POST FUNCTIONALIST APARTMENT BUILDINGS
AND
URBAN DESIGN

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ABSTRACT

This thesis argues for the idea of apartment building-type as generator of a viable urban environment. It traces the historical origins of apartment-building design with the main emphasis placed on a study of the Modern Movement, which brought a new ideal of urban space, and, against which recent projects are situated.

To show the extent of the problem and the locality of the solutions, various examples from different countries, cultures, and historical backgrounds are examined.

The projects discussed here are of seminal significance since they indicate that there have been, and still can be, alternative solutions to the straightforward attitude towards the building program, providing simultaneously solutions to the destroyed environment of our cities. These latter Post-Functionalist apartment building projects represent different approaches to the most spread-out high-density housing prototype as structural point of departure for urban design.

The thesis attempts to prove that the post-functionalist projects can offer solutions for both the apartment and urban space, as well as to examine the means by which this can be made feasible.
RESUME

La proposition de la thèse vise à démontrer la signification du design d'immeubles d'appartement en tant que générateur d'un environnement urbain viable. Le document retrace les origines et le développement de ce type de bâtiment, mais place l'accent sur son rapport avec le Mouvement Moderne, celui-ci fondé sur un nouvel idéal en ce qui a trait à l'espace urbain. Les projets discutés sont examinés par rapport et en juxtaposition de cette idéologie nouvelle.

Afin de démontrer l'étendue de la problématique et l'emplacement des diverses solutions les exemples ont été choisis parmi des pays, cultures et contextes historiques différents.

Ces projets sont considérés comme étant d'importance séminale, car tous illustrent, à leur manière, tant dans le passé qu'aujourd'hui, des solutions qui simultanément abordent le problème du programme architectural d'une façon simple et directe, en même temps qu'ils fournissent un mécanisme correctif à l'environnement urbain saccagé.

Les projets de bloc-appartement post-fonctionalistes représentent un approche alternatif aux solutions prototypiques d'ensemble domiciliaire à haute densité répandus à travers la ville moderne. Somme toute, ils
proposent un différent point de départ organisationnel en ce qui affecte le design urbain.

Finalement, la thèse tente de prouver que le bloc-appartement post-fonctionnaliste peut offrir de meilleurs résultats, tant au niveau de l'unité d'habitation individuelle qu'à celui de l'aménagement du milieu urbain.
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Lately, the expansion of the cities and the need to adjust to new changes in the built environment, have produced a concern with urban morphology and its connection to building typology. In essence, the objectives of such a consideration are: a more precise definition of urbanity and a greater preoccupation with the design of the elements of the buildings themselves. Urban morphology is seen as the most appropriate context within which to discuss the historical evolution, the transformation, as well as the potentiality for the creation of new building types.

Recent projects have usually demonstrated a general discontent with our present environment, and have taken this disenchantment as their point of departure, maintaining that modern architecture has not been able to solve the urban problem with the housing medium. These projects are dominated by the denial of explanation of urban artifacts in terms of function, and maintain a clear position against the prevalence in functionalism of the cause/effect relationship between requirements and form. They, also, propose solutions which simultaneously respond to the need for mass housing while maintaining concern with the reconstruction of the urban form.
This study intends to discuss those of the recent projects which deal with apartment buildings and how the apartment building design affects the urban environment. It will also explore the new attitudes, preoccupations, and the priorities involved in the design process.
INTRODUCTION: THE DWELLING AND THE CITY

Architecture, throughout its history, has attempted to create an appropriate environment for human life and to anticipate the thoughts and actions of human beings. In contradistinction to this, the lively environment of the city has always been attractive because it offers, within close proximity, a great variety of facilities, employment opportunities, entertainment, and social contact. Heretofore, throughout the history of the urban environment, different forms of cities appeared, in different times, as ideal, each one expressing the spirit of the era within which it was produced.

The city itself is a spatial system formed of components, each with its own characteristics. The residential district, covering the major portion of the urban surface, is in itself fundamental to the composition of the city: A city cannot be said to exist, by definition, if the residential aspect is absent. Where the residential function was initially subordinated to other urban artifacts (such as castles, ports, etc.), a modification of the urban structure eventually occurred with gradually conferred increasing importance on the individual dwelling.(1)

The reverse is also valid: the dwellings cannot create a city by themselves. The history of cities, and recent
urban analyses, teach us that the cultural, economic, political, or administrative functions of cities always prevail over their housing function. This is precisely what distinguishes the city from a mere agglomeration of dwellings, however important they may be. (2)

The residential district is intimately bound up with the nature of the city and its evolution. It is constituted of parts which, in turn, summarize the image of the city. In social terms, it is a morphological and structural unit characterized by a certain urban landscape, a certain social content and its specific function. (3) The residential district is actually that part of the city most experienced by the inhabitants and is the most influential in their lives. It is important to the success of residential neighbourhoods that they be related to the existence of public services and collective facilities. The viability of a city depends upon the relation of its dwellings to its symbolic, political, and territorial dimension. (4)

High density is intrinsic to the concept of the city. Most of the prototype high density housing projects have their origin in reform movements in Urban Planning or in Architecture. A continuous evolution has occurred in the attempt to compromise two, seemingly, opposing requirements of a "home" in a quiet environment, close
to nature, with the need to live within the lively urban environment. The Modern Movement in Architecture, mainly developed after 1920s and defined as:

"...a 'universal' international style stemming from the facts of the new constructional means, adequate to a new industrial society, and having as its goal the transformation of society, both in its taste, or perception, and social make-up", (5)
brought about big changes. The new way of life in general, and the single dwelling in particular, was of primary concern to most pioneers of the modern movement. All the meetings of the CIAM in fact concentrated their attention on the question of the single dwelling unit and the urban environment.

To understand more fully the primary role of the dwelling unit among the building tasks of the modern movement, it is necessary to take a closer look at the term, esprit nouveau, or "new sensibility" as used by S. Giedion. The dwelling unit was related to the complementary demands for human freedom and identity. Freedom primarily meant the liberation from the absolutist systems of the Baroque age. In spatial terms it implied a new "openness and continuity", in contrast to the dominated space of the Baroque environment.

The search for identity was of central importance to the Enlightenment, and, in general was interpreted as a "return to nature" and a related search for
"essentials". The new human identity is obtained through a reconciliation of man and nature. The dwelling is, in fact, basic to man's identity. The new freedom, and the consequent democratic society, intuited by the Enlightenment can only be realized by giving the dwelling a central position in human society. The Modern Movement gave the dwelling this central position. Modern architecture takes the dwelling as its point of departure, and all other building tasks are considered extensions of the dwelling.

The positivistic spirit of twentieth century, which influenced the modernist ideology, appeared in housing projects through two equivalent fronts: the scientism of the design process and its socio-economic messianism. Design was equated with analysis, classification and programming. Priorities were fundamentally displaced towards production, projecting concepts of efficiency, function and scientism as the only "correct" parameter for judgement. At the same time, Architecture thought it possible that by becoming a science and by addressing the environmental problems it could sort out the class conflicts. Architecture allying itself with the economic and social sciences, it institutionalized the tradition of research groups, where the collection of "social data" and the "multicolored scientific urban analyses had as their
task "public service", the "hygienic rejuvenation of the environment" and the "maximization of happiness" (6)

Thus, for Modernists, the primary nucleus of town planning is a housing cell (a single dwelling unit), and its insertion in a group, forming a housing unit of efficient size. Interrelationships within the urban space, between dwellings, workplaces, and places of reaction, will be established with this housing unit as the starting point, pointing out once again, the importance of housing as the major part of a city. Every criteria of modernist-functionalist thought is logically justified with these considerations. In this way, the house was broken, ideally, into a series of elementary manufactured items and planning was done in stages: first, the various parts were worked out; then their combinations were studied. In the same way, a district would be broken up into a series of component parts: residential units, roads, public buildings. The city was conceived of as an aggregate of districts, gathered together in groups, according to the scale of function. (7)

The idea of the Unite d'habitation is perhaps the most important hypothesis in present day town planning thought:

"It can be formulated in purely functional terms: it was a question of filling the gap, between the dimensions of the modern city and those of the
single building, and therefore of not conceiving of the city in terms of houses or public services, but of introducing a sub-multiple, or a series of sub-multiples, within which there should be a single block or an articulated system of buildings." (8), (fig.1)

Among the priorities of Modernist thought on urban planning was a solution for the social problems of the time: roofing for the economically deprived classes; the provision of green areas; leisure spaces in high density areas; the classification of types of traffic; and the organization of mass-production according to the new technological achievements. As L. Benevolo has observed:

![Plan Voisin by Le Corbusier, 1922](image)
"The features of the minimum dwelling were laid down by reference also to the sociology of the time. It was noted that the area of the apartments, in accordance with the sanitary experts' opinions, could be considerably reduced, while lighting, ventilation and possibilities of sunlight should be further increased; it was shown that the growing emancipation of the individual within the family made it advisable to provide a room, no matter how small, for every adult member of the family". (9)

The housing of large populations in high-density areas, with a satisfactory concentration of amenities, without prohibitively raising building costs, was thus made possible. In the apartment itself "a man was able to fully develop his life functions without experiencing limitations due to his dwelling". (10) There was also a clear organization of the space into zones, defining,

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**Fig. 1** Distributive studies for an apartment by A. Klein, Berlin 1926. (L. Benevolo, 1971)
clearly: public (entrance, living room), operative (kitchen, laundry), and private (bedrooms) areas; adjacency to complementary activities; and privacy for each member of the household. Space for personal activities was provided, with all the facilities for sleeping/resting, dressing/undressing and personal hygiene standardized. This improvement of the quality of the everyday life was the main achievement of modern movement. (fig. 2)

The simultaneous application of all the above principles has not always been feasible. There is a disparity between our present environment and the manifestations of Modern Movement. We have to ask to what extent the concept of the new dwelling was understood and interpreted in the different countries/cultures, i.e., Italy, Germany, U.S.A, by the different planners and architects. Different projects gave emphasis to different priorities. The final quality varies according to the type of building, the cost, and the elaboration of the particular elements. It is more usual to find bleak and unused spaces instead of landscaped parks surrounding the buildings.

However, the prototypes projected through modern theory and practice were to be universally applied, independantly of the regional conditions. The two extreme levels, urban structure on one hand and
building structure on the other, were mainly emphasized. The consideration of the environment, through the bipolar scheme of dwelling unit/city, or architecture/city planning, left no room for the consideration of forms and relationships regarding the intermediate levels of the urban environment, -the streets, neighbourhoods, or quartiers. So the intention to give space over to public use, through its disassociation "from the individual", worked ultimately against its expressed purposes. This largely happened through ignorance of the intermediate forms of individualization of the space, forms which correspond to transitive social structures, which, in turn, allow the configuration of the people into a whole.

Space intended for common usage became effectively a no-man's-land. By suppressing the elements of conventional urban space, -the street, the square, the building lot, city blocks, monument, etc., the proposed new city model would destroy for the inhabitants any possibility for identification or recognition starting from communication. On the other hand, the strict functional separation and apportionment of the environment, the strong considerations given to questions of equality and economics, (exactly laid out by the zoning techniques), the standardization and and industrialization of the structure led to a homogeneous, isotropic and fragmentary space, resulting
in the elimination of any continuity, individuality, or hierarchy. The new model city lost its monumentality imposed, either through its hierarchical layout, or, through the enrichment of the architecture itself (though form, function, symbolism).

The city cannot deprive itself of symbols - if only for the simple purpose of providing orientation to the inhabitants, and facilitating its perception by these. While the historic city is wholly covered by a network of symbolic hierarchies in which symbolic context and cultural aspirations, housing and monuments, are set in relation to each other (opposed or associated to produce significances and differences), the city-model proposed by the Functionalists broke with this dialectic and became, instead, monumental in the manner of the Marseilles Unite d'Habitation.(11)

The experience resulting from the application of Modern Movement theory, on one hand, and the appeal of the traditional cities, on the other, demonstrates that, neither the standards (green ratio, circulation systems), nor the social and economic planning, are adequate for the provision of the quality of urban life that is constantly sought. The city should be treated primarily as a spatial arrangement in which, beyond its primary function, the community, the inhabitants, and the articulation of public life are taken into
consideration. Furthermore, the binary relationship between building typology, and urban morphology, should be reestablished. Architecture should acquire its role on the form of the city, both as theory and actual design.

Recently, new projects have appeared by architects who have confronted entrenched urban planning
philosophies, promising new solutions to this housing problem. These new projects deal with a strategy dependent upon the establishment of stable formal categories, drawn from the analysis of existing cities, and the way they are used, as the agreed basis of future action. (fig.3) Great importance has been attached to the creation of a strong public realm, in physical and visual terms, as essential to the success of any urban design project. (12) (fig.4) The twin concepts form/function are now replaced by the linguistic twin concepts of signifier/signified. As a result, the monosemantic relationship of form to function is invalidated and, in its stead, the multivalent relationship between form and its reading is proposed. The architects of these recent projects are interested in the forgotten category of "type".

fig.4 Quartier de la Villette. Project by Leon Krier, 1978. (O. Porphyrios, 1984)
to which design is but the proper syntax, the stylistic iconography, the sensuous materials, and the rules, which relate one building to another. With a rational typology of pieces and of connections, these architects are able to build practical, elegant towns. The concept of type has become the theoretical link accounting for the recognizability of sensous form.

(13) The design of housing, has become less generalized and more attuned to the problems of specific locations and particular users.

BACKGROUND

It is not easy to determine with historical certainty the peculiar profile of Post-Functionalism as the design thought which rejected the axioms of functionalism on one hand, and, on the other, gave functionalism the role of the enemy against, and around which, the new positions are formulated. Jencks writes, in Modern Movements in Architecture:

"...the failure of Modern Architecture to generate convincing urban development, and communicate effectively resulted [in the development in the 60s] to the development of a city-based morphology, known as contextualism, as well as, of a richer language of Architecture based on metaphor, historical images and wit. As to contextualism the key ideas were produced by Aldo Rossi's "Architettura della cita" (1966); Rob Krier's "Urban Space" (1975); Collin Rowe's, "Collage City" (1978); and Leon Krier's, "Rational Architecture: The Reconstruction of the European City" (1978). O.M. Ungers and Leon Krier provided further theory and compelling urban imagery". (14)

Hereafter, a multi-directional approach was followed
within the context of the Post-Modern Movement of which post-functionalism is a part; and a wide spectrum of stimulants and proposals became available. Two indices seem to be fundamental to the establishment of the new tendency: The Architettura Rationale Exhibition at the Milan Trienale of 1973, and the Ecole Des Beaux Arts Exhibition of 1975, at the Museum of Modern Art in New York.

"Neo-rationalism" and "neo-realism" are the two main ideologies which have produced a similar reaction to functionalism viewing it as a negative and regressive ideology. The former school of thought depends on the idea that architecture can be generated only through a return to itself as an autonomous and pure discipline; the later cares only for the immediate present, for such other aspects and manifestations of culture as pop art, advertising, cinema, and industrial design to which it exposes architecture and draws inspirations. (15)

Contemporary architectural thought shows that the ideologies of scientism and messianism are but a fantasy. The task of architecture now seems to be twofold: On the one hand, it reestablishes architecture as an art renouncing every alliance with science's epistemological nature; and on the other hand, it repudiates all messianic premises, thus assigning to
architecture the non-heroic, yet critical, role of ideological commentator.

These recent ideologies are not anti-functionalist. They respond to 'function' in the same way that characterized the 19th century eclectic command of historical styles; they also propose a formalism marked by a strict utilitarian predisposition.

The research to date includes a review of the publications of the new projects, criticism of specific examples, and a theoretical, philosophical urban consideration of them. There is no comprehensive research on housing projects examined from this point of view. All of the materials refer exclusively to the city as a whole.

RANGE AND SCOPE OF THE TOPIC.

This study deals with the apartment building in the urban setting, where building and urban space are brought together. More specifically, it deals with urban design as a study of a totality of buildings - as a piece of a city. As such, it necessarily deals with the relationship among private, semi-private, and public spaces; the meaning of such relationships to the designation of urban space; and with the role of the apartment building to the coherence of urban structure.
The objective of this study will be to determine criteria for the evaluation of the private and public space of the multiple dwelling unit and to seek and identify the newly established, or reestablished, urban criteria as these relate to the derived architectural potency of building type. The study will also seek to determine the aesthetic and functional priorities of the new high-density housing projects, and, finally, to define and test the urban characteristics of architecture in general. (16)

This thesis is divided into two parts: theory and practice. The first part contains an analysis of the theoretical issues attached to the concept of the apartment building as a multi-family living space, in which each family lives separately and independently; and to the concept of the urban design as an important and crucial source of authority for appropriate building solutions. A historical review of the evolution of apartment building typology and its relation to the urban space concept, is included.

In the second part, concrete examples of post-functionalist housing projects will be examined. Each example will be examined: a) from the point of view of the city in terms of identification of the principal forces at play in the city; b) from the point of view of
the immediate sector; and c) from the point of view of
the site. This gradual approach to the subject is
useful for practical reasons. (The quality of "urban
artifacts" (17) has nothing to do with this division).
The achievement, the failure, or, the new reality
promised in the post-functionalist projects, will be
examined: from the point of view of the intentions and
the priorities of the architect/planner; from the
consideration of the architectural elements (as
expressions of the architect's intentions), such as the
street-building sections, the access points, and the
outdoor extention; and from an analysis of the factors
which have influenced post-functionalist, such as
history, society and construction.
PART ONE

THEORY
CHAPTER I: THE URBAN SPACE AND ITS COMPONENTS

1.1 The Urban Space

In a research topic such as this, dealing with the urban environment, it is first necessary to define the term "urban space":

By the term, is meant all types of external spaces contained between buildings in town and other localities. The urban space is seen as space for movement in the open air, and collects all the activities which the individual performs outside the familiar territory of his own home, such as going to work, transportation in general, trade, recreation, leisure activities, or sports.

However, an external public space is not always "urban". Specific sociological and formal attributes define it as urban.

In other words: A city is a system in which life reveals a tendency to polarize, to be unfolded in terms of social aggregations which are either public or private. As Hans Bahrdt states:

"from the sociological point of view, the more strongly the polarization is exerted and the closer the interchange between the public and private spheres, the more urban the life of an urban aggregate is. In the opposite case, the character of a city of an aggregate is of a lesser degree."(1)

However, Rob Krier in Urban Space, explains the term from the point of view of perception, stating that:
"the clear legibility of space's geometric characteristics and aesthetic qualities is the parameter which allows us consciously to perceive external space as 'urban'." (2)

1.2 Components of the Urban Space.

Components of the urban space are the streets, the squares/open public spaces, and the blocks. Modifications of the relationship of these components is the subject of different architectural movements.

The street is the framework for the distribution of land, and gives access to individual lots. It is mainly to be perceived as part of a network.

In purely residential areas, the object of this research, streets are universally seen as areas for public circulation and recreation. As such, the factors which have an important role in the functional coherence of the street are; the way in which houses are approached from the street; the relationship between the garage, the parking-lots, and the houses and the street; the relationship between the athletic areas and the street; the visual appeal of the space; and the aesthetic quality of the adjacent houses. (3)

The square is generally produced by the grouping of buildings around an open space. Originally it facilitated defence, but later acquired merely symbolic value. Paul Zucker considers it as "the very heart of
the city...its physical and psychological function is to make the community a community and not merely an aggregate of individuals". The square is not an old city pattern. Zucker goes on to say: "The needs and demands of the past may have been fewer and less complex, but they were as basic for the determination of the final shape as they are now....As a matter of fact, the city planner of the past faced the same kind of problems as does the city planner of today [coach/car, royal spectacles/political rallies].... One can say that planning in space today is hardly more functionalistic than it was in earlier centuries". (4)

Specific visual and kinesthetic relationships organize a space into a square. The square can only occur, firstly, when it can be endowed with meaningful functions (residential, commercial or cultural activities); and secondly, when it is situated in the right place, with the appropriate approaches, in relationship to the overall town layout. As the intersection of two or more roads, for example, the square is a fixed point of orientation, a meeting place, and so on. (5)

In modernist town planning, the square lost such meanings, and was replaced by large countrified areas.

The building block is the keystone element of urban composition. There is a dialectical relationship
between building block and urban space. The building block is either the instrument of street and square formation, or it results from a pattern of streets and squares. As far as its significance is concerned, at times it appears as complementary, and at times as alternative, closely connected to the great themes of socio-economic history and the accompanying technological advances.

The building block can be interpreted as a homogeneous section of the urban fabric completely enclosed by roadways, according to the traditional city pattern; or, as a connecting element between the city as a whole and the single house which composes it. Its definition varies according to the trend of the time. The later definition is loose enough to accept more than one interpretations.

Analogous to this is the problem of form. Leon Krier, whose views are based on the traditional urban environment, states that the building block, in order to become 'urban', should have well defined qualities of size, volume, orientation, typology, order and complexity. These typological and morphological elements depend on a number of different considerations, including social criteria, and will affect both the layout and the form of the buildings will take. These elements are subject of the urban
1.3 Urban design

Urban design is a very fashionable concern of our days. Its popularity is related to its rejection by the modernists, and to a variety of new developments. Urban design is commonly understood in terms of its relationship to context; it addresses the needs of a part of a city, as a totality of buildings, but has nothing to contribute to the true formation of the city. Urban design deals with the configuration and construction of a homogenous, coordinated, continuous environment, one that presents itself with the coherence of a landscape. It seeks law, reason and order as these arise from a plan, or a general projection of how things should, or could, be.

Bernard Huet states: "Urban design consists in defining four monumental elements constituting the urban fabric: the layout, hierarchies, plot division and finally rules of spatial organization". (8) The layout is the organization of public spaces without flattening out their multifunctional complexity. The layout is always characterized by technical, functional, symbolical hierarchies. The distribution of institutions and services over the territory should be in harmony with a hierarchy which clearly expresses the idea of the
city society creates for itself. The dimensions of the layout is an essential parameter. The operative subdivision into building lots regulates the built form and closely connects it with the typology of the buildings of each period. The spatial organization covers a set of spatial rules ordering the visible in public space. The last two, necessary, but not sufficient conditions in themselves for a new approach to urban space, relate to the authority that guarantees urban design, and to the technical supervision controlling the design in time. (9)

The layout is connected with architecture to the extent that it is a technical art of space which makes use of architecture as a means to its fulfillment.

The apartment building, as the subject of this thesis, and the main type of high-density housing to be found in a city, is to be understood as prime contributor to the form of urban space.

1.4 The apartment building

The apartment building, even from its first appearance in ancient Rome, was conceived, on the one hand, as the type of multiple-dwelling building best corresponding to the constantly changing land values and to the economic necessity of grouping people in heavy concentrations (urbanization), and on the other,
provided dwellings with certain amenities and utilities not generally affordable to the single family unit. That is, with a similar number of dwellings built on a similar area of ground, more people could live more conveniently, and more economically, and with less domestic responsibility, than living in single family units detached to each other.

The great spread of this type of building, however, occurred in our century. Its development is closely connected with the Modern Movement and that movement's concerns with the problem of function. The apartment building was seen as the nucleus of the city which could efficiently fulfill the modern requirement for hygienic, decent and comfortable living conditions. It was also the solution to the need for affordable rental housing, for a continuously growing urban population, while responding to the needs of various types of families (i.e., senior citizens/bachelors/two person-families). Paul Samuel explains: "...it was to be a relaxing haven from the tensions of earning the living, from noise and worry and strain. It should provide beauty, convenience, security, and privacy for the family living in it".

Apartment building design was also analysed in site planning, apartment layout, structural, mechanical and electrical components, and exterior appearance.(10)
Everything was made to improve the living quality within the apartment. Apartment design had a great impact on the configuration of the adjacent environment. Urban design never consisted of a final image, but was the derivative of the process of the application of standards required for the servicing of the apartment.

1.5 Urban design theory

Different approaches to the theory of urban design have been tried up to now. The essence of all those theories has been the relationship between the building and the street. Before the emergence of the Modern Movement (ca. 1910) the idea of building in sympathy with, and relationship to, the site and the street constituted the governing concern of urban design.(11)

The rationalization and triumph of the street occurred in the era immediately preceding the Modern Movement. The city was viewed as a unified mechanical object; the junctions within this system were closely studied and rationalized. The street incorporated the machine and integrated culture and nature about its axis in an ideal harmony. Such examples as Haussmann Paris, C.Sitte Vienna, Stuben Germany, Otto Wagner Vienna, Berlage Amsterdam, have become well known.(12)
In these projects, typological studies were made of house types, apartment types, block types, etc., and many variations were explored throughout. These studies encompassed the geometry of street intersections, street sections, and configurations of spatial enclosures, classified in open or closed categories, regular or irregular, simple or complex.

In the advanced industrial city, the form of the building block was completely dissolved. New methods of production, the changing status of urban property, and the growing importance of hygienic considerations, were the main causes of the destruction of the traditional building block. Simultaneously, they resulted in the destruction of the heretofore accepted scale of the urban environment. It was in 1922, in Le Corbusier's "City for three million inhabitants", that the street was totally abandoned. This city was a projection of rational analysis, through the analysis did not include the street among its objects, nor did it give the state a central role as an agent of change.

Smithsons' entry to the Berlin Competition of 1958 reveals a shift of emphasis: In Smithsons' work, the street reappeared as a linear element, as a modified version of "the street-in-the-air" of Le Corbusier's "City for three million". The suggested street network by Smithsons linked functional "clusters" above a road.
grid, instead of running the periphery of recent housing blocks allowing for the horizontal segregation of transport routes and city functions. (13)

Further refinement and rationalization of this model, although subtle, was to follow. It was at this time that a deep concern emerged about urban context. By definition, a building design should fit with, respond to, mediate its surroundings, and possibly complete a pattern implicit in the street layout, or, introduce a new pattern. Different approaches developed in different countries. All of these concentrated on building typology, contextual patterns, hierarchies of public spaces and, inevitably, with urban projects.

"Figure-ground" drawings had now become the standard representational technique. As a tool of analysis, they deal immediately with the urban structure of a given context. (fig. 1.1) The figure-ground preoccupations of the contextualists gave rise to several studies of building typology. With this larger urban view, buildings could no longer be considered in isolation. These studies attempted an empirical analysis to reveal the systems generating urban space. (14) Typology became a design technique, a vocabulary to help manoeuvre among the various problems that would come up. This vocabulary is worked out during the attempt to formulate the various criteria and, hence, a
morphology.

Case studies in concepts of urban design illustrate an enormous variety of attitudes and preoccupations among urban designers. However, these studies cannot give by their very nature any clear indication of future directions. As design philosophies, all deal with important and often overlapping concerns. They are distinguished with respect to the vocabulary and syntax of architecture that are issues of culture, history, and of "language".

One can distinguish two major approaches in these directions being taken: that of the rationalists; that of the contextualists. The former generally encompass approaches developed in the late 1960's and in the
The 1970's, and is represented in Europe by the Krier brothers, A.Rossi and O.M.Ungers, and in the U.S.A, by John Hejduk and Peter Eisenman. The latter denotes the major current of thought prevalent in the 1960's in United States, and is epitomised by the position of Robert Venturi. (and the Grays: R.Stern and Ch. Moore)
The term neo-rationalists has been coined to distinguish this group from the rationalists of the end of nineteenth century, including the Italian Rationalists of the Modern Movement.(15)

What differentiates the rationalists from the contextualists is their study of history. The rationalists revive the historical vocabulary of forms and solutions of existing cities. Instead of denying history, they propose to accept the past forms and typologies as given, and to design from this although only in an analogous manner. Their view is that types and forms are dead without a modern meaning, and that these terms could be "collaged" together (as Piranesi collaged Roman monuments without reference to their past or past rules).(16) Rationalists are especially concerned with typological design and urban morphology. The city itself is for them the source of legitimate architectural design: history, rather than Corbusian function or economy, would have thus been their source of urban types. The ordering system of the city -the squares, streets, quarters, transportation systems
(whether public or private), and the pedestrian network took great emphasis as directly deriving from history.

The contextualist emphasis is on continuity and the vitality of tradition. In this contextualist view:

"the historical city is not composed of material, but is a history of human utopian aspirations and the failure and deformation of those aspirations by everyday, empirical experience. The delicate balance and dialectic between aspiration and actuality vitalises this history". (17)

Thus the latest theories put forward considerations other than functional ones. The form-making process, the formal representation of architecture, the complexities of modern experience, etc., became the major determinants. One may argue that after a certain point in the planning process, other than functional criteria, which will explore, come to surface and allow us to make judgements about the final form of our cities.
CHAPTER II: HISTORICAL REVIEW

In the following historical survey, the main stages—types of apartment buildings, and their relation to the immediate urban context, are examined.

2.1 Insula

The first well-documented example of apartment buildings, as multi-level edifices—dwellings of multiple families, are found in antiquity, in Roman Ostia, the portus of Rome.

These apartment buildings, the insulae, were first to provide shelter to the hundreds of temporary settlers of the portus, as well as to the poor permanent residents. These building type later became a convenience for the upper classes too.

The simplest and oldest plan is the building of upper stories dwelling units over a row of shops on a street front. A simple development of this plan was to set two narrow blocks back to back. Passages joined the two streets adjacent to the block, and divided the building into two groups. When the insula developed in depth, and could not be adequately lit from street frontages, inner courts were added. Separate accesses were provided for each apartment, these being entered directly from either the street or from the peristyled...
a. A Housing Quarter (Ward-Perkins, 1977)

b. Gismondi's Reconstruction of an Insula (L. Del Maseo, R. Vighi, 1975)

Fig. 2.1 Insulae of Roman Ostia. 1st/2nd century AD.
courtyards. (fig. 2.1a) The insula faced the street and drew its main light from the street, generally through large windows. The disposition of the windows was based uniquely on the needs of the rooms or corridors they served, not on the design of the elevation. They identified each apartment. The street was used for distribution, orientation, economic and social exchange. Thus, there developed a strict relationship between building type, form of property, and the form of public space, i.e., the street. (fig. 2.1b)

From ancient times onward, many apartment buildings appeared, in different areas, not as the systematic type of housing of high concentrations of population, but as incidental derivatives of peculiar local conditions.

In medieval times, when the expansion of cities were prohibited by the fortifications, needs were met with in an upward growth of the buildings and in the creation of apartments (e.g. Strasbourg: 1580-1870).

2.2 Residential Squares

During the Renaissance, in Europe, and in England and France in particular, considerable building activity developed from in the reconstruction and the extention of existing towns. This survey will focus on the basic
a. Plan of Royal Crescent and Circus. (P. Zucker, 1939)

b. North Side of Queen Square. (J. Summerson, 1954)

fig. 2.2 Bath: Residential Squares
planning principles of that era. Wide avenues, straight streets with vistas, the checker-board patterns of ancient city buildings, and the extensive use of squares and groups of squares, not merely monumental, market or traffic places (but also as domestic or residential squares), which were, then, broadly applied, are also today's main vocabulary of urban design. (18)

The concept of a residential square was a new and epoch-making idea. The residential square provided for a peculiar form of housing. Initially, it grew out of an effort to join the homes of the aristocracy with that of the king. Many dwelling units were connected by a uniform architectural treatment of the facade. Later it became the model for speculative developments on a grand scale. In England, the trend was established and raised the status of the residential square very close to that of the contemporary apartment building projects: A series of town houses were built with uniform facades; their future tenants were to own them as leasehold rather than freehold property. An example of this is to be seen at Queen's Square, in Bath, 1727, whose architect and developer was John Wood the Elder. (19)(fig. 2.2)

2.3 New York and London Tenements

The next systematic development of apartment buildings
takes place in the second half of nineteenth century, as a solution to the question of accommodating the workers in the newly-developed urban centers, such as in New York or London.

The very early forms of workers' tenements represent the most barbarian aspect of mass housing. In New York, a typical form of tenement housing contained dwellings having a series of narrow rooms arranged in line (the so called "railroad flats"). A central staircase and hall gave access to a four-room-deep apartment, with only the front living room having direct access to daylight and fresh air.

Restrictions by the New York Health Board and the Tenement House Act of 1867, prevented the further construction of unventilated rooms. This led to the development of the "air-shaft" buildings. The three room deep flat now had its innermost rooms ventilated by means of small windows opening onto the chimney-like airshaft. (20) (fig. 2.3a)

In London, the conditions were no different. After the terrible experience of slums (back-to-back and low-rise tenements), multi-storied model tenements for worker families appeared, first in the city of London. The model buildings were of acceptable quality but few were constructed throughout the rest of the nineteenth
a. New York apartment buildings according to successive regulations. (L. Benevolo, 1971)

b. Ernest Flagg's model tenement, 1896. (K. Frampton, 1975)

c. Brooklyn Riverside Building. (N. Schoenauer, 1981)

Fig. 2.3 New York Tenements
century. Such a model was used for Bloomsbury, designed in 1850 by Henry Robert. It was a five-story high, U-shaped building, enclosing a large courtyard. It consisted of a series of flats accessible from an open gallery in the rear. These galleries overlooked the courtyard and were linked to each other and to the street entrance by a wide staircase. Complementing the traditional London street appearance, the facades of the building were well-designed with brick walls and large double-hung windows.

Much time passed until the legislation of specific measures for the improvement of this type of housing (measures which, also, influenced the form to a corresponding degree). Thus, the introduction of minimum standards of required space, access, lighting, ventilation, and sanitary installations, created an opportunity for the freeing of space and the gradual spreading of buildings.

In New York the improvement resulted in an apartment building of the courtyard type, one which provided light and ventilation to all the habitable spaces. Ernest Flagg's project of 1896, for the Housing Council became the model project for the following 40 years. The Dunbar Apartments, by Paul Lawrence in 1926, and the Harlem River Homes of 1938, are considered to be some of the best examples of this model. (21)(fig. 2.3b)
The last decade of the nineteenth century, in New York, saw the emergence of the "park tenament". This period marked the beginning of the perimeter blocks in this country, an example of which is the Riverside Buildings, in Brooklyn (1884). The distinction of these perimeter blocks lies primarily in the provision of a large open space or park in the middle of a cluster of buildings. They are also, only two rooms deep. Park tenaments were actually windows of hope; and they remained only a hope.(22)(fig. 2.3c)

2.4 Street-Wise Apartments: European Apartments of 19th Century

Apartment buildings soon provided suitable dwelling space for the affluent as well. By the end of the nineteenth century, apartment living was very common in large European cities. Edinburgh, in Great Britain, was one of these. An apartment building on Castle street, typical of those in Edinburgh, had four dwelling units, with two "maindoor houses" having their own street address at the lower levels, the other two units above, being reached through a central staircase.(fig. 2.4a)

In France, building regulations ensured relatively high standards for multiple dwellings that clearly set them apart from tenaments in other parts of Europe. A typical Parisian corner apartment demonstrates the intrinsic characteristics of middle-class urban living.
a. Edinburgh. Apartment building on Castle Street


fig. 2.4 Street-wise apartments. (M. Schoenauer, 1981)
The size of the apartment building was relatively small by today's standards, but the dwellings themselves were quite large. (fig. 2.4b)

The street elevations of apartment buildings in nineteenth-century Paris, as well as those of the other European cities, were lavishly articulated and were almost palatial in appearance, in marked contrast to the monotonous and dreary facades, usually associated with apartment buildings of a later era. Workers' tenements in Paris, as well as those of Berlin, the so-called "rental barracks", had the same mean facades and layout that were characteristic of tenements in all large cities affected by industrial growth. (23)

2.5 Anti-Street Trends: Set Back-off Models

Before the turn of this century, theoretical aspects related to the design of the urban environment were undergoing change. In an effort to improve housing conditions, in France as well as in England, new street forms were proposed. In Paris, in 1879, Eugene Henard tried to redefine the typical boulevard of Haussmann, proposing set-back models and garden courtyards opening directly to the sidewalk (boulevard a redans) (24). (fig. 2.5) Similar concepts were being proposed in London by Unwin and Parker, who used the set-back models to create a picturesque effect in their Hampstead Garden Suburb project of 1906. This tradition was
eventually continued by Le Corbusier, who, in 1915, designed the Domino Houses, housing-complexes which avoided the straight line. All these projects were consciously breaking the continuous building line as a reaction to the traditional concept of the street. These trends aimed at the total transformation of the city into a park. Some years later, American architects, adopting the European rationalism, proposed similar anti-street models. This trend became dominant in the prototype housing projects submitted by the New-York housing authority in 1934.
2.6 The Peripheral Block

In Central Europe, and in the Netherlands in particular, apartment buildings followed a different course, one which aimed at maintaining the traditional street concept: The peripheral block was developed with its semi-public interior courtyard was developed.

According to a reformative law of 1897, in Berlin, irregular courtyards might be contained within a larger peripheral block which re-aligns the whole development with the street. (fig. 2.6a)

H.P. Berlage's project, of 1917, for the extension of Amsterdam South is representative of the trend. L. Benevolo describes it as:

"a district of uniform roads formed of the intermingling of certain symmetrical motifs, sufficiently complex to avoid the usual dreary division into square blocks... from 100 to 200 metres long and 50 wide, four storeys high and with an enclosed garden, to be treated as an architectural whole... The use of the block, the unity of the materials and the discretion of the Dutch architects who executed it, produced a comfortable, civilized and orderly district with a continuity rarely found in so extensive a complex. Though it includes plenty of green spaces, the general effect is not countrified; quite the reverse". (25) (fig. 2.6b)

Until the mid-twenties, this model was totally acceptable. Two of the last examples to follow these principles were the the Karl-Kreis Hoff and the Karl Marx Hoff (1927) in Vienna, and the Tusschendijken (1919),
a. Berlin: Housing blocks after the law of 1897. (Frantop, 1975)

d. Berlage's project for Amsterdam. (L.Benevolo, 1971)

c. Vienna. Karl Marx Hof. (L.Benevolo, 1971)

Fig. 2.6 Peripheral Blocks.
and Kiepfoek (1925) projects by J.J. Oud, for Rotterdam.

(fig. 2.6c) In the latter case, the architect was largely working with isolated rows of terraced housing, and a recognizable unity in terms of the configuration of urban space is maintained. The model itself received many modifications. The Spangen Complex designed by Michel Brinkman (Rotterdam, 1921) is an interesting variation. (fig. 2.7a) It is significant for its enrichment of the interior courtyard and for its elevated "street" decks, connecting all the peripheral units to the public facilities located in the center. The perimeter plan re-aligns the whole development to the existing street grid. It is significant, also, for the introduction of the gallery-access type of building. (26)

The perimeter block tends to become an autonomous organism with its own system of distribution, corridors, access balconies, all competing with the streets. The street is reduced to a system of accesses of which the number of entrances is independent of the number of the residential units. The relationship between building type and street, beyond the formal aspect, becomes dictated by external legislation over fire regulations, etc. The large perimeter blocks might be useful, or beautiful, as isolated examples: but as repetitive urban systems, their resultant street patterns became a spatial megastructure which
a. Rotterdam. Spanen Housing by M. Brinkman.


fig. 2.7 Peripheral Blocks. (K. Frampton, 1975)
proved to be socially disruptive. (27) Le Corbusier's projected version of a peripheral courtyard block with deck access (Immeuble villas) constituted a stand-point in the evolution of the European housing prototypes. (fig. 2.7b) In the "City for three million" of 1922, each building block surrounds a wide public green space while its bulk is projected, or set back, within a continuous park. However, Le Corbusier wavered over the concept of peripheral blocks. Ville Radieuse, the revised 1933 version of the "City for three million", was a continuous band of "one line" housing, with successive set-backs. Through this project he developed the housing tower, or the free standing independant unit, which eventually was to radically affect the whole concept of modern urban space.

2.7 The Freestanding Building

The tower was used, in the 1930's, as medium for low income housing in Sweden and Holland, and was adopted as the basic prototype by the New York Housing Authority between 1934-65. In British Urbanism, the tower was part of the mixed developments of the post-war period. It permitted high-density areas on constricted plots and a high percentage of apartments with double exposures, reaching 100% in the case of the pointblock. The open space around the building allowed for more light, more air and wider views, especially on the upper floors. (fig. 2.8)
In the mid-twenties, there was a conceptual change in Germany regarding the housing site plan. From a block arrangement facing directly on to the street, to the open rows of identical length, set endward to the street and arranged apart at a standard distance. Later, the evolution of this pattern increased the height of this typical element. The elevator mainly contributed to this development. (28)(fig. 2.9a)

This rational pattern of rows with high rise buildings, was advocated for its potential to release ground, and the availability of its sky view even for the ground floor level resident, as was demonstrated by W. Gropius. It was, along with the tower, the prevailing pattern in most post war, high-density housing projects. (fig. 2.9b)
On the whole, these projects were closely connected to functionalist ideology. The street pattern was to serve the auto, the service trucking, and the emergency vehicle, which could be brought as close as possible to the entrance of the building. The main objectives of the street design were now the discouragement of through traffic, the ease of policing the area, the so-called safety of the pedestrian as well as the driver. The adequate functioning of utilities in the streets was an additional objective in street design. Walkways were to bring the inhabitants as directly as possible into the dwelling. Intersecting vehicular traffic was to be reduced as much as possible. Considerations of privacy influenced the location of walks.

It was deemed desirable to keep them far enough away from the building to allow for planting and to place the pedestrian away from the windows of the lower floor tenants. Ten feet was a minimum, but twenty feet or more was desirable. (29)

Providing sufficient off-street parking space was to become one of the major problems to be confronted. This additional required space corresponded to approximately one third of the area of an average apartment building. In addition to resident parking, off-street space was to be provided for service vehicles. Whatever parking was needed was to be located according to criteria of
a. Amsterdam Expansion of 1935. (Benevolo, 1971)

b. Gropius diagram demonstrating the advantages of high rise over low rise in a parallel row development. (Gropius, 1936)

fig. 2.9 Housing in Rows
convenience to a building entrance. Considerations for providing the resident with a more secure feeling resulted in the provision of a minimum number of entrances, in order to separate private and public activities as best as possible, and to maintain a friendly distance between buildings without encroaching upon privacy. (30)

Although we find this pattern often repeated today, all over the world, new concerns have started to appear. In Europe, Rob and Leon Krier, and O.M. Ungers accept streets squares and blocks as the only valid city pattern. Their recent projects are illustrations of these ideas. Some of the more radical architects have tried to express their philosophies of life through the buildings, -such as the Abraxas-France, by Ricardo Bofill. In USA, Manhattanism is approved and is extented on housing projects. It is these old and new concepts which are the subject of this research.
PART II

POST FUNCTIONALIST PROJECTS
CHAPTER III: THE PROJECTS

The projects selected for examination in this study do not cover the whole spectrum of post-functionalist thought. The existing material is quite extensive and is spread over many different case studies. Subjectivity, as well as availability of material, has probably omitted from this study many other important projects.

All the selected projects pose questions of urban form, and they are examined regardless of the success of their proposals. They show different interpretations of the basic constituent elements of urban form that have already been discussed. All represent contextually responsive solutions, either with adaptation or with contrast to the existing physical (object) environment. Their very diversity suggests the validity of a general concern. The referential form used ranges from the traditional European city to contemporary American. The analysis of each project varies according to the significance of its partial development and its relation to this study.

The first reaction against the principle by which form is supposed to follow function, with the assertion of the morphological structure of urban form, is that of the Italian Rationalists. Aldo Rossi offered both the
theoretical base (with his book, *The Architecture of the City*), and the first example of a highly ordered approach to formal composition.

3.1 The Monte Amiata Housing project for the Gallaratese quarter, is one of the first post-functionalist projects and is examined first. The Gallaratese was designed by A. Rossi and C. Aymonino, in the northwestern outskirts of Milan, during Italy’s "economic miracle" of the late 1960s. (1)

Galaratese was a very important project in Italy. It began to use once again elements other than housing units by including colonnades and porticos, which were a kind of luxury in the late 60s. On the other hand, it also contained the contradictions of an architecture with an extremely simplified program trying to be urban. In the end it is just literature.

Urbanistically, as specific gesture, Galaratese can be seen as an example of contextualism. The predominant design strategy is the completion and resolution of physical aspects of an existing urban condition: the site and its surroundings. These conditions are seen as resolvable in a building, but they depend directly on the inclusion, or accommodation, of other existing buildings which are seen both as setting the problem, and as collaborating in its solution. It is considered
as part of the city of Milan and refers to its urban structure through the urban elements of architecture. Priority has been given to a building type choice which affects architectural design and which aims to reestablish the city through the memory. The complex was designed as a series of four separate, but connected, buildings. It was sponsored by a private real estate company and was intended to be a showcase project, with apartments available only on a rental basis. (fig. 3.1)
The neighbourhood where the complex is located, in the Gallatarese Quarter, is typical of many post-war developments in Italy, with unrelated 10-to 12-story housing blocks standing alone and scattered at random throughout a barren landscape. There is no cohesiveness, no focus, no sense of place to be found anywhere.

For Rossi this was an occasion to evoke the architecture of the traditional Milanese tenement, avoiding the use of powerful urban forms, moderating the contradiction with the given urban context: The scheme is composed throughout in purely geometric forms, yet it does not appear as committed to rigid rationality. It consists of four buildings, two of which are double-loaded hall structures forming an obtuse angle and joined by a half-circular amphitheater. The third is a similar structure and extends between the two. These three, and their connections, were designed by Carlo Aymonino. The fourth is parallel to the third and has been designed by Aldo Rossi.

C. Aymonino's buildings are tied together by a series of urbanistic components that include pedestrian bridges, "triumphal" public entrances, and outdoor courtyards and plazas, all of which come into focus at the public amphitheater. A whole range of residential models have
a. Carlo Aymonino's building.

b. Aldo Rossi's building.

fig. 1.2 Gallaratese. Elevations. (K. Frampton, 1982)
been applied in a complex stepped section, out of which the big cylinders of the lifts protrude at regular intervals. Courtyard flats on ground level, duplex flats on the upper floors passing through the gallery-like organisation of the middle floors, provide opportunities for urban relationships and individuality among the apartments. (fig. 3.2a)

Rossi's building is a counterpoint to Aymonino's with its plain volume. It sits atop a long gallery of flat columns, punctuated only by a series of windows and openings that follow a circumscribed regulating order. The entrance is emphasized by four monumental columns within the gallery. Here the type of linear porticoed house is offered axiomatically as a typology. The gallery on the ground floor level, as well as the galleries on the upper levels (which provide access to the apartments) are, for Rossi, representative of the old Milanese house, and a "type" of reference in this building. (2) (fig. 3.2b)

The plans of the apartments are functionally articulated. Despite the various types that exist in Aymonino's buildings, an emphasis is observed on special household facilities. In Rossi's building, all the apartments have gallery access with clear zoning articulation. (fig. 3.3)
Rossi's building  Aybonino's buildings

a. Typical units plans (D. Horton, 1980)

b. Sections (Y. Futaga, 1977)

fig. 3.3 Gallaratese.
The mood that the morphological urban studies had initiated in Italy for the integration of all new development into the morphological fabric of the traditional city, received its most explicit elaboration in the work of the Luxembourg architects Rob and Leon Krier.

The project for Echternach, Luxembourg, 1970, where a continuous building with a pitched roof contains shops, apartments and a school, shows clearly the new attitude to reestablish the traditional street and square. It will not be examined here because of the peculiarity of its program: (fig. 3.4)
3.2 The Royal Mint Square Housing Competition, in London, 1974, gave the Krier brothers the opportunity to further express their views on urban structure connected to housing projects, and to establish themselves as representatives of European Neo-Rationalism.

Each of the Krier brothers had participated with a separate entry. Their proposals had in common the treatment of the city by establishing a well defined urban block; their differences were seen in the treatment of the block itself.

![Diagram of Royal Mint Square, London](Grumbach. 1976)

This project was designed for the docks, east of Tower of London. Small areas had, in the meantime, been replaced with new buildings. The docks were mostly in a state of disrepair due to neglect by the civic administration. (fig. 3.5)
The basic architectural material was, however, extraordinarily important and could be adapted to other urban functions. Parts of the old docksides had been filled in with earth, by order of civic authorities. In this way, as R.Krier states, the district was in fear of losing one of its most fascinating qualities.(3) The fabric of the competition site had been so far defined by the geometry of the docks railway.

Leon Krier's intention was, "to create an ensemble of architectural and spatial homogeneity and harmony, to propose a type of housing which by its very form would suggest ways of overcoming the shortsighted programming".(4) He proposes two perimeter blocks, triangular in plan, forming a central pedestrian avenue which cuts diagonally through the competition site. This pedestrian avenue forms an iconical square in the middle, and is directed towards the tube station becoming an important short cut between the city and the redeveloped docks. (fig. 3.6a) The image of an avenue is strengthened by the width, (wider than the surrounding streets), the flanking colonnades, and the row of trees on the axis. For the fitting of such elements in a housing project, Leon Krier stated that, "in this project we found it impossible to design a scheme which would be a perfect expression of housing, housing being only a fragment of what we actually
fig. 3.6 Royal Mint Square. Leon Krier's competition entry.
wanted to suggest, i.e., a part of a city". Thus, as Ch. Jencks notes, "the city fabric is stitched together in a new/old way. Here the London block is kept, along with some existing buildings, while a set of public facilities is placed on the diagonal, pedestrian route and given a monumental, classical expression".\(^{(5)}\)(fig. 3.6b)

The buildings are four-story walk-ups. On the first two levels next to the ground, the apartments, flats or maisonnettes, have direct access from the street, under a colonnade. Those on the third and fourth level have gallery access on the third level. The gallery is parallel to the street looking towards it, and complementing it. There are staircases leading to the gallery in a short distance, from each other, and, because they are open on two sides, they form optical connections between the streets and the less public courtyards. The elevators are of minor importance. They are located on the four ends of the diagonal central street, to be used in special cases only. The parking area, right below the diagonal central street, has direct access from this street, giving it an additional function. (fig. 3.7)

The multiple individual entrances on the ground level, the staircases, the gallery running along the street, the entrance to the parking area, are element-tools
enriching the elevations of the buildings and the experiences of the pedestrian, and creating a close relation between the public and the private realm, and, thus, making L. Krier's architecture urban.
Rob Krier, in his project, uses the same urban vocabulary (blocks, streets, squares), but different building forms. Along with Leon, he shows that those basic elements of the space can be articulated in different schemes, in a clear architectonic way, and give a series of variants, significant for the identification of a place, the orientation of the inhabitants and the visitors and the individualization of the houses. (fig. 3.8a)

The architect's intentions are expressed through two theses, as stated them in one of the publications of the project. The first thesis is:

"Loss of urban space in town planning in the 20th century. The street and the square are the elementary types of space in this system, for which read 'city'. The street is connected with the orientation, and the square is the intersection of two streets, pole of calm, pole of intersection".

The second thesis is stated thus:

"...this type of space, street and square, must be used again in modern town planning if we don't want to give up the idea of the 'city' as a system of constructed public space". (6)

Rob Krier proposes a restoration of the street system within the blocks by a system of lanes and squares close to traffic, in order to strengthen the pedestrian use of the system. These spaces constitute the places which will enable the urban community to move, live and communicate. (fig. 3.8b)
fig. 3.8 Royal Mint Square, Rob Krier's competition entry. (Grumbach, 1976)
There are two types of buildings: Three-story walk-ups with flat apartments (terrace housing); and five-story, multi-core walk-ups with L-type apartments. The elevators are completely eliminated, making the upper-floor apartments inappropriate for the elderly and the handicapped. In the terrace house there is the option of subdividing of the cells. The form of the layout is individual. There is choice in possible access to the street and the courtyard. At the ground floor level, there is an arcaded portico towards the street, covered overway with gardens at the beginning of the upper-level apartments. The access to the apartments is through a gallery parallel to the street and looking on to it. All the movement is on the street level, intensifying its function, while, in contrast, the facades overlooking the gardens are equipped with quiet balconies.

The L-type apartments are either flat, or are maisonnettes. The importance that R. Krier gives to the entrance of an apartment as an urban element is seen in the details of the upper floor entrances: The core is extended leftwards and rightwards providing an open gallery access to the apartment. (fig. 3.9)

The parking area, as in L. Krier's project, is at the underground level, below the central street, with multiple exits to it.
Fig. 3.9 Royal Mint Square: Rob Krier's entry. Types of dwelling units. (Grumbach, 1976)
3.3 The Roosevelt Island Housing Competition of 1975, in New York, refers to an urban environment quite different to that of Europe. American Contextualism here deals with the physical and cultural context of New York, using as referential forms apartment buildings of Modern Movement, or the urban grid plan of the adjacent Manhattan.

Fig. 3.10 Roosevelt Island. The competition site facing Manhattan. (S. Stephens, 1975)
Among the many entries, three have been selected to be discussed here: R. Stern's; O.M. Ungers'; and O.M.A's (R. Koolhaas and H. Zengelis). All are highly contextualist. They recognize, respond to, and involve the surrounding city fabric, yet are different from each other.

Roosevelt Island is a long, narrow (200m wide on average) island in the East River between Manhattan and Queens. The architecture of the island consists of a series of large U-shapes opening towards the river on both sides of a longitudinal pedestrian spine.(7) The competition site is on the northern end of the development, a location which corresponds to the area between 71st and 75th Streets of Manhattan (fig. 3.10).

Stern's entry was awarded the first prize. Although its image is a combination of fairly conventional elements of an ordinary and identifiable American apartment building, the project deals with the application of an urban type - the street - which is dominated by social and architectural allusions to a promenade. The solution, as Stern states it:

"introduces a pedestrian street running longitudinally through the site and continuing the diagonal offsets of the street pattern established in the earlier stages of the island's development. Our street, 'Octagon Way', gives access to the apartments as well as to such various community functions as meeting rooms, a day care centre, two public schools, laundry rooms and an amphitheater. It provides the principal pedestrian
fig. 3.11 Roosevelt Island. Stern's competition entry (P. Arneil & T. Bickford, 1981).

a. Site plan

b. Photo of the model
Two types of buildings are proposed: apartment towers, placed at the water's edge to take advantage of the river view and to minimize their apparent bulk, providing apartments of various types, and 6- or 8-story buildings which provide residents with a comfortable relationship to the ground level. Many of the latter have terraces or balconies.

All apartment towers and "town houses" enter directly from Octagon Way. (fig. 3.12) The transition zone comprising the entrances to the apartments gives a visible third dimension to the pedestrian movement and enriches the elevations. Actually, it extends the street upwards, further intensifying it. We can say that the functions, rather than the geometric characteristics, give the urban quality to the street. Besides the diversified treatment of most of the apartment facades, this vertical transition zone enhances the sense of identity and privacy for the individual apartment dweller, thus fulfilling one of the main intentions of the architect. This feeling of individuality is further strengthened by the diversity of the apartment layout. In the towers, the apartments of each floor are different from each other. (fig. 3.13)
b. Park and high rise buildings

Fig. 3.12 Roosevelt Island. Stern's competition entry. Perspective sketches. (P. Arrell & T. Dickford, 1981)
fig. 3.13 Roosevelt Island. Stern's competition entry. The apartments.
While Stern respects the micro-environment of Roosevelt Island, Ungers proposes a miniature Manhattan. (fig. 3.14, 3.15a) The proportion of the Manhattan grid streets is reduced to fit twenty eight entirely different blocks around a shrunken Central park. Gregotti mentions that:

"...in this way, the lack of relationship and connection with Manhattan is counteracted. One does not live in Manhattan but in a Manhattan, a 'laundered' version of the real thing, minus some of the obvious nightmares". (9)

The proposed "catalogue of types of accomodation" to be developed by individual architects, built of different materials, in this project is of great interest. These are types of buildings whose envelopes are to fit and define the building blocks, in the proposed urban pattern. According to Ungers', the 'loft type', the 'standard type' (with fixed plan), and the 'palazzo type', are the generators of the scheme. The derived types are towers, terrace walk-ups, courtyards, tower walk-ups, terrace courtyards, terrace duplex, tower courtyards, and so on. (fig. 3.15)

fig. 3.14 Roosevelt Island, Ungers' competition entry. Site plan. (V Gregotti, 1976)
Fig. 3.15 Roosevelt Island. Unders' competition entry. (V. Gregotti, 1974)
Similarly to Unger, R. Koolhaas and E. Zenghelis propose a "compression and fusion of elements and strategies which have evolved in the mother island Manhattan". (10)

The new area is an extension of the Manhattan grid across the East River, creating four new streets. (fig. 3.16) Along the streets, they propose rows of "synthetic brownstones" (the traditional New York Town houses once built of local stone) built this time of the most heterogenous materials, such as glass, rock, marble, and plastic. These are parts of a large composition of such prototypes as the slab, the tower and the river block. (11) Apartment interiors were not available to allow further examination of this project. (fig. 3.17)
Fig. 3.17 Roosevelt Island. OMA's competition entry. Axonometric. (V. Gregotti, 1976)

A—new/old urban idea which has reemerged among the rationalist architects is the old notion of the perimeter block and the enclosed pedestrian area surrounded by an architecture that maintains the street line. J.P. Kleihues, R. Krier, and O.M. Ungers have been instrumental in reviving this archetype, examples of which have been built in Berlin.
3.4 The Vinetaplatz Block 270, was designed by Joseph P. Kleihues, in 1977, as a specific response to the residential fabric of Berlin-Wedding. It was seen in the context of the evaluation of the residential block as a potentially acceptable type of building for modern living and urban planning (fig. 3.18a).

This project is particularly remarkable, because, through it, Kleihues tried to resolve one of the most intrinsically negative aspects of the type: its tendency to become hermetic and to develop an internal distributive system competing with the traditional street. This was achieved by increasing the number of stairways and making them accessible from the street, from the courtyard, and also from the underground car park, through opening the four corners and providing for inner and outer access to the stairway and elevator halls; through opening the courtyard itself on all sides, (i.e. passage-ways on ground level in the north-eastern and south-eastern corners of the building, four-storey passage-ways in the north-western and south-western corners and broad passages on the south-western side). The required parking space is provided in an underground level, and is accessible from one side only (fig. 3.18b).

All the apartments look out on both sides of the building, onto the street or the square, and onto the
Fig. 3.18 Vineta Plaza Block. (J. Kleihues, 1978)
communal courtyard. The plans are satisfactorily articulated, without long corridors and conflicting functions, providing ample living space but the minimum standard space for the bedrooms. (12)

Leon Krier, who was working in Kleihues' office when this scheme was first developed, while trying to resolve the problem of the size and articulation of the semi-public and public spaces, proposed, in the Tegel Competition (1980-83), the "insula tegeliensis," instead of a peripheral block, peripherally arranged, 3-story detached buildings defining an urban block in the total, and six streets and a square within this block. (13) (fig. 3.19, 3.20)
fig. 3.20 "Insula Tealiensis" by Leon Krier. (D. Porphyrjios, 1984)
3.5 The project for a perimeter block, on Schillerstrasse-Berlin, by O. Mathias Ungers, in 1978, shows an effort in another direction, towards the improvement of the type of the perimeter block by turning it inwards.

There was already a building existing on the lot, a remnant of the damages of war. It was incorporated into the new scheme in an attempt to preserve an intimate scale, despite the unfavorable orientation and a noisy location. (14)

As the architect states: "This project was an attempt to complete the historical urban fabric by relating the new work to the elevations of adjacent structures and thereby create a unified block." (15)

Towards fulfilling the above expressed intention, Ungers proposes a single unit articulated around a large courtyard, almost like an enclosed square. This courtyard, entered from the street through one main gate and one secondary gate, provides garden space for the entire house while providing access to the stairways and the apartments. The corner entrance, exaggerated in size, provides access to one two-story apartment. The ground-floor level is occupied by maisonettes with individual entrances, accessible either directly from the street or from the common


Fig. 3.21. Perimeter block on Schillerstrasse, Berlin.
The treatment is clearly in opposition to the dominant traits of typical 19th century Berlin building which had its main facade on the street, while the courtyard functioned as a mere light well. In this way, however, Ungers reached the other extreme, as can be seen in the Spangen Complex (1921), where the courtyard gathers all the circulation, isolating it from the street where it originally belonged. He further strengthened this opposition by making the street fronts resemble a big wall, with the service spaces immediately behind it. The reduction of the width of the building was a main contributor to this effect. (fig. 3.22, 3.23)
This resulted in a single-handled building which ignored possibilities for ample light and cross ventilation. Furthermore, he eliminated the double façades of the existing building by adding a volume parallel to it.

The apartments are spacious, but the residents are obliged to make long walks from the one to the other end of the house. The projects are controversial in that they introduce a model which both preserves the street, while simultaneously turning away from it.
3.6 South Friedrichstadt in Berlin, is an area which was proposed for reconstruction for the Berlin International Exhibition (IBA). Rob Krier took the opportunity to make a design of his ideal plan for the renewal of a city without a mandate to do so. The significance of the project lies in its scale and in the manipulation of the urban constituents.

The district's structure clearly bears the imprint of the city's 19th century layout, the old plan of 1732-38 destroyed by wars and subsequent reconstructions. The whole development is triangular in shape and is characterized by a plaza at the vertex of two sides of the triangle. Within this general triangular plan, a second gridiron system is inserted with the third side of the triangle as the generator line. (fig. 3.24) Rob Krier suggests the respect of the main "accents" of the old urban ground plan. He aims at the reestablishment of a clearly legible urban structure. He corrects the gigantic blocks in the southern part, by using measures previously applied to the blocks in the northern area, and restricts the height of the buildings (no more than 6 storeys, with no more skyscrapers) to the size of the courtyards of the dwellings (no much less than 40x40m). Thus, between the great straight avenues that link the Mehringplatz with the northern area, appear attractive residential areas that retain their individual character, thanks to the different spatial composition.
of the streets and the squares. A fundamental point in this ideal plan is a ring of greenery not far from the plaza, 90m wide, where it would be possible to place the most important public buildings, as determinants for the enlivening of the area. (17)
In 1980, Rob Krier took the mandate to design in detail of a minor area of the whole development of South Friedrichstadt. (fig. 3.25) His ground plan was to be a basis whereby various German architects would submit building designs for different parts of the project. It was an effort to put an end to the mass-production
of dwellings, nearly always designed by a single architect, and a welcome alternative to the typical social housing built in Berlin during the last twenty years.

The master plan must be seen in relation to the historical structure, and, in contrast to the recently built free-standing, high-rise towers in isolation from their surroundings. There is an effort to reintroduce into the area a structural quality which recognizes and mediates between those twin polarities (private vs public; individual vs the collective), "so that", as R. Krier states, "every occupant will be able to identify his own home, ...(and) so that a multiplicity of differently-shaped houses will once again—as in the past—constitute the image of the street, enlivening and enriching it". (18)

These ideas have been transferred to the project by well defined urban blocks, in a clearly delineated area, introducing streets and urban squares faced with a constant building wall. Rob Krier's projects reintroduce collective spaces to the inner block and investigate every possible variation and alternative in the plan.

The whole area reads as two major complexes and, in turn, both complexes can be interpreted as a series of
individual buildings. At the same time, a unity that emerges as much from referring to the same themes, and, from having to resolve the same problems, as from a utilization of the same language. Facsimiles of the facades of the macro city, range from the work of Schinkel (cited by Krier) to that of the most recent periods in European architecture. (19)

Rob Krier designed two sections, one in each complex: the "White House" on Ritterstrasse, and a part of Schinkelplatz. The buildings are of special interest because of the interior arrangement of the apartments. The White House, part of the Ritterstrasse complex, marks the centre of the northern edge of the long block on the Ritterstrasse. He effectively employs color and texture as a means of visually separating the building from its context. He sets back the central portion from the street wall and creates a bridge between the two halves of the complex and a gateway into the pedestrian laneway leading to the Berlin Museum. The formal treatment of the elevation reinforces this point of view. This gate was meant to be an inviting gesture allowing a view into the collective outdoor space within the block, yet, one which one dares not enter. Krier sees the space between the two wings as the transition area -from the public to the semi-private space. (20) (fig. 3.26)
a. Plans (C. Jencks, 1980)

b. Elevations (R. Frampton & S. Kolbowski, 1983)

fig. 1.26 The White House
The building is a four-story high. The apartments are accessible from the interior open space of the block, through two cores of vertical circulation. Although most of the apartment plans are repeated, the treatment of the facades differs from apartment to apartment. A classical attitude is recognizable in the whole composition of the palazzo-like building (U-shape, symmetry and regular rhythms), while modernist elements include the flat roof, and the abstract whiteness of the plastered walls. (21)

The building of the Schinkelplatz project occupies one of the sides of the so-called plaza. The plaza has a regular layout, enclosed on all its sides, and "establishes an important urban-spatial landmark between the Merhringplatz and the Oranienstrasse". It measures 30m x 30m and is open at the center of its four sides, thus connected to the converging streets by passages through ground floor. Diagonal paths at the corners also connect the public square with the residential courtyards. The place conveys special memories. Two of Schinkel's buildings stood in the same area before the war. Rob Krier made use of the principal compositional elements of the buildings to design the frontages facing the square, and, thus, as A. Ferlega states: "(it) calls to mind the migration of classical fragments; altered in their materials and
a. Plan

b. View from the square

fig. 3.37 Schinkelplatz [A. Perleca, 1983]
connections, onto the facades of middle-class houses around the end of the 19th century". (22) (fig. 3.27b)

The residential units in both buildings, varying from one bedroom flats to four-bedroom maisonettes, tend to be hierarchically organised, not only in terms of size and sequence, but also in respect to shape. All the individual sleeping areas are accessible only through the group living spaces, even in the case of the maisonnettes. This may be seen as a problem or a benefit, depending on family habits:

"The interiors of the houses imitate the phenomena of the city, taking the urban square as the model for the living room; then other squares, octagonals, rotundas, etc., are set around these. The apartment develops with slight alteration just as takes place in the relationship between public spaces and residence". (23)

In Schinkelplatz housing, the individual character of each apartment was achieved through the shape of the central living room, which was designed as square, rectangular, elliptical, circular or polygonal. (fig. 3.28) Rob Krier states "this is not a case of geometrical fetishism, but simply a logical development of the concept of a principal room, the heart of home, to which secondary ones are connected. (24) Almost all result in awkward geometries in the peripheral rooms and give no indication as to how the central room could actually be furnished or used (every room has at least four doors, each in a different wall)(25) Krier's insistence on a central and formally-appointed living
volume often seems to impose unnecessary formal constraints on the achievement of a convenient plan.

Most of the aforementioned examples were interventions into existing cities with short or long histories, or with a good or bad urban structure. St. Quentin-
en-Yvelines, and Marne-la-Valle, gave the opportunity to Ricardo Bofill and Taller de Arquitectura to design "Les Arcades du Lac", and "The Spaces of Abraxas", respectively, and to express their views regarding the definition of urban form and the use of history.

3.7 Les Arcades du Lac is a project for the Quartier de la Sourderie, in the new town of St Quentin-en-Yvelines, France. It was worked out in the late 1970s by Ricardo Bofill and Taller de Arquitectura. Although it is well known for the classical vocabulary of the facades (which will not be discussed in this study), deep urban considerations have determined the layout.

Two major elements characterize the quartier: a boulevard and a large lake (60x300m), which were determined by Pancho Ayguavives, the coordinator architect of the whole development. Bofill and Taller de Arquitectura, in contrast to the surrounding formlessness, employ an intentionally simple urban network of blocks, streets, squares, based on the right angle, "like the system employed in towns in the past", defining the two major urban elements and introducing, what has been described as a "seed" of organization for the surrounding projects. (fig. 3.29)
fig. 3.29 Les Arcades du Lac. (Jencks, 1980)
Furthermore, they have composed a dense mass of building, laid out along rigid axes, with ordered facades and uniform parapet lines, set among formal gardens and crossing an artificial lake. They have created an "ordered garden", interpreting in their own way the garden cities so familiar to French History, by proposing and inhabited garden in which the treatment of natural elements like the lake or vegetation constituted the essential given factors. (26)

Bofill says:

"Our concern was to build an architectural object which would be a counterpoint and complement to the lake project...a dwelling space which would be ordered along a straight line situated above the water level and contrasting with the network of the garden city. This objective corresponded to a series of ideas developed in the Taller de Arquitectura: an obsession with lines, points or arches as dwelling places; with a line or a viaduct as a dwelling place; above water or crossing a valley between mountains; a way of entering a landscape or marking a territory". (27)

P. Hodgkinson, partner of Taller de Arquitectura, sees the project as a counterproposal of mass image and identity, plainly urban and associated with local history and heritage, to the decomposition of French new towns. (28)(fig. 3.30)

In contrast to the social, symbolic and constructional considerations for the exterior of the buildings and the articulation of public spaces, almost no attention has been given to the interior. The apartments are
fig. 3.30 Les Arcades du Lac. Elevations. (C. Jencks, 1980)
ordinary and functionally articulated, where feasible: but there are apartments with awkward disposition of windows and balconies following the exterior order.

3.8 The Spaces of Abrazas, in Marne-la-Vallee, France (1978-82), represent another interpretation of the "historical city". Now emphasis is given to its symbolic dimension. The project brings instant history and identity to a place where architects have revelled in the opportunities of tabula rasa. Marne-la-Vallee is one of the most recent suburb of Paris. It is an indifferent, meaningless environment, consisting of four clusters, each centered on a rail road station. One of these clusters is Abrazas.

The proposal is based on the belief that:

"urban design in our era will take the structure, if not the dimension, of the historical city into account. It will however, invert the symbolic values. Everyday life will take the center of the stage, while the public edifice and facility will recede into the background". (29)

So in Abrazas, a place lacking drama, Bofill and his partners place the residents on an urban stage. They propose a 9-story Roman Theatre, a 19-story Palace and a central Triumphal Arch. The Arch forms the center and focal point of the complex and is called, by Bofill, "a stage curtain that shelters exhibitionists". The inner side of the Arch of the Theatre defines an Amphitheatre on four levels. The vine-draped Arch—romantic and not
Fig. 5.31 The Spaces of Abraxas: Plans. (B. Berodoli, 1982)
triumphal, as Bofill insists—provides the principal stage set, and the Palace, a monumental classical backdrop. (30)(fig. 3.31)

The Palace, according to Berry Bergoll, is an archigram megastructure got up in classical dress for a night at a theatre, complete with internal streets and gangway galleries leading to individual apartments.

In the whole project, emphasis is given to the classical composition of the facades. The level of success, and the means used, are beyond the subject of this study. However, the general layout is clearly formalistic. The theatre describes an arch slightly larger than a semi-circle, "abutting the rectangular geometries of the Palace at an unresolved angle." (31)(fig. 3.32)

The development is controlled by a imaginary linear central axis. The axis is emphasized by a monumental vista, a funnelled perspective glimpsed through the Arch, the Palace and the Theatre. The architectural forms used, in order for the vista to be achieved, are huge cuts in the buildings (more than five-story high), the "urban windows" as Bofill calls them. The vista in one direction is "a beautifully modulated and controlled sequence of framed compositions and polychromatic progression from the masonry pinks of the
a. The Palace

b. The Theatre (interior concave)

fig. 3.32 The Spaces of Abraxas. Elevations. B. Bergdoll, 1962
Palace to the deep browns of the Arch, the view finally opens through the Theatre into the landscape beyond" (32); while towards the other direction, the vista ends quite abruptly with a garage.

The urban intentions of the architects can also be seen in the different treatment of the Theatre's two facades. The exterior convex tries to define an enclosing surface, having quite austere facade. It is characterized by three superimposed tiers of paired columns, all of equal size and indeterminate order. The interior concave, in contrast, is enlivened by a parade of reflective glass bay-windows. However, yet the result is quite vague.

From the layouts of the apartments, it is clear that Bofill and Taller have designed Abraxas from the facade inward. The plans are an afterthought, forced into the overpowering forms conceived as a vast urban sculpture. As a consequence, there are apartments poor in scale and detailing, where ever the general layout was not flexible, bay windows in the bedrooms following the exterior order, but there are also apartments more generous in layout, and pleasant in the double orientation of their floor-through plans. Although the general structure of the building is a slab one, the architects have avoided the long corridors, providing instead multi-vertical cores. Berry Bergoll states:
"such inattention to the private aspect of the design makes one sceptical of Bofill's frequent sociological polemic. Exalting daily life with such theatrical bravura, he has in fact made but few concessions to its enrichment beyond the view from the window."(33)

The parking needs are covered by a four-storey concrete garage which forms a most unceremonious link between the Spaces of Abraxas and the town centre. A dense planting of trees would, as a later addition, partly obscure the parking lot.

3.9 Noisy II project, of 1980, by Henri Ciriani, for a district of Marne-la-Vallee, tries to establish (by reinterpretation) traditional urban forms (streets and promenades) using a slab-block typology. His project along with Stern's entry for Roosevelt Island Competition, demonstrate that forms employed even by Modern Movement can define qualified urban space, transposing thus the problem of urbanity from the block typology to the details of the building itself. "The space is 'held' by architecture", and in this case, the building wall is a generator of street space. (34)

It is addressed to a random residential fabric of a dispersed "new town". (fig. 3.33a)

Ciriani places his project in the context of the general recent debate around the intrinsic values of the urban form. Himself, a defender of modernism,
a. Site plan. (H. Lipstadt, 1982)

b. Aerial perspective sketch. (K. Frampton, 1982)

fig. 3.33 Noisy II
recognizes the two major problems of Modern Movement as being the "functional segregation and the erection of built objects floating in a homogenous space", and tries to solve them from within.

He refuses "to take shelter in the nostalgia for the historic towns, because he finds that mimesis in architecture can only theatricalise the realization of the spaces it engenders". He separates thus his position from that of the architects of the projects already discussed. He uses the acquired knowledge of the Modern Movement, while "he takes notes from the lessons of the past". The "slab" is for him an ideal tool for reinterpreting -by analogy- the already experienced urban forms. (35) (fig. 3.33b)

His intention was to create an "urban piece" which "must constitute an "inside" and communicate through an "outside". The proposed complex consists of three slabs forming a T-shaped figure which, in turn, forms both the structure and the boundary of the space. The fore-part, a linear building, 180m long, functions as an "urban front"; in relation to the area it demarcates, and defines a boulevard along with the linear building on opposite site, also designed by Ciriani, in a different development. (36) The second linear building is split into two wings perpendicular to the first one. A large portico at the intersection of the two buildings marks the entrance to the domestic
element of the ensemble. The wings present stepped-back terraced walls along a promenade that leads from local node to a community garden. It is this stepped configuration that "effects a fusion between the facade of the building and the interior walls between spaces, and represents another interpretation of the traditional public squares which for Ciriani is a "hollow in a fully-occupied area". (fig. 3.34) The
whole development can be considered as a self-sustaining urban fragment, like the perimeter block, and open to further development suggested by the linear and lateral extension of the streets. (37)

The requirement for an "urban front" are met with the basic shape of the fore-building, composed of "columns" (balconies one over another), and a frieze (projected last floor), which can be read as a traditional portico. Nevertheless, the two wings seem to be exempt from participating in the game of street frontage. (38)

The ruling axis merely serves as promenade and the wings are entered from outer sides through entries marked by various types of arches. (fig. 3.34b)

The residential units are planned as joined round-like towers; this form allows for successive diagonal graduation and angled windows, and lets in sunshine laterally. The interiors of the apartments vary (60 models for 300 units) but all are based on a corridor distribution system. The spatial quality is better (shorter corridors, spacious rooms) in the apartments allocated to the financially upper classes. (fig. 3.35a)
PARTIAL FIFTH AND FIRST FLOORS

PARTIAL TYPICAL FLOOR

a. Plans. (H. Lipstadt, 1982)

b. West Elevation. (K. Frampton, 1982)

Fig. 3.35 Noisy II
4.1 Planning Criteria

The projects examined represent evocative solutions to a variety of urban situations and programs. They are explorations of the dialectic between the buildings and the urban space, as well as of the contribution of housing in the coherence of the urban structure. The planning criteria of most of the projects are ideas, opinions, theses on general urban space, expanded to suit housing problems.

Most of the architects, whose projects have been examined in this paper, have developed a theory of design upon which they have based their projects. The significance of these theories, compared to the whole work of each architect, and the value of the theory itself, vary between the architects. For example, Aldo Rossi lays emphasis on theory and has presented texts of treatise value for contemporary architectural education. The Krier brothers, who emphasize theory, design projects that are ideal applications of their theories. It is noteworthy that the majority of the spatial concepts which Rob Krier proposes are idealistic, since these have been worked out without any mandate. Nevertheless, all his suggestions are thoroughly "practical"; that is, technically, legally and financially realistic, according to the architect.
There are also architects, such as J.P. Kleihues and R. Bofill whose theories are clearly complementary to their practice. Their theoretical texts are limited. As a consequence of these conditions (in this chapter, which deals with the architects planning criteria together with the theoretical extensions of the projects), these projects are not analysed equally, nor studied in depth. The projects examined here are selected as being representative and helpful to a closer and more accurate viewpoint. They must be seen as partial, or thorough, application of these theories. Some may never be realized. They are, nevertheless, significant for their proposals, and their potency as stimulus for a whole variety of long term scientific research.

The proposed forms of urban space are not prototypical. Their pedigree can be traced back to a series of historical examples, which acted as sources of inspiration. Architectural history is not being considered at the level of the individual monument or building, but as the study of the whole urban fabric, of the ordinary anonymous buildings which form the flesh of the city, "the skin of its spaces".

Leon Krier states,
"the debate which both Robert Krier and myself want to raise with our projects is that of urban morphology as against the zoning of the
planners... The design of urban spaces, both traffic and pedestrian, linear and focal, is on one hand a method which is general enough to allow flexibility and change, and on the other hand precise enough to create both spatial and built continuity within the 'city... We try in our projects to reestablish the dialectic of building and public realm, of solid and void, of the built organism and the spaces it necessarily creates around itself". (39)

In the works of the Krier brothers the new vision of the city certainly incorporates the structural components implicit in the typological approach to the old city. Rob Krier's buildings, according to the architect, are expected:

"to participate in a dialogue with the substance of the past and not to stand disconnected from the basic structural elements of the town as they do today sustaining their own peculiar existence in permanent isolation. Every new urban building must obey the overall structural logic and provide a formal answer in its design to preexisting spatial conditions" (40)

Rob Krier's fascination with historic cities derives from the almost infinite variety of spatial forms and the building which shape them.

"The wish to cut oneself off from the heritage of the past is extremely shortsighted. By doing so, one deprives oneself of thousands of years' worth of experience. The logical and attractive building types and spatial structures left to us by anonymous architects have been improved upon the countless succeeding generations. They have matured into master pieces even in the absence of a single creator of genius, because they were based on a perfectly refined awareness of building requirements using simple means".

This is the way that the architect understands the tradition and his method of design. He considers tradition as the vehicle for passing on technical and
artistic knowledge, and he uses previously established types of space and buildings to compose contemporary cities. (41)

Oswald Mathias Ungers says that the first criterion of his design is the dialectical process, seen as a permanent confrontation between reality and the environment, and the acceptance of specific economic, social and historical conditions. Design is determined by the specific task of the building, by the integration of new structures into an existing context, and by the intensification of the place. By this first criterion, he places himself among the contextualists, whose main considerations are the architecture-as-found and the rationalization of an existing reality.

Aldo Rossi's, and Carlo Aymonino's, approach to architecture is rationalistic. It is based on a particular analytical method and on a highly ordered approach to formal composition. This method is described in a very private and personal text, "The Architecture of the City" by Aldo Rossi. The rationalism is seen primarily through the results of their method of analysis of the city, involving the concept of typology. Rossi, referring to his project for Gallaratese says, that: "there is an analogical relationship with certain engineering work that mix
freely with both the corridor typology and a related feeling I have always experienced in the Architecture of the traditional Milanese tenements". (42)

For Rossi, "the most complete expression of architecture is the city", seen as the object of investigation. In order for him to thoroughly analyse architecture, he analyses the city. He defines typology exclusively within the field of urban analysis. Aymonino discusses the city saying: "an urban planning project should never be exclusively the town planner's province...the architectural scale ought to be the instrument of every town planning process aimed at the transformation of the physical environment". (43)

Joseph Paul Kleihues' projects are mainly in Berlin, a city with a specific history, "the Berlin of stone", as has been defined by Heggemann, and identified with block structure and narrow internal courtyards. His theory is related to his aspects regarding the "reconstruction of a city destroyed" (not the "repairing" of the damage done to a city razed to the ground, as many had understood). "The memory of the city plan and its controlling function over the layout of urban space is now the starting point and also the first promise for "reconstruction". (44) The conceptual aim emerges, namely, to reestablish the plan's geometry, the 2-dimensional aspect of the city, and the
first step of the design process. In implementing new building regulations, the aim will be to guarantee an identity of place and the enrichment of the new image. The identity of the area is characterized by its stereometry, the third dimension of the city (the height of the blocks). In the case of Berlin, the persued stereometry is that of the block structure with three- to four-story high buildings inherited from the period stretching between the end of 19th century and the beginning of the 20th.

The new projects should recall the essence of the historical city and not create a replica of its reality. The city’s nostalgic reproduction is not approved; instead, a critical reconstruction is desired. The new projects should improve old conditions. This is not contrary to the preservation of memory. The two- to three-story block dating from the eighteenth century was replaced by five-story development by the end of the nineteenth. Block 270 is Kleihues’ ideal perimeter block.(45)

What can be deduced from the aforementioned examples and the expressed intentions of the architects is that:

-These architects see the city as a formal structure which can be understood through its continuous historical development.
Architecture is no longer perceived as the concern of a single artistic event proposed by the avant garde, or as an industrially produced object. It is, rather, to be considered a process in time, of building at all the different scales, from that of the single dwelling to that of the city.

There is an approach, underlining the relationship between the elements (buildings) and the whole (city), and proposing a morphological method of analysis for understanding architecture, which has formed the basis for a continued development of typological studies. Furthermore, the typological analysis is used primarily as a term of reference to underscore the virtue of the proposed design.

It has been observed up to now that in all the different approaches to urban problems, there is a common assumption: that architecture can become an urban element which is conditioned to incorporate environmental functions. Opposed to this is the usual notion of architecture as object. The projects demonstrate that this notion of architecture, as urban organizational system, can become "a wall, a stair, a terrace, a roof, a street, a bridge, a plateau, a pedestrian system, or a hole in the ground"; or, as Ungers expresses it, "the urban characteristics of
The projects also demonstrate that there is a plurality of solutions, a wide spectrum of architectural interpretations of one and the same element. Unger has included the last in his planning criteria. He further explained this by stating that:

"Implicit to that is a catalogue of alternatives, in contrast to the usual attempts at an ideal solution. The projects are better characterised as fragments and partial solutions of a very specific area, than ideal realisation of a platonic idea".(47)

For Unger, criteria such as flexibility versus fixity, or objectivity versus subjectivity, process versus object, form versus content, are "pseudo-ideological hang-ups".(48) Rob Krier's 'space typology', 'house typology', 'facade typology', 'typology of houses on a street corner', are nothing other than catalogues of variations.(49) The same is valid for the whole of his work. (The projects that have not been examined here are hardly different expressions of the same ideas). The examined projects are explanatory of this idea. Many of them elaborate on the same "type". The solutions are, however, different. Royal Mint Square, Vinetaplatz, the Block on Schillerstrasse, are all elaborations on the "perimeter block".

These very recent trends are clearly opposed to the
Modern Movement, which adopted the functionalist view of the city, in which urban design implied a definition of the city, in formal terms, as a homogeneous product. This attitude is related to a variable political and cultural system; i.e., to a descriptive view of the city, divided by functions, and classified by dominant activities. Since the functionalists regard the city and its growth as divided by functions, standards are used for analysis, and as criteria, for future proposals with the different functions found within the city. The model of architectural design should be found in the production process itself. The city thus achieves the 'second typology', that of the industrial order, symbolised by the machine. (50) Or, as W. Gropius states, in a gradual evolutionary procedure the hand building process of old is being transformed into an assembly process of ready-made industrial parts sent from the factory to the site. (51)

It is important to use architectural typology in order to achieve a sound solution. Typology is a revisited concept, which was rejected again and again by modern theorists. It suggests that the area of pure intuition must be based on a knowledge of past solutions applied to related problems, and that creation is a process of adapting forms derived, either from past needs, or from past aesthetic ideologies, to the need of the present.
The typologies concerned are those of the city, those related to the street and square, the boulevard and arcade, the park and house, the institution and equipment, the courtyard and steps, and so on. It is the spaces and the forms resulting from the appropriate combination of such elements that will be able to shape and to transform the environment. Anthony Vidler talks about a "third typology". The fundamental attribute of this third typology is the adoption of the "traditional city as the locus of its concern". (52)

4.2 On Typology

Each one of the examples presents a solid view, a thesis on the use of the 'type' in architecture today, and, thus, on the nature and identity of architecture. The questions that rise immediately refer to the nature of "type", to its use and value in architectural discipline.

Roger Sherwood, in Modern Housing Prototypes, states that the building type is the way in which the various dwelling units can be combined into different building forms, determined by the site, orientation, height and the circulation systems.

Rob Krier, in Urban Projects, presents "space", "house", "houses on a street corner", "facade"
typologies, which are clearly concerned with the constituent elements and their different combinations. Functional articulation has no place in these. Rob Krier's typological alternatives are patently conceived with an end in view similar to that of Durand, although (according to K. Frampton), the overall intent appears to be more modernistic and creative than the conventional variations of the former. According to Durand, as it appears in Moneo's article on Typology:

"The architect disposes of elements -columns, pillars, foundations, vaults, and so on- which have taken form and proportion through their relationship with material and with use... Durand says that the architect's task is to combine these elements, generating more complex entities, the parts of which will -at the end, through composition- be assembled in a single building."

Thus, the type was transformed by Durand into a method of composition based on a generic geometry of axis superimposed on a grid.

Moneo disagrees with Frampton about the use of typology by Krier brothers and states:

"...the city that they draw is a complex space in which the relationship and continuity between the different scale of elements is the most characteristic feature. But they are in reality providing only a 'typological view' of this city: they are not building the city itself by using the concept of type... the concept of type that was observed in the old city is used to structure the new forms, providing them with formal consistency".

The observations that accompany the alternative facades in the "Facades Typology", in Urban Space go little
fig. 4.1 Space Typology by Rob Krier (K. Frampton & S. Kolbowski, 1982)
Fig. 4.2 Typological Combinations by J.N.L. Durand. (Durand, 1809)
further than merely describe that which is already displayed in the axonometrics. The fact that a comparable range of perceptual consequences cannot be ascribed to many of Krier's alternative schemes attests to the limits of arbitrary permutation. This permutative principle may lead to an arbitrary formations and to a disjunctive assembly of heterogenous elements. (56)

Aldo Rossi's definition of type is the most broad and general. He states:

"type is a constant and manifests itself with a character of necessity; but even though it is predetermined, it reacts dialectically with technique, function and style, as well as with both the collective character and the individual moment of the architectural artifact. Each time a certain plan is chosen, dialectical themes are put into play with the architecture of the building, with its constructional technique and with the collective that participates in the life of that building... Ultimately, we can say that type is the very idea of architecture, that which is closest to its essence. In spite of changes, it has always imposed itself on the "feelings and reason" as the principle of architecture and of the city". (57)

Thus, for Rossi, one of the key figures of the so-called neo-rationalism in Europe, "the logic of architectural form lies within a definition of type based on the juxtaposition of memory and reason". That is: as architecture retains the memory of those first moments in which man declared and established his presence in the world through building activity, so type retains the reason of form itself. Type,
according to Rossi's explanations, is functionally indifferent. The type defines and preserves the internal logic and forms. There are primary and permanent types who communicate only with themselves and their ideal context. The corridor, for example, is a primary type, indifferently usable to the program of an individual house, to a student residence or a school. (58)

Aldo Rossi and his circle developed a theory on typology which shows an interest in the concept of type, as first postulated by Quatremere de Quincy at the end of 18th century. Quatremere, recognising a close relation between type and the discipline of architecture (as the original reason for form in architecture), identifies type 'with the logic of form, [elemental and primitive], connected with reason and use, and, through history, whenever an architectural object was related to some form, a kind of logic was implied, creating a deep bond with the past.' (59)

Furthermore, Carlo Aymonino distinguishes some "characteristics" of building typologies which allow us to better identify these. These are the singleness of theme, the indifference to context, and the overcoming of building code regulation (to the extent the type is characterized precisely by its own architectural form). Hence, as Rossi puts it, the concept of type is defined
as something that is permanent and complex, a logical principle that is prior to form, and to all that constitutes it. Rossi, adopting the ideas of Quatremère de Quincy, considers type as something not to be imitated or copied, since everything in the type is more or less vague. Everything is precise and given in the "model", one of the many explanations of a type.

Although Kleihues does not go into depth in the analysis of the concept of the type, he considers type as something that implies the idea of change and transformation. The transformation of a type becomes a way of interpreting the past, the old city, and of looking at the future, at contemporary design.

However, R. Moneo, commenting on the use of 'type' today, states that:

"the relationship between city and place, city and time, that was earlier resolved by types has been broken. The city that grows by the successive addition of single elements, each with its own integrity, has been lost for ever. Typology today has come to be understood simply as a mechanism of composition. The so-called 'typological' research today merely results in the production of images, or in the reconstitution of traditional typologies. In the end can be said that it is a nostalgia for types that gives formal consistency to these works." (60)
CONCLUSIONS

Architectural forms reflect the architects' judgement of the natural world and the built environment, and it is this judgmental aspect of architecture that is at issue in current architectural projects.

Suggesting the divergence between intention and expression as well as the potential for multiple expressions of the same idea, the critical aspects of the examined projects can be brought to the following general observations: These observations discuss simultaneously controlling ideas, implications as well as proposals for new urban housing projects.

1. The City as Focus and Purpose of Design

First, the selected projects are in themselves a critique of Modern's Architecture's destruction of the city; they propose its re-establishment by representing considered responses to critical urban issues of our cities.

Post-functionalists have refused to accept the functional and technological premises which were the basis of Modern Architecture hypotheses. The city is now the focus and purpose of design, the giver of meaning; individual buildings are born out of its order and requirements. All the single buildings belong to larger families and groups from which they derive, and
to whom they give meaning. Architecture is only about relationships and about differences, and, by definition, can never be merely self-referential or self-inflicting. They are never isolated works of art in, and of, themselves.

Although they share certain common goals, each approach has its own characteristics. Leon Krier is interested in the luxuries of urbanism. He spares the conveniences if these are attained at the expense of luxuries. Krier's "luxuries" are of the well planned, modest precinct: the tree, the walled street, the overlook; the pleasure of walking or the splendour of sitting in an intentional public space, contemplating a public monument and the dialogue of buildings with a landscape.(1)

Rob Krier's projects illustrate a city of tree-lined and arcaded streets, of a kind of housing that provides human scale and individual identity. They are not drawings of a lost city, although they evoke that image; rather, they are the drawing of the idealized city of tomorrow and, in this sense, they are utopian. (2) R. Krier's sophisticated understanding of the perimeter block, the courtyard house, the urban wall of the street, and the square, makes his housing project the elegant result of a thorough study of urban form.
Kleihues' projects along with others "constitute the first coherent attempt, since the war, to rebuild in blocks aligned on the street, and therefore represent an objective element of discussion in the polemic that has lasted since the 1920s regarding the open or closed, terraced or block typologies."(3)

But the efforts to reestablish the urban structure are sometimes disputable. The Abraxas Spaces is a local solution which cannot reach the status of an urban prototype for it does not offer any solution to more general urban problems. It was an effort to reestablish the structure of the historical city with elements others than those which traditionally constitute the city (streets, squares, blocks). The 'theatre', or the 'palace', are not urban configurations but single, artistic-events buildings. The tension and drama dominant in the project are due to the peculiar vocabulary used on the elevations. The "Theatre" of Abraxas Spaces might evokes the Circus in Bath. There is a difference that puts them apart. The Circus is part of a completely developed system of blocks and streets, while the "Theatre" is an autonomous figure.

The conceptualization of the city as "fabric", with dense areas of buildings interrupted by carefully designed and defined public spaces, has again come to
the fore, with the requisite respect for existing structures, street frontages, views, axes and patterns of movement.

Architects recognize the complex spatial range which exists between public requirements, on one hand, and private needs on the other. They attempt to provide solutions, although not always successfully, which contain a sequence of passages through a rich typology of space. Thus, in these projects, urban images often emerge comparable to the sequence of movement in a traditional city: "from the public piazza, along the avenue, down the street, into the semi-public courtyard, through the communal foyer, up the stairs and into the private room". (4) A complete recall of the above schema is feasible only on the scale of a district, as in Rob Krier project for the South Friedrichstadt. Both entries for Royal Mint Square, and Stern's entry for the Roosevelt Island Competition are partial applications.

The complex linking of the different parts of the aforementioned schema provides sometimes an accommodation of the conflicting public and private domains, offering a place for the unpredictable and a location for intermediate transition.

2. Development of an Urban Architecture

These projects bring into focus sets of architectural
elements that should be considered determining of the response of buildings to the urban morphology. Formalism - geometric plans combined with a utilitarian approach - in general, piazzas, straight planted streets ending in triumphal arches, colonnades adorning main squares and streets, avenues, vistas, open stairways, galleries open towards the streets, walls, palace imitations, symmetry and monumentality - are the rediscovered architectural tools in the design of urban space, tools dated from the periods of Renaissance and Baroque.

The projects examined demonstrate the potential richness of these transitional spaces, of the process of going to one's apartment on a typical floor, through social and architectural allusions, even to a promenade. Rob and Leon Krier's sections for Royal Mint Square, as well as that of the Roosevelt Island Competition by Stern, are indicative of the manipulation of the problem through the architectural details.

As has traditionally been established, the entrