSES AND MAIN SUBJECTS OF DISCUSSION

CIAM 1 : 1928 LA SARRAZ (SWITZERLAND)
"DECLARATION OF MODERN ARCHITECTURE"

The first congress ends up with a declaration which denotes "the need for a new conception of architecture which will fulfill the material, sentimental and spiritual demands of present day life". Main issues of the declaration were:

. relationship between architecture and economy
. urbanism devoid of aesthetics based on functions
. determination of primary functions of dwelling, work, recreation, transportation
. rejection of subdivision of land
. information of public opinion on modern problems
. establishment of architecture-state relationship.

CIAM 2 : 1929 FRANKFURT (GERMANY)
"THE LOW COST DWELLING"

The second congress assigned to the national groups the study of dwelling types that would prove to be most economical (Figure 17). A uniformity of presentation was provided where hundred dwelling plans were analysed from all over Europe and the USA which were classified into:

. single family houses
. two family houses
. multiple-family dwellings

CIAM 3 : 1930 BRUSSELS (BELGIUM)
"THE RATIONAL HOUSING DEVELOPMENT"

The main task of national groups has been to work out the form of habitation that would best suit the needs of the community. The problem was no longer that of the family cell itself, but that of the group.

Possible ways of using low, medium and high buildings were considered after analysis of a variety of examples. While the inhuman character of large cities was evident, the garden cities to release man of such circumstances were resulting in scattering of dwellings and hence alienation.

Though the high apartment model was not considered to be the only solution, it was highly praised in this congress following the already existing schemes by Le Corbusier and Gropius[12].

CIAM 4 : 1933 ATHENS (GREECE)
"THE FUNCTIONAL CITY — CHARTER OF ATHENS"

The most widely known congress is the fourth one, exerting prominent influence on urbanization problems of the world. Beginning with the more architectural element, the dwelling, the themes of the congresses have been transformed into more complex groupings and finally culminated in the Charter of Athens as a pure declaration of urbanization problems. The Charter is considered to be a reply to the present chaos of cities. The main theme of the fourth congress was decided in the previous one[13].

THE CHARTER OF ATHENS

The Charter is made up of 3 sections (*Ekistics*, 1963, 264-267):

1. The city in its regional setting
   The city should be analysed within its regional context taking into consideration economic, geographic, natural and administrative factors.
2. The four functions of the city
   The basic functions (dwelling, work, recreation, transportation) of the city plus historical heritage (which was taken into consideration with the insistence of the Italian group) have been tackled as to their existing situations and recommendations are made to alter this process.
   a. Dwelling
      Dwelling quarters are dense, unhealthy with proximity to heavy traffic, so: High-rise apartments away from traffic with open spaces receiving sunlight are recommended.
   b. Recreation
      Open spaces are ill-distributed and insufficient, so: Sufficient amount of open spaces should be maintained in new residential areas, and slum clearance should be made use of in obtaining such areas; further, access should be provided to the natural resources.
   c. Work
      Existing land-use is too mixed with haphazard industrial locations and long journeys to work, so: Industry and dwellings zones should be separated and good communications should be provided.
   d. Transportation
      Transportation system is old and insufficient for the automobile, and, the railroad is an obstacle, so: Transport studies should be mathematized, a hierarchy of roads should be structured according to function, pedestrian systems should be separated from the vehicular, and a green belt should be provided along arteries.
   e. Historical heritage
      Buildings representing historical cultures should be protected and preserved; for this, demolition of slums may be utilized which provide further open spaces, but this should not entail the re-use of past styles in modern buildings.
3. Conclusions
   . Today's cities are in a chaos due to the development of private initiative in economy, providing for strong economic factors against weak administrations.
   . The city should provide individual liberties and human scale.
   . The four functions should be the basis of reconsidering the city.
   . The third dimension offering the possibility of freeing spaces for modern traffic circulation and recreation should be considered.
   . The city should be considered in its regional context where development should be harmonious with open spaces.
   . Every city should build its planning program and necessary legislative measures.
   . The point of departure for all town planning should be the single dwelling, or cell and its grouping into neighbourhood units.
   . Private interests should be subordinated to the interests of the community.

CIAM 5 : 1937 PARIS (FRANCE)
          "HOUSING AND LEISURE"

The fifth congress discussed the reorganization of rural areas. As a part of regional analysis the city and its environs where agriculture is performed are considered inseparable. According to the discussions in the congress:
. rural zones should be urbanized while preserving their regional culture,
. differences between urban and rural living conditions should be balanced.

On the other hand organization of "free times" for all ages had to be provided in urban areas.

CIAM 6 : 1947 BRIDGEWATER (ENGLAND)
          "10 YEARS OF CONTEMPORARY ARCHITECTURE"

MARS Group of England which was responsible for the preparation of this congress had proposed a plan for rebuilding London, where

> the whole population would be redistributed in 16 finger corridors all connected by a major circulation spine and encirling loop (Spreiregen, 1965, 46).

Urbanization projects of the last ten years where the search for a social habitat

and a new theme which was long neglected, the aesthetic impact, were discussed. With this congress a change in the space understanding of CIAM has occurred from mere functionalism to the consideration of spatial qualities.

CIAM 7 : 1945 BERGAMO (ITALY)
"THE CIAM GRID"

Studies of various urban areas were exhibited that were prepared in conjunction with the CIAM grid which was a

> graphic file system for recording pertinent information in an urban study and for explaining a plan (Spreiregen, 1965, 46).

The grid made use of the four major components of CIAM philosophy: dwelling, work, recreation and circulation.

CIAM 8 : 1951 HODDESTON (ENGLAND)
' "THE CORE OF THE CITY"

The core of the city was the major theme of the eighth congress. In the post-war congresses the fresh ideas of the younger generation were being influential upon the major themes. Thus besides the four functions new elements of the city were added in each congress[14]. Consequently the last two congresses have become subject to the upheaval of this new generation.

CIAM 9 : 1953 AIX-EN-PROVENCE (FRANCE)
"THE CHARTER OF HABITAT"

The post-war congresses had become subject to changes in CIAM thinking. This was the result of both the emergence of groups of younger generation architects and planners, and a change in the philosophy of the older generation of masters.

An important transformation was on the way as to the meaning of the concept of habitat. It was a search for the analysis of relations between the individual and the community. Fresh views of the younger generation were attacking the established system of CIAM[15]. Another important event marking the ninth congress was that founding members like Le Corbusier, Gropius, Eesteren, Giedion and Sert announced their retirement.

CIAM 10: DUBROVNIK (YUGOSLAVIA)
" THE END"

The younger generation of architect-planners had introduced new terminology like "association" and "identity" into architectural thinking beside the pure functional approach of CIAM, in the previous congress. Later in 1954 they met again to produce the Doorn Manifesto which proposed:

> to comprehend the pattern of human associations we must consider every community in its particular environment (Lewis, 1967, 18).

Thus there was another radical break from internationalism to particularism. Following this idea

> the word cluster was first introduced at CIAM 10 at Dubrovnik in 1957. The aim of Team 10 who organized the work for the congress on the lines of the Doorn Manifesto, was to demonstrate that a specific form of "habitat" must be evolved for each particular situation (Lewis, 1967, 33).

While discussions were going on in conjuction with the new concepts at Dubrovnik

> it became evident that CIAM, with over 3000 members had become too diffuse to cover any subject other than by the merest generalization. There was also a cleavage between the founders; old, famous and very busy, and the followers; young, underworked and ravenous for power. The congress broke up leaving Team 10 in possession of the field. Most national groups dissolved themselves. Team 10 continued to meet at Doorn (1954) and Otterloo (1959), but they met as individuals (Lewis, 1967, 7).

C. DEVELOPMENT OF SPACE UNDERSTANDING OF CIAM

The historical development of CIAM thinking may be analysed in two phases:

1. Pre-war period (1928-1937), first five congresses,
2. Post-war period (1947-1956), second five congresses.

When looked at from this point, there seems to be a change in the thinking of members of CIAM. Besides the emergence of Team 10, the older generation masters of the movement have also altered their understanding of space to a certain extent.

14. "Even the older members of CIAM recognized that this analysis was inadequate, but did not reject it, merely adding new functional categories such as "the historical centre" or "the core". But the young were for a foot and branch rejection of all the Athenian categories, which they frequently damned as "diagrammatic." (Banham, 1966, 71)

15. "The CIAM congress at Aix-en-Provence in 1953 saw the first crack in the theoretical solidity of the modern movement. The Smithsons showed Henderson's pictures, met Candilis (who had produced some remarkable Moroccan housing), J.B. Bakema of Holland and several young men who also found the Athens Charter obsolete. They formed a group to exchange information. This group, Team 10, was entrusted by CIAM to prepare the programme for the tenth CIAM congress at Dubrovnik in 1956. The method of analysis for the projects submitted was roughly, in terms of human association rather than functional organization, thus marking a radical break in architectural thinking." (Lewis, 1967, 7)

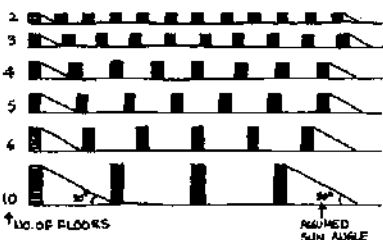Figure 18. Siemensstadt Siedlung by Gropius, 1929

Figure 19. Diagram illustrating height-open space ratio; presented by Gropius at CIAM in 1930 to prove increased density and open space to be obtained by using high-rise blocks
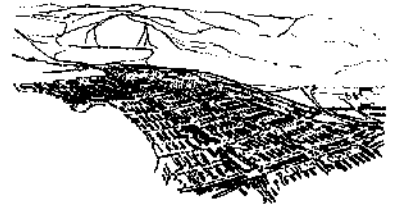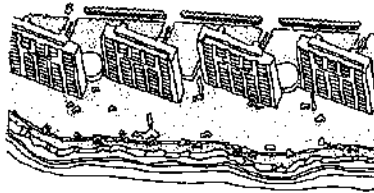
Figure 21. Plan for a city in USSR by Mart Stam of Holland

16. "The nostalgia of the town dweller for the country and the countryman's for town are the expression of a deep-rooted and growing desire that clamours for satisfaction Technical developments are transplanting urban civilization into the countryside and reacclimatizing nature in the heart of the city. The demand for more spacious, and above all greener and sunnier cities has now become insistent. Its corollary is the separation of properly coordinated transport service ... By what means can we overcome the defects of our urban buildings-their lack of light and air, their noisiness, and their paucity of space? Of the city is to be confined to the smallest superfical area in order that minimum distances from one business centre to another may be maintained, then there is only one rational solution for securing better light and air and an increase in living sapace: the multiplication of floors." (Gropius, 1965, 100-103)
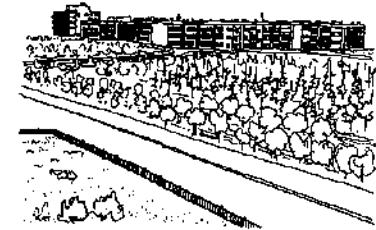

Figure 22. Dwelling blocks in Baku (USSR), separated from the main highway by a green

Figure 23. Two-storey dwellings in Neubuhl, Zurich 1930, uniform south exposure

17. "Thus the higher blocks enjoy better isolation, and insure a more rational utilization of the size by providing a greater ratio of green open space per inhabitant ... We need new laws restricting density of population in terms of the maximum amount of floor space per acre of building land, but abolishing existing limitations on the height of the buildings." (Gropius, 1965, 105) (Figure 19)

18. "The 1929 Frankfurt CIAM congress, devoted to the subject of the "minimum dwelling", had had the effect of establishing these standards as international housing norms in avant-garde professional circles. These norms were applied in actual realizations in European work throughout the late twenties and early thirties... The many German specialists and their associates were imported en masse into Russia in the early thirties; men such as Ernst May, Arthur Korn and Mart Stam carried these standards with them into Russia, like the tenets of a socio-technical dogma, ...

this phase (italics - author) of the Russian town was characterized by residential solutions consisting of parallel housing blocks grouped at regular intervals into neighbourhood sectors, each sector being equipped with its theoretical essential complement of schools, clubs, kindergarten, etc." (Frampton, 1968, 248, 249) (Figures 21, 22)

Figure 24. Medium height block in verdure

Figure 25. La Cite de la Muette near Paris, fifteen-storey tower and three-storey apartment buildings

1. PRE-WAR PERIOD

The period of foundation of CIAM corresponds to an era of restlessness. The First World War was over and the Western World was agitated by the great economic depression. The period was suitable for the development of progressist ideas. Further, the city was facing serious problems of the industrial society: ill-housing, slum formation and clearance, congestion, pollution, lack of open spaces, etc.

Under these circumstances, the CIAM, which was in the first instance founded as a preacher of the Modern Movement in architecture against established ways of thinking, turned its focus to problems of urbanization.

Le Corbusier, who was the most influential member had already produced his schemes of Une Ville Contemporaine and Plan Voisin (Figures 12,13), the principles of which would very much influence the pre-war thinking of CIAM.

This new vision of the modern city entailed:
. functional organization (dwelling, work, recreation, circulation),
. skyscrapers in vast open spaces to be used for recreation, or row housing still in open spaces of mechanical order,
. minimum standards of dwelling units,
. accentuation of vehicular traffic and pedestrian segregation.

The idea is further clarified by Gropius[16]. The third congress at Brussels had discussed the low, medium and high buildings; though the others were not denied and practiced (Figure 18), the type most praised was the high building. After analysing the relatioship between height, angle of sun and the open spaces obtained, Gropius concluded the superiority of the high tenement blocks[17].

As a result Gropius produced schemes to demonstrate the superiority of the high rise, which stamps the space understanding of CIAM in pre-war years (Figure 20). Hence the basic elements of urban biology for CIAM have become SUN-SPACE-VEGETATION AND CONCRETE-STEEL. The concepts thus produced, have also been documented in the Athens Charter, for the followers of which the new architecture gained another attribute; that of an international architecture with no concern for particular situations.

The pre-war ideology of CIAM produced projects, some of which were applied and some remaining as theoretical work. On the other hand, the most ardent followers of its principles have been the socialist city-builders. The principles set forth by CIAM found application in the construction of cities in the socialist world; for their extensive usage of technology in construction, the idea of the minimum dwelling, functional organization of space, abundance of open space in a society where land is publicly owned all favoured the application of such thinking[18].

Hence both in industrializing socialist or capitalist societies a mechanical pattern of housing estates depending on functional organization became a prime motive of design process. Whether high or medium or low rise, the pre-war CIAM approach to the design of housing zones was after the creation of isolated buildings within open spaces (Figures 23, 24, 25). Association between dwellers of these residential quarters was expected to take place in the vast amount of green spaces created for a "healthy environment", where this phrase was considered to be identical with the idea of verdure.

Figure 26. Development scheme for Barcelona by CATEPAC group of Spain, 1933-35

Figure 27. *City of Nemours* (North Africa) by Le Corbusier, 1934

19. "Man's urban needs were established as dwelling work, communication and recreation, denying 500 years of emotional identification of city dweller and power image. Although Chicago and London escaped the new Urban Fascism, Brasilia, being new and without tradition, did not. The plan of its urban body is a perfect example of CIAM principles according to Lucio Costa, its planner. Forty-two superblocks in the "City of Tomorrow", uniform in shape, layout and orientation along the cross-axis, are geared to an undeviating, one directional communication pattern with dead corner intersections." (Moholy Nagy, 1968, 196)
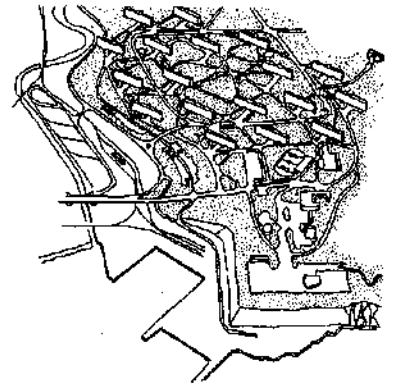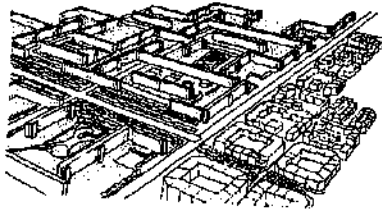

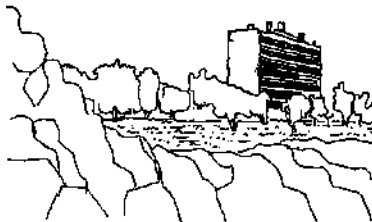
Figure 28. *City of Tomorrow* by Le Corbusier, 1922

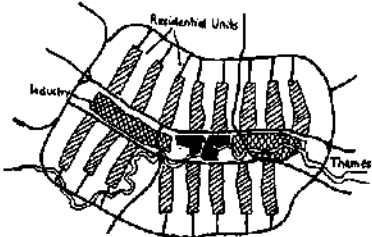Figure 29. The great obsession realized, *Unité d'Habitation* in Marseille, 1951
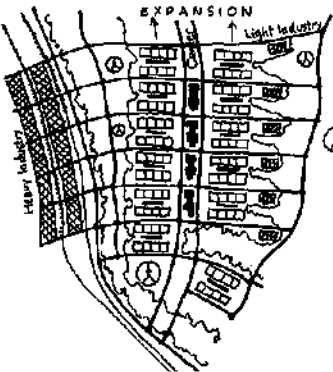

Figure 30. Plan of London by MARS group, 1938

Figure 31. *Ideal City* by Sert, 1944

Figure 32. *Hellocourt* designed for Czech shoe manufacturer Bata in 1935 by Le Corbusier

Various groups or personalities maintaining the CIAM ideology constructed first abstract urban forms displaying an orthogonal-mechanical order and a new space understanding, where high-rise buildings would be located in widely spaced blocks (Figures 26, 27). The skyscraper ascending from vast open spaces, served by an exaggerated vehicular system thus became the basis of pre-war CIAM ideology (Figure 28). Later such abstractions would find chances to be realized into real and concrete buildings through the insistent efforts of Le Corbusier.

Le Corbusier's great obsession, the Unité d'Habitation, a super-block in a park had roots in his previous schemes before the establishment of CIAM. He never gave up the idea and employed it in his Ville Radieuse in 1935. His first effort to construct a unit was intended for Paris in 1937 but could only be realised for Marseille in 1951 (Figure 29).

The scheme for an ideal city by Sert and the proposal for London by MARS Group are further attempts to generate cities relying on functional organization of neighbourhood units connected mainly with a vehicular transport system (Figures 30, 31).

The CIAM was dissolved in 1956. The competition for Brasilia was held in 1957. The proposal by planner Lucio Costa and architect Oscar Niemeyer won the contest. It was a perfect application of the CIAM principles, though the organization no longer existed, the plan satisfied the political aspirations of its builders, in its display of power in an underdeveloped country. The plan and with it CIAM practice is harshly criticised by Sibyl Moholy Nagy as urban fascism[19]

The linear form of the industrial city had always been on the progressist side of the model. Beginning with Soria y Mata and Tony Garnier, the attraction of the idea of transportation along a main artery had found expression in Miliutin's Tractorstoi at Stalingrad (1928), Ernst May's Magnitogorsk project (1929-31), plan of London by MARS Group (1938) and the ideal city of Sert (1944). While Soria's plan was implemented in a small portion of Madrid (Figure 8). Miliutin's plan

> appears to have been adopted as official planning policy; its execution was interrupted and later abandoned in favour of the official reconstruction plan for Stalingrad in 1944 (Frampton, 1968, 251).

The linear option attracted Le Corbusier too and he experimented with the idea in some of his urban forms[20]. Although many of the linear schemes remained unimplemented, the plan of Brasilia was developed as a linear city employing the CIAM principles, where the masters of the movement were at last able to see their theoretical obsessions realized (Figure 33, 34).

2. POST-WAR PERIOD

In analyzing the progressist and culturalist models, it has been observed that progressist models develop in years of depression. The pre-war thinking of CIAM proves this fact. When the war was over we see sparks of culturalist thinking in the way followers of CIAM approach the planning process. This is a move from internationalism to particularism, and from the arrangement of discontinuous elements to the more compact design approach of low-rise buildings, though preserving other principles of CIAM. Such a change was occuring even before Team 10's emergence.

The works of both Sert and Le Corbusier give evidence of the event[21]. Hence local conditions, low dwelling units in compact attached clusters become new
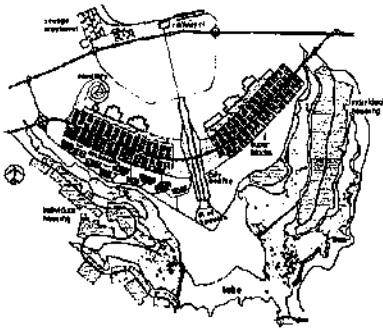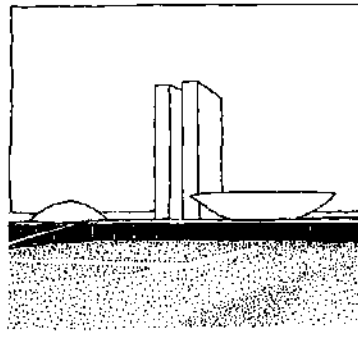
Figure 33. Brasilia general plan, *Linear City* along vehicular artery

Figure 34. The CIAM principle of widely spaced high rise block and plaza of three powers, buildings as sculptures

20. "In 1935, he designed Hellocourt, an industrial city which owed much to Tony Garnier's Cite Industriell project of 1903. The industrial (a) and professional-educational sectors (b) are linear. Where he differs entirely from Garnier is in the clustered arrangement of multi-storey residential units (c), arranged in a sort of flight formation in the open country." (Moholy Nagy, 1968, 269) (Figure 32)
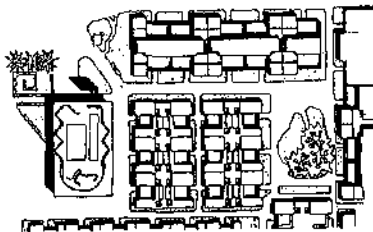
Figure 35. Cluster housing by Sert at Chimbole Peru, 1984

Figure 36. Housing at Chandigarh, low rise clusters and details to fit local living

Figure 37. Development of the CIAM formula, Billerica project by Joseph Zalewski

21. "During their initial years of practice, Town Planning Associates (established by Sert to act between 1930-1953) developed methods of. work based on those generally proposed by CIAM. As their work progresses, these methods change, becoming more adaptable to local conditions ... The Chimbote plans designed in 1948 were presented to the Bergamo meeting of CIAM in 1949. These plans make use of tight clusters of patio houses, one, *two, or three stories high. They provide a great variety of groupings by type combination, and emphasize the patio or court as an urban module that repeats at different scales form the one family house patio to the civic centre."* (Bastlund, 1967, 46) (Figure 35)

Figure 38. *Stevenage* 1946, town centres as urban enclosures of the culturalist model

Figure 39. Plan of *Roehampton Lane Estate* in London, developed by the London County Council in the 1950's as a number of free-standing Unites d'Habitation in the concept and architectural design of Le Corbusier. His hope for Veritcal Villages, suspended between the sky and "unviolated verdure" was here more closely realized than anywhere else. (Moholo-Nagy 1968, 265).

elements of CIAM planners. The same applies to the work of Le Corbusier in Chandigarh whose

> buildings exemplify a personal architectural philosophy which is still dominant when, as in his later jobs, place and region are taken into account (Joedicke, 1968, 9) (Figure 36).

However the fact remains that strict functional organization and open spaces are still dominant features. Although Joseph Zalewski's clusters are designed in the form of low-rise patio-houses, the elements tying the clusters are still green spaces. Instead of the skyscrapers, the clusters have become elements floating in green spaces (Figure 37).
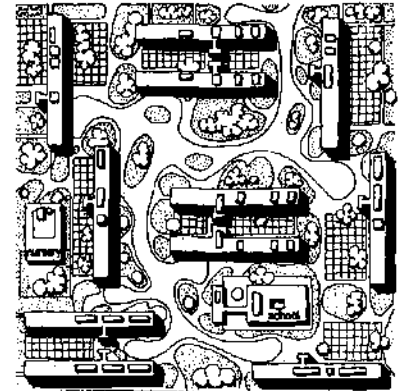
D. SPACE UNDERSTANDING OF TEAM 10

The ideology of Team 10 may be considered as a resurgence of the culturalist model. Now that the war was over and an atmospere of stability was created, the European countries commenced huge programs of housing, which took the shape of New Towns in England. The schemes carried both features of the culturalist garden city movement at the turn of the century, and the progressist understanding of CIAM.

Intimate low buildings, urban centres, variety in construction resembled the precious garden cities (Figure 38), While functional separation and high rise blocks *in vast open spaces were reminiscent of CIAM principles.*
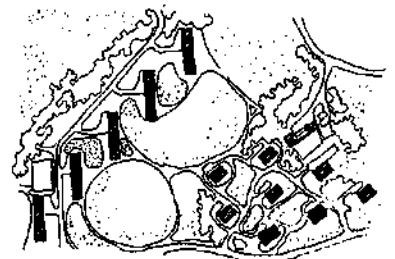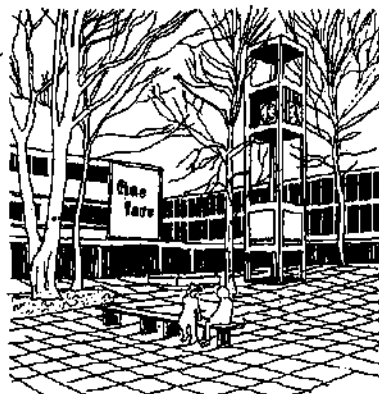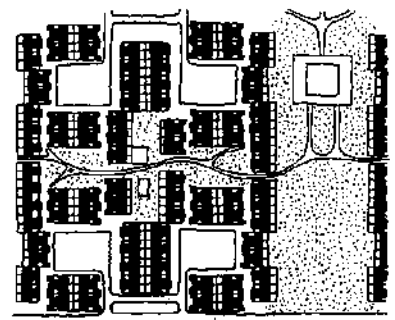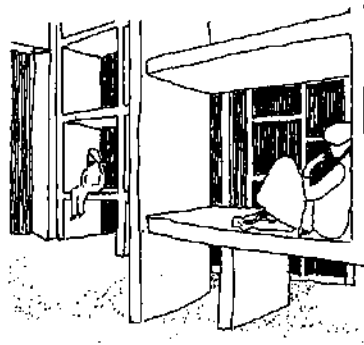
Figure 40. *Hoje Glodsaxe Danmark*, 1965

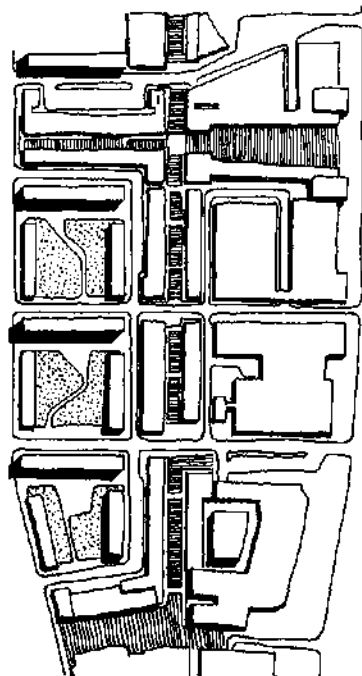Figure 41. *Bredalsparken Danmark*, 1949-59

Together with the idea of the urban plaza, the usage of which was restricted to the town centre, new housing developments displayed still the progressist touch of the green space as the tying element. Though in most cases the principle of high rise blocks "being suspended between the sky and unviolated verdure" remained the basic approach to housing design (Figures 39, 40), there were also patterns which manipulated the green space in a more intimate way (Figure 41). However huge housing programs initiated by public authorities all ended up in monotonously spreading residential areas. Consequently new ideologies would develop within the CIAM itself, to open the way to new design approaches.

Younger generation of architects and planners would attack housing environments of post-war years as being an outcome of the Athens Charter which they considered obsolete. In Crosby's words,

> the planner applied the Athens Charter formula where he could; we can now assess the results - in the new towns, the city of London, and in the vast areas of the Continent. By 1951 it had already become clear that the really important thing had slipped away. We were rehousing people, but the life they were expected to live was not only dreary but already socially obsolete. Condemning the new towns became a popular sport, but as they were an economic success nothing could move the authorities into investigating alternative housing methods (Lewis, 1967, 6).
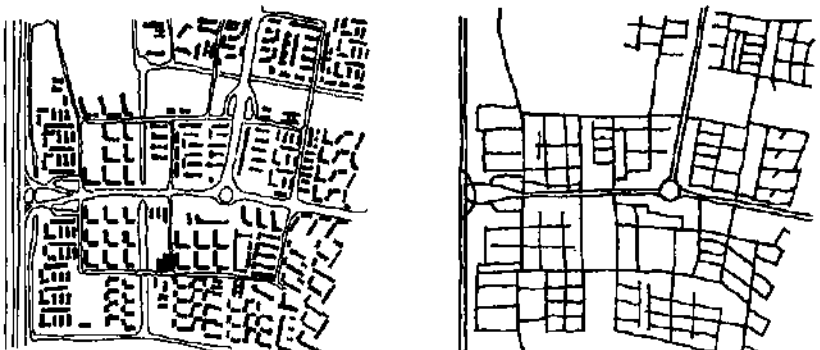
Thus a reaction to established ways of thinking was raised, just like the founders had done in reacting to the academies' established ways of thinking in the twenties. With Smithson's words,

> each generation feels a new dissatisfaction and conceives a new idea of order. This is architecture. Young architects today feel a monumental dissatisfaction with the buildings they see going up around them. For them the housing estates, the social centres and the blocks of flats are meaningless and irrelevant. They feel that the majoritiy of architects have lost contact with reality and are building yesterday's dreams when the rest of us have woken up today ... The social driving force of that movement was the slum clearance, the provision of sun, light, air and green space. This social content was perfectly matched by the forms of functional architecture, the architecture of the Academic period which followed the great period of Cubism, and Dada, and de Stijl of the *Esprit Nouveau*. This was the period of the minimum kitchen and the four functions, the mechanical concept of architecture (Banham, 1966, 71).

Of course this did not mean that the younger generation was against functionalism, but they were against rigid and diagrammatic separation of functions, creating mechanical environments. Hence there appeared new urban form and architectural analyses which would try to regenerate the neglected assets of organically developed environments by the people or of the pre-industrial city. To clarify this statement four eminent groups or members of Team 10 will be scrutinized to demonstrate the new space understanding.

BAKEMA AND VAN DEN BROEK

For the two Dutchmen, the idea is the establishment of association of various groups of buildings offering different choices. In doing so the line is used as the linking element of various groups. Already after the war, they had used this system in the Lijnbaan project in Rotterdam. Here, the low rise shops were concentrated on a pedestrian street with a parallel system of high-rise apartments complementing the scheme (Figure 42).
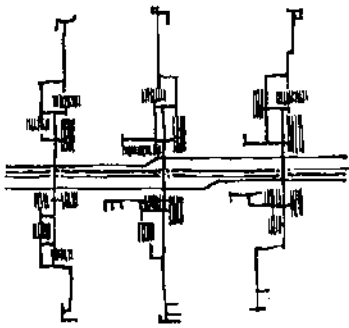

Figure 42. *Lijnbaan   Shopping   Mall   in* Rotterdam, 1945

Figure 43. Traditional housing   circulation system

Figure 44. *Amsterdam Pampus* circulation system and the idea of break-down of the overall volume in one of the housing units

22. "The two Dutchmen broke down the overall volume into various blocks - terrace houses, collective houses with three to four storeys, tall houses - and worked on the association of the simplest units (already articulated within more complex groups, each integrated by the services adapted to its size).

This articulation introduced within the simplest unit was justified by the need for formal variety - Bakema and Van Den Broek used the term "visual groups" - and by the need, on this most basic level of association, to offer a scale of different choices, corresponding to different ways of living: with and without contact with a garden, with and without the encumbrance of internal communications. The association of the simpler units gave rise to a further and fruitful complication of the volumetric systems and social choices, so that the study of the district gradually led to the study of the town and of the surrounding countryside." (Benevolo, 1971, 819)

23."De Carlo in his 1959 essay rightly says of CIAM that it has been an instrument of progress for the Modern Movement in the first stage of its life up to the delivery of the Charter of Athens, after which it became an instrument of regression, a buzzing beehive where formalism smoothly distilled itself in academics." (Van Eyck 1968, 152)

24. "The city was conceived as an industrial product with the emergence of industrial age. The complexity of urban life was ignored. The city was designed like a machine where each part functioned separately ... Thus the functions were first isolated then calssified, to be relocated in different spaces which did not overlap. By contrast, work, recreation, circulation, education, commerce and imagination could exist anywhere in the urban fabric of the pre-industrial city." (Kortan, 1981, 117)

25. "By introducing the circle here, de Carlo assisted further the idea of unity by means of ingenious contrast. He has avoided arbitrary fragmentation of the large communal spaces as well as avoiding the introduction of oversized rectangular masses as a false alternative." (Van Eyck, 1968, 160)

Figure 45. *University College* in Urbino by Giancarlo de Carlo

Figure 46. *University College*, general view, integrating building with site
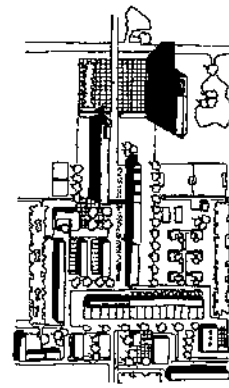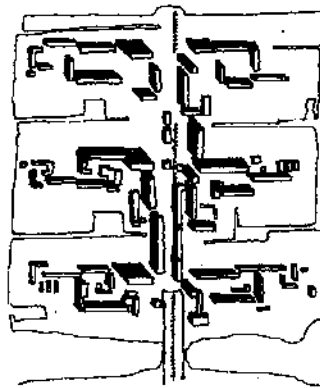
Their basic idea has been to break down the "Unité d'Habitation" into groups of both low and high-rise continuous sprawl of buildings[22]. Their proposition for an extension of Amsterdam demonstrates their ideas of development along a major spine and secondary spines, and variety of construction, where they depart from the idea of undefined grid systems, to a more structured search for urban form. Figures 43 and 44 display diagrammatic circulation systems of the Amsterdam Pampus and a traditional housing layout for comparison with their understanding of urban form.

GIANCARLO DE CARLO

Being an Italian familiar with the Mediterranean culture, De Carlo rejects the mechanical space understandign of CIAM[23]. He analyzes the pre-industrial city, and its complexity as against diagrammatized functional organization of CIAM understanding[24]. His schemes for the University College, Urbino (Figures 45, 46) and Dublin University (Figure 47) are good examples of his ideology. His design approach to the former project was a search for integrating past with present, building with site, in its particular conditions,

> way of access and communication; both open and closed; both inside and outside; both large and small and has above all, both individual and collective meaning. This device belongs to the building as much as it belongs to the site, in fact, through it the building is the site, the site is the building. I am, of course referring to the continuous system of external and internal covered and uncovered alleys, paths, walls, steps, staircases, seats, balconies, terraces and loggias which connects, embraces and penetrates all spaces large and small, individual and collective (Van Eyck, 1968, 157).

The outcome is also a "Unité d'Habitation", but this time in harmony with the site where a horizontal system of communications is maintained. The result is a web of spaces for human association structured in a circular form in conformity with the site[25]. The Dublin University clearly states the idea of the complexity of functions, where the functions are not given separate locations but exist in a complex web along a major spine (Figure 47).
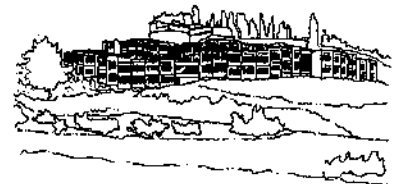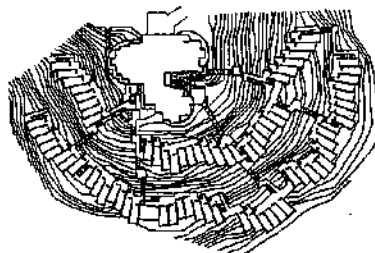

Figure 47. *Dublin University*, integration of functions along the open ended pedestrian axis

Figure 48. Realization of CIAM principles in the Amsterdam plan of 1934, 'inhuman conditions of a more subtle order than s lums'
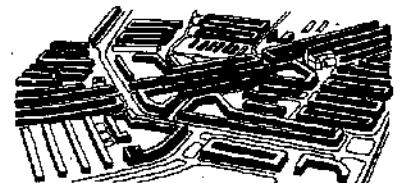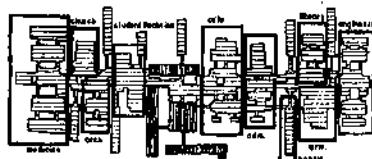
Figure 49. Urban structure of Smithsons

26. "In order to keep ease of movement, we propose a multi-level city with residential streets-in-the-air. They are linked together in a multi-level continuous complex, connected where necessary to work and to those ground elements that are necessary at each level of association. Our hierarchy of association is woven into a modulated continuum representing the true complexity of human associations." (Lewis, 1967, 26)
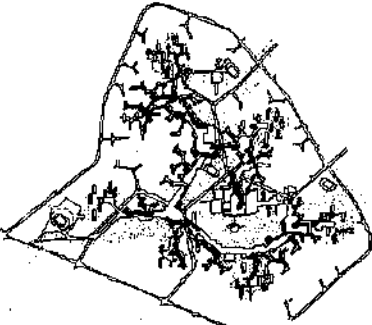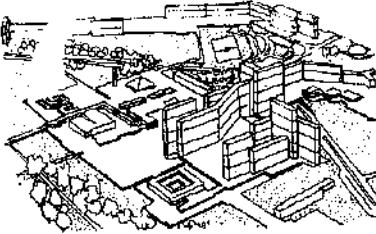
Figure 50. Urban structure of Toulouse le Mirail, connection through the pedestrian stem and the Regional Centre
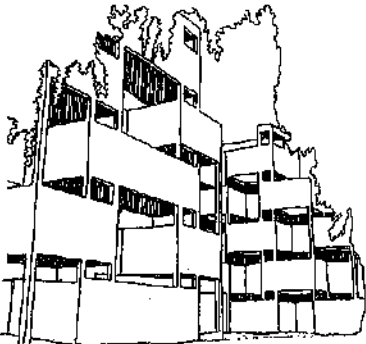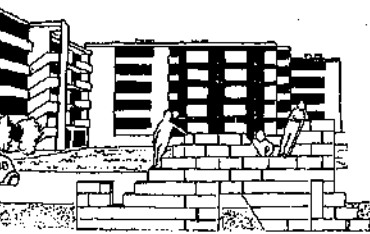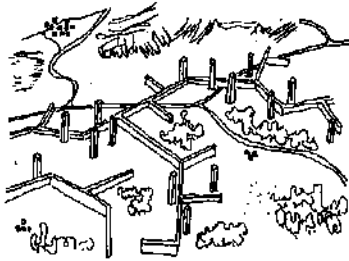
Figure 51. Moroccan housing, 1952

Figure 52. Low cost apartments in France, 1957 another place, another architecture

27. "What they have done is to relate their work to a particular place, particular demands and particular conditions." (Joedicke 1968, 9) (Figure 51, 52)

ALISON AND PETER SMITHSON

The basic idea of Smithsons is founded on the concepts of "association" and "identity". Other studies concerning "patterns of growth", "cluster" and "mobility" are based upon these two concepts. They consider the Byelaw Street as a means providing the basic association between individuals:

> about 40 houses facing a common open space. The street is not only a means of access but also an arena for social expression. In these slum-streets is found a simple relationship between house and street (Lewis, 1967, 15).

Smithsons identify "house", "street" and "district" as the elements of the city where each element should have its own character. The post-war housing groups in this respect

> were to high standards of construction and met the needs of the society as outlined by official sociologists, but they lacked some very vital quality; a quality which was undoubtedly necessary in order to achieve active and creative grouping of houses. This missing quality - essential to man's sense of well-being was IDENTITY (Lewis, 1967, 17).

Smithsons have also attacked the CIAM principles, accusing them of contributing to the creation of "inhuman conditions of a more subtle order than the slums" (Figure 48).

With the concept of identity they reject internationalism. Every group has its own identity. The urban structure is conceived of construction groups and functions along the line. The line is developed analogous to the Byelaw Street, but is not handled in the same manner, rather as a system developing within today's means of movement[26].

Their idea of the urban structure carries the same features attained in Candilis, Josic, and Woods' Toulouse Le Mirail, where association is provided along the line (Figures 49, 50).

CANDILIS, JOSIC, WOODS

The work of this group exhibits a more elaborate approach to the understanding of space. Space for them is not a function of *a priori* functional organization, but should be shaped according to the anticipated potential activities. However,

> their attitude is founded on the tradition of an uncompromising functionalism; in which the latter is regarded as a method of working and not as a formal characteristic (Joedicke, 1968, 9).

According to them

> the form of buildings is determined by two factors: the first comprises the living activities which take place inside buildings, and second, communal activities going on in the spaces between. To structure this idea, the line was chosen as the organizational principle, and to this linear system, the "stem", were connected the dwelling units. The "stem" itself only serves pedestrians (Joedicke, 1968, 9) (Figure 50).

Implicitly, the pedestrian street is used as the unifying element instead of the green spaces of CIAM, which at the same time is to be organized for human association. Their understanding of architecture is also for the particular case[27].

Along the "stem", use of different sizes from cellular to total volumes are offered to break away with repetition, where a discrimination between private and communal spaces is also maintained.

> To them architecture is not the creation of unrelated monuments, but of all environment, while formal attributes are architecturally less decisive factors,

28. "All the prize winning schemes in this competition created large open spaces in front of the cathedral, a form of architectural assassination which delighted Viollet le Duc and Baron Haussman." (Candilis, Josic, Woods, 1967, 195)
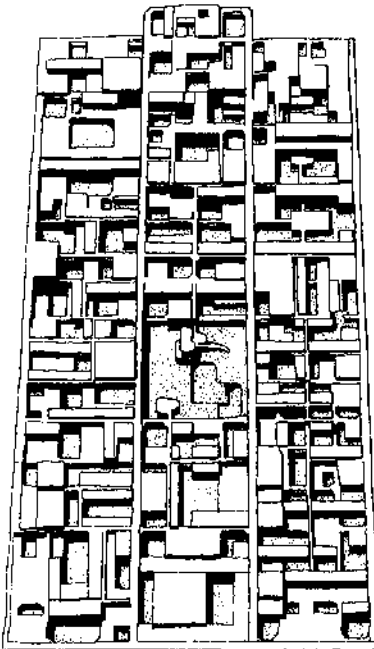

Figure 53. *Free University* of Berlin, 1963 search for association in a groundscraper
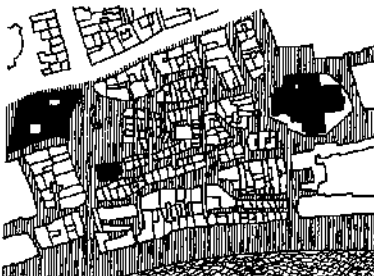

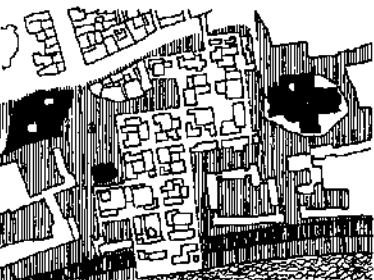Figure 54. *Frankfurt/Main Centre* competition, plan of area before destruction

Figure 55. Proposed plan to re-establish human scale

29. "The fruits of the decade 1928-1938 seem colossal not only in architecture built, but in the popularizing of an urban programme. It was inevitable that such a programme, when stripped of its imagery, should result in the banalities of much post-war planning." (Newman, 1961, 16)

it is neither

> the magnificent play of forms in light, but the endeavour to create spaces for particular activities (Joedicke, 1968, 9) (Figure 53).

One other thing may be noted in relation to their approach to the historical buildings. In the Frankfurt/Main competition of 1963, they proposed a scheme where the historical elements of the centre were united with the use of new structures to re-establish human scale. Their approach resembled that of Camillo Sitte, against the teachings of the Athens Charter, which would propose the demolition of slums around historical buildings (Figures 54, 55). After losing in the competition they would accuse the winners[28].

Individual works of members of Team 10 have briefly been analyzed. The new understanding in the treatment of space has influenced many later designs including New Towns of England. Here, the design features of Hook (1965) are given for comparison (Figures 56, 57). Use of the "stem", complexity of intermingling functions, continuity of elements and variety of volumes and spaces are all features originating from Team 10 ideology.

Our study of the works of some members of Team 10 indicates the resurgence of the culturalist model, in which the features against CIAM may shortly be summarized as:

. Particularism where each habitat has its own identity
. Human association against functional organization
. Use of the line (pre-industrial pedestrian street) as the unifying element instead of open spaces
. Continuity of elements to make up macroforms, instead of discontinuous composition of them
. Variety of volumes and spaces
. Idea of the groundscraper for horizontal communication

CONCLUSION

A. PROGRESSISM AND CULTURALISM

Analysis of past events with which one can communicate through the writings of others who have lived or observed them, leaves one little to say. So in this study I have put in many things as quotations and tried to link them with comments of a person outside the events.

Nevertheless, two issues are important. The first, what is happening in the progressist and culturalist models since the fifties and the second, what are the relevances for Turkey?

Françoise Choay's division of urbanization and architectural theories as progressist or cultural was developed to analyze the situation in the 19th century. For the sake of this study I used the same concepts to analyze the CIAM - TEAM 10 relationship. Basically progressist model was defined as looking to the future and culturalist as nostalgic in outlook. In defining the space understanding of the two models Choay used the criteria of the 19th century practice. In the 20th century the space understanding has changed for both models, but we can still talk of models looking to the future or models if not nostalgic always, presenting the age we live in. Therefore the models that I call progressist and culturalist and which are developed after the sixties, have different space qualities compared to the anaysis based on definitions in this study.

The pre-war period of CIAM was full of enthusiasm and imagination and its contribution to the theoretical framework is exhaustive. But when the theory was put into action, it eventually led to the development of conservative implementation processes[29].

After the dissolution of CIAM in 1956 at Dubrovnik, some 40 members of the young generation (including Team 10) gathered in Otterlo (Holland) in 1958. They discussed the latest projects and argued whether they should use the CIAM title or not; most agreed that they should not.

The work presented at Otterlo fell into two categories according to Bakema:

> 1. The part which could be described as neutral in the present situation. This work, mostly of good quality, giving solutions for problems by means of architecture and urbanism as was promoted since 1928 by CIAM activity.

30."One trend I think, involves thinking of reality as a simple progressive form moving as an entity towards the future ... The other trend, stated in extreme terms, is toward viewing humanity as a historical being and reality as a form of the past." (Newman, 1961, 220)

31."It seems to me that the idea of accepting reality as the inherited order - the progressive form in the case of Team 10 and the past form in the case of Italian group - is nothing more nor less than aestheticism. Both views are stylistic and put too much emphasis on style." (Newman, 1961, 220)
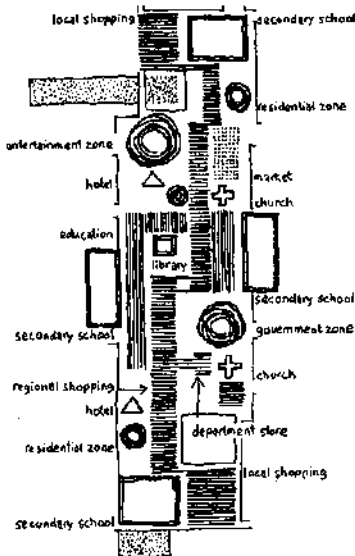

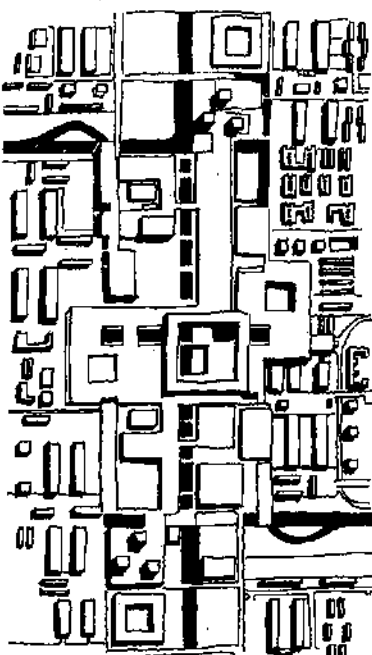Figure 56. Hook New Town, major uses along the pedestrian axis

Figure 57. New volume and space understanding

2. A part which could be described as aggressive in the present situation. The works on these panels show an attempt to find out if architecture could be a language communicating more directly about human behaviour. This part of the panels can be distinguished in two parts:
   a. A small part showing architecture using modern and traditional means of expression.
   b. A big part making attempts to touch individual and social qualities from which a new architectural language could be developed. Many of these panels were from the group who prepared the tenth CIAM congress at Dubrovnik in 1956. This group was called Team 10 (Newman 1961, 10).

Though I consider Team 10 ideology as culturalist, the discussions at Otterlo indicate that this ideology in itself has progressist and culturalist tendencies. In concluding evaluation of the Otterlo congress, Kenzo Tange points out the existence of two trends in it[30].

Tange's further consideration of the Italian group as traditional (remember de Carlo's bond with past) and other members of Team 10 as progressist are evidences of the dialectical bond between the two channels.

But of course, that intricate relationship between theory and practice and comparison of Team 10 ideology with others make me believe that, Team 10, though thinking progressive, behaves culturalist and Tange also clarifies this situation[31].

Tange's further schemes like the Tokyo Bay should be considered in the progressist (in the sense perceived in this study) channel of the period after sixties.

After sixties while the culturalist tendencies which thrived through debate initiated by Team 10 turned their focus on "the citizen and history", the more progressist channel continues to satisfy the aspirations of the business and industrial sectors of the society employing high technologies in building activities.

One channel of the progressist model seems to be converted into the space age. The works of Archigram (Plug-in City), Metabolists, Yona Friedman, Paolo Soleri, and others are all directed to structure the theoretical background of the future city. But of course, since the world does not display a uniform degree of development of technology, the relevance of these works for Turkish practice becomes vague, except for academic purposes.

The other channel however, proceeds with the very basic argument of CIAM: technology takes command of the environment. In this respect Mies van der Rohe's Glass Skyscraper (1921) is yet becoming a real object of design in the Western World. In spite of very harsh criticism devoted to CIAM, the congresses certainly played a very important role in a period where societal forces urged the reconstruction of the Western city. As mentioned in the text, in those turbulent years of fast and unhealthy urbanization, the CIAM ideology developed to search for solutions to the architectural and urbanization problems. Now that those periods are over and the Western World has beaten up urbanization problems where the city is no longer growing but rehabilitating, the atmosphere is mature for culturalist approaches. However, technology and future are there to use and especially business circles are highly favouring high technology environment.

On the other hand, the culturalist channel it seems, has attracted much more advocates in the last 25 years than the progressist. Following basic arguments commenced by Team 10, later efforts have all been directed to the relationships between "citizen, environment, culture and history".

K.Lynch (1960), G.Cullen (1961), B.Rudofsky (1964), C.Alexander (1965), R.Venturi (1966), C.N.Schulz (1974), C.Alexander (1975), P.Smith (1977), C.Rowe (1978), R.Krier (1979), have written some of the extensive works searching for the cultural forces shaping up the urban environment. No longer are urbanization problems discussed along this line of thought but that

> the city is not merely some sort of natural habitat, it is a cultural artefact (Buchanan, 1984, 64).

The impact of CIAM has been so influential on urban environment that some of the above mentioned references take as their starting point the four functions and still the Athens Charter as a framework to be attacked. In a gathering to mark the 50th anniversary of the Athens Charter, Peter Buchanan of Britain assesses the Charter from the point of view of the citizen and advocates a culturalist approach to the environment:
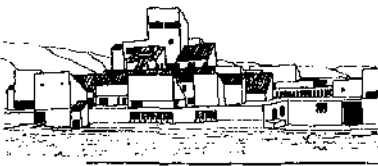
Figure 58. Medieval or vernacular, *Culturalist Architecture*

Figure 59. High technology, *Progressist Architecture*

32. "Whatever the extent of development of technology, it obviously cannot solve modern architectural problems alone. I think that those believing only in scientific methods to create a coherent environment are mistaken. My personal equation of Architecture = (Science + Technology) X Art." (Özer, 1981, 33).

The traditional city enveloped the citizen. The citizen was central to the city's frame. Introducing sun, space and greenery has rent the fabric to shreds and displaced the citizen to some restless fluid space between the prime agents of motor vehicle and free standing building that now hold central positions. Yet the effects of the Athens Charter and modern planning are more profoundly alienating. The strict zoning of cities into the four functions of the Athens Charter not only displaced the citizen from the centre it also displaced any centre from the citizen (Buchanan, 1984, 64).

To recuperate the cultural city Buchanan recommends a search for historical origins and meaning:

> Research must take us back to the original impulses of city building and the full nuances and meanings of city life. We must turn to archaeology, myth and fiction. Only then shall we see cities again as necessarily complex and many-purposed and attempt once more to build cities that are truly rich and inspiring (Buchanan, 1984, 65).

Hence today in the Western World both progressist and culturalist products are coexisting within urban form. One is being represented by high technology architecture while the other simulates historical and vernacular shapes where medieval forms are mostly favoured (Figures 58, 59).

It seems that the human being of the 20th century has not yet been deprived of its pre-industrial human personality, at least for the majority of the world. As an extension for this argument one more quotation will be made from a Soviet architect Felix Novikov, who is a member of a society which based all its architecture on technology and functionalism[32]

Definition of the progressist and culturalist models was originally made by Françoise Choay. Throughout the text many references were made to discern the basic differences between the two models. As a synthesis of discussions the following charts have been prepared to depict the fundamentals of first, progressist and culturalist urban design models and second, mechanical and organic orders.

The mechanical and organic duality is still another arena of discussion which is also inherent in the progressist and culturalist approaches. Although the second chart was intended for some other purpose, because of its relevance, it has been included in the conclusion of this paper, so that a further insight might be facilitated both in terms of formal and functional criteria to the understanding of progressism and culturalism. A further notice must be made that the features listed in the charts represent extreme cases and there is never a case which can be defined with only one row of attributes.

B. RELEVANCE FOR TURKEY

In comparative studies concerning different societies, one of the basic approaches is the occidental—oriental duality. In this respect, the subjects of this paper, CIAM and TEAM 10 were originally occidental institutions. However, the more general progressist—culturalist framework has attained a more universal character applicable to both Western and Eastern societies.

Debates on urban form and architecture in the societies of the Middle East clearly reveal that the essence of discussions are devoted to the contradictions between urbanizing and traditional features of the society. Petro-urbanization in the Middle East is creating a new environment where

> the present pattern of development is radically transforming the Gulf States from tribal societies to societies with a high level of urbanization comparable to that found in Europe .. (Qutub, 1983, 100).

> Old villages are becoming large cities in the short span of a generation and new cities are being established. The general population is becoming rapidly urbanized. An entirely new environment is being created. This presents opportunities for meeting the educational, health and housing needs of the inhabitants. The new environment also presents problems. These include problems of culture and environmental or ecological degradation. The problem of cultural incongruity manifests itself most dramatically in the built form of the urbanized areas. The dwelling unit no longer accommodates traditional concerns for privacy and family life. Urbanized areas are alien to the cultural experiences of most of their inhabitants. Traditional social relationships as expressed through buildings and urban design have been abandoned for imported styles more appropriate to a Westernized cultural life (Moustapha and Costa, 1981, 100).

It is further discussed that prevalent developments in cities of the Middle East display a combination of high density/high-rise apartments and low density/low-

COMPARISON OF URBAN DESIGN MODELS

progressist	culturalist
looking to the future parallel to social progress	nostalgic vision of a culturalist community
universal, international	particular, regional identity
separation of functions	integration of functions
air, light, greenery	urban space for association
continuity of voids	continuity of solids
regularity, perpendicularity	irregularity, angularity
geometric order	spontaneous order
standardization	variety
sterility	coziness
mechanical	organic

		mechanical	organic
FUNCTIONAL CRITERIA	EPOCH	acceptance of industrial society	reaction to industrial society
	TIME	predetermination	evolution in time
	LEVEL OF INTERVENTION	complete, one designer	few, no designer
	WHOLES—PARTS	unchanging parts	changing parts
	GROWTH PATTERN	growth by aggregation	growth by change
	FUNCTIONAL RELATIONS	separated	intermingled
	ORGANIZATION	preorganized, regulation predetermined	self-organizing and regulating
	TRANSFORMATION	guided	spontaneous
FORMAL CRITERIA	FORM—FUNCTION	function follows form	form follows function
	SPACE—PLACE	space determined	place - space integrity
	UNITS	standard	varying
	SHAPE	regular rectangular geometric	irregular curvilinear amorphous

rise villas. This pattern is criticised in favour of traditional high density/ low-rise development and suggestions are made for the revitalization of Islamic traditions in town planning. In this conjunction five factors have been identified as the basic principles of Islamic urban planning which are relevant to contemporary planning of cities

. High density without height
. Separation of public and residential space
. Contiguity and continuity of urban form
. Narrow curved roads and landmarks
. Mixed land-uses (Kutupkhanah) :

There are examples produced in this framework but the language entailed is no different then the urban form of Hook (Figures 56, 57) or a Mediterranean holiday village. It is very significant that in one of these works a scheme originally developed by Greater London Council's "Housing Layout" is utilized for public and private spaces.

If we disregard the word "Islamic" (which is irrelevant in terms of urban form, because what is referred to in reality is medieval or feudal Eastern society) this is a typical progressist-culturalist discussion. In the years of fast urbanization, which is an outcome of petroleum and industrialization based on this resource, earlier building patterns displayed a progressist character criticized for being Western. In fact the word Western should be replaced by "urban industrial society".

Later, once the first shock of urbanization is beaten, the society stabilizes and more sophisticated ideologies develop concerning urban form and architecture. Nostalgia is revitalized and traditions gain importance. Whether the society is Western or Eastern the basic argument is between the progressist and culturalist approaches where the pendulum swings from one end to the other, depending on the socio-economic conjuncture of the society.

The Turkish case concerning urban form and architecture on the other hand, manifests a development pattern which is still under the impact of urbanization processes. Problems created with fast urbanization have retarded debates on urban form. Until the 19th century the city preserves its medieval-feudal characteristics where it is still a part of the rural environment.

The street network is made up of organically curved lines; there is a contiguity and continuity of urban form, land-uses are mixed etc. In the 19th century, with the impact of Western World and imposition of new functions, the typical gridiron layouts are introduced especially in port towns. However this is a very slow urbanization pattern which does not create major problems concerning the physical structure of the city.

In the Republican Period until 1950's the rate of urbanization was still slow. The new society's efforts to mobilize resources of the country are not yet successful enough for an economic take off. Under these circumstances where there are no pressures on the city, urban form preserves its traditional features which is further consolidated with the garden city idea imposed by the related wing of European city planners and considered appropriate by the society.

The selection of Hermann Jansen's scheme for Ankara reflects the attitude of the society where besides the preservation of traditional qualities of the city, the basic idea is creation of a garden city. This type of urban form as discussed in this paper was characterized by both progressist and culturalist features. While separation of functions (zoning), impetus on greenery reflected progressist channel of form, intimacy in the manipulation of spaces, employment of traditional scales and architecture (Saraçoğlu and Yenimahalle) were all culturalist in essence.

Beginning with the 1950's Turkey enters an era of urbanization still exerting its impact on the city. In this process, the problems the Western World lived in the last century, the Turkish society faces at present:

. Fast growth of the city
. Industrial growth in the city and pollution
. Haphazard growth and ill housing
. Transportation and infrastructure
. High densities and congestion
. Lack of sun and greenery

Owing to its level of socio-economic development one more problem arises: that of squatting. Together with further expansion and rebuilding of regular housing zones, squatting became a way of living generating its own physical urban form.

While squatters penetrated into the city organically, both in form and function, preserving culturalist qualities of rural regions, regular residential districts developed in a manner which can neither be called culturalist nor progressist.

As a reaction, public authorities have tried measures for the generation of healthier and greener environments, some of which have been successful, while most have resulted in the "banalities" of housing zones exhibiting mechanical physical forms.

In the macro scale a new approach to planning is intoduced by Luigi Piccinato for the city of Bursa which performs CIAM ese principles: separation of functions, urban form being made up of neigbourhood units separated by green zones, hierarchy of road systems, etc. L.Piccinato should also be cited for his contribution to the ideology of preservation of historical quarters. This new approach would reflect itself in macroforms produced by Turkish urban planners of the new generation. However in implementation, they would never be successful because of speculative pressures.

At the micro level, Ataköy in İstanbul should be mentioned as the most successful case for the application of CIAM principles. Although recent developments in this district reflect the mechanical approach of public housing schemes, in those of initial stages pure urban forms of CIAM ideology are visible. Most of later housing developments both by public and private sectors have employed the high rise principle of CIAM, however, for the provision of high density environments for speculative purposes devoid of the imageries of this school of urban design.

Most recent application of CIAM principles is Batıkent new town in Ankara. In the macro level, road hierarchies, idea of neighbourhood units separated by verdure, and zoning are all features of urban form in Batıkent. The proposal is a very mechanical approach for both form and function. In spite of certain developments on the site, how its structure of centres will be realized is still a problem because of the mechanical manipulation and interpretation of relations between function and form. Though one should admit the success of this programme in terms of organizational and administrative aspects, it should also be criticised for its disregard for urban form and banalities of implementation still prevailing.

Consequently urbanization has been so fast that debates on urban form have been delayed and it is very recently that this discussion is emerging. Although, an overall acceptance and implementation of culturalist space understanding (at present very few and mostly observed in resort zones which owe much to TEAM 10's Candilis) or pure implementation of CIAMese progressist principles should not be expected, Turkish planners and architetcs must conceptualize the struggle between progressist CIAM and culturalist TEAM 10. The European experience on urban form has a very long theoretical background where the two conflicting ideologies have combatted. However as I have insistently said, the relatioship between the two approaches is dialectical and complementary.

CIAM VE TEAM 10

ÖZET

20. yüzyılın birinci yarısındaki mimarlık ve kentsel planlama eylemlerine damgasını vuran CIAM, dönemin ünlü mimar ya da mimar kökenli kent plancılarının, özellikle batı dünyasındaki sorunları tartıştığı bir toplantılar dizisidir. Mimarlık alanında 19. yüzyılın tarihsel mimari biçemleri canlandırma çabalarına, kentleşme alanında ise sanayi toplumunun yarattığı hızlı kentleşme, sağlıksız konut çevreleri, kirlenme ve yığılmalara bir tepki olarak doğmuştur.

Yeni teknoloji, yapım yöntemleri ve mekân anlayışına ilişkin olarak gelişmekte olan evrensel nitelikteki modern mimarlık biçemi tartışmaların mimarlık yönünü oluştururken; kenti meydana getiren işlevler "konut, dinlence, iş ve ulaşım" olarak tanımlanmış ve bunların ayrımına dayanan bir kentsel arazi kullanım deseni önerilmiştir. Bu yeni kent anlayışı içinde egemen yapı türü çok katlıdır ve kentsel bütünlüğü sağlayacak öge yeşil alanlardır.

1950'lerde ise bizzat CIAM hareketinin içinde filizlenen yeni görüşler, bir yandan

yöresel özellikleri dışladığı için evrensel nitelikli mimariyi, diğer yandan de kentlerdeki karmaşık yapıyı dört işleve indirgeyerek ayrıştırdığı için CIAM ideolojisini eleştirmeye başlamıştır. Günümüzdeki birçok mimarlık ve kentsel tasarım akımının öncülüğünü yapan Team 10, mimarlıkta *"identity"* (kimlik) ve kentsel mekânların düzenlenmesinde *"association"* (birliktelik) kavramlarına dayanan yeni görüşlerin savunuculuğunu üstlenmiştir. Bu bağlamda işlevsel örgütlenmenin yerine insanların birlikteliği, kentsel bütünleşmede yeşil dokunun yerine sokak ögesinin ön plana çıkarılması yeni tasarım anlayışlarının temelini oluşturmuştur.

CIAM ve Team 10 arasındaki diyalektik bağın incelenmesi sırasında özgün olarak Françoise Choay tarafından geliştirilen ve temelde 19. yüzyıldaki kentsel tasarım yaklaşımlarını tanımlayan *"progressist"* (ilerlemeci) ve *"culturalist"* (kültüralist) kavramları kullanılmıştır.

İlerlemeci akımlar toplumsal gelişmeye paralel olarak geleceğe yönelmekte; evrensel mimari, işlevlerin ayırımı, yeşil dokunun sürekliliği, dik açılar, geometrik düzen, standardizasyon ilkelerini benimsemekte ve sonuçta mekanik bir kent yapısı ortaya çıkmaktadır. Buna karşılık kültüralist akımlar geçmişe özlem duyan bir noktadan yola çıkarak; yöresel mimari, işlevlerin bütünlüğü, kentsel mekânlar, kütlelerin sürekliliği, farklı açıların kullanımı, çeşitlilik gibi ilkeler çerçevesinde tasarım olayına yaklaşmakta, sonuçta sanayi öncesi kentine benzeşen daha organik bir kent yapısı elde edilmeye çalışılmaktadır.

Bu çalışmada CIAM ilerlemeci, Team 10 ise kültüralist akımların temsilcisi olarak değerlendirilmiştir. Toplumsal çalkantıların yüksek olduğu ve sosyal gelişmenin hızlandığı dönemlerde ilerlemeci akımlar, durulma ve refah dönemlerinde ise kültüralist akımlar serpilmektedir. Kentsel tasarım ve mimarlık modellerine Türkiye açısından yaklaşıldığında, kentsel biçim ögesinin çok fazla tartışılmadığı izlenmektedir. Hızlı bir sosyal değişim içinde bulunan ülkemizde, kentlerin yapısı, konut bölgelerinin örgütlenmesi gibi konular öncelik kazanmakta, biçim henüz yeterli ilgiyi görmemektedir. Batı toplumlarında kentsel biçime yönelik tartışmaların uzun bir geçmişi bulunmakta ve bu çalışmada açıklanmaya çalışılan iki farklı yaklaşımın izleri gözlenmektedir. Ülkemiz plancıları ve mimarlarının ilerlemeci CIAM ile kültüralist Team 10 arasındaki bağı kavramaları kentsel biçime dönük tartışmalara katkıda bulunacaktır.

REFERENCES

BANHAM, R. (1966) *The New Brutalism*, Karl Kramer Verlag, Stuttgart.

BASTLUND, K. (1967) *Jose Luis Sert*, A.Praeger Publishers, New York.

BENEVOLO, L. (1971) *History of Modern Architecture*, v.2, The M.I.T. Press, Mass.

BUCHANAN, P. (1984) City as Natural Habitat versus as Cultural Habitat, *The Architectural Review* (176:1054) 64-65.

CANDILIS, G. et.al. (1967) Recent Thoughts in Town Planning and Urban Design, *The Pedestrian in the City*, ed. D.Lewis, Van Nostrand Co., Princeton, 183-196.

CHOAY, F. (1969) *The Modern City: Planning in The 19th Century*, George Braziller, New York.

EKISTICS (1963) The CIAM Charter of Athens, 1933: Outcome of a Similar Effort, *Appendix* (16:95) 263-267.

FRAMPTON, K. (1968) Notes on Soviet Urbanism, *Urban Structure*, ed. D.Lewis, John Wiley and Sons Inc., New York, 238-252.

GALLION, A., EISNER, S. (1963) *The Urban Pattern*, Van Nostrand Co., New York.

GROPIUS, W. (1965) *The New Architecture and the Bauhaus*, Faber Editions, London.

JOEDICKE, J. (1968) *Candilis, Josic, Woods*, Karl Kramer Verlag, Stuttgart.

KORTAN, E. (1981) *Çağdaş Üniversite Kampusları Tasarımı*, O.D.T.Ü. Mimarlık Fakültesi, Ankara.

KUTUBKHANAH, I. *The Preservation of Islamic Traditions of Town Planning at Madinat Yanbu Al-Sinayiah*, Directorate General for Yanbu Project, Saudi Arabia.

LE CORBUSIER (1973) *The Athens Charter*, Crossman Publisher, New York.

LEWIS, J. ed. (1967) *Urban Structuring - Studies of Alison and Peter Smithson*, Studio Vista, London.

MOHOLY-NAGY, S. (1968) *Matrix of Man*, Praeger Publishers, New York.

MOUSTAPHA, A.F., COSTA, F. (1981) Al Jarudiyah: A Model for Low Rise High Density Development in Saudi Arabia, *Ekistics* (287) 100-108.

MUMFORD, L. (1938) *The Culture of Cities*, Harcourt, Brace and World Inc., New York.

NEWMAN, O. (1961) *CIAM 59 in Otterlo*, Karl Kramer Verlag, Stuttgart.

ÖZER, B. (1981) Mimari Nedir? *Yapı* (41) 32-38.

QUTUB, I. (1983) Urbanisation in Arab Gulf States, *Ekistics* (300) 171-182.

SERT, J.L. (1942) *Can Our Cities Survive?*, The Harvard University Press, Cambridge.

SPREIREGEN, P. (1965) *The Architecture of Towns and Cities*, Mc Graw-Hill Book Co., New York.

VAN EYCK, A. (1968) University College in Urbino, *Urban Structure*, ed. D.Lewis, John Wiley and Sons Inc., New York, 151-160.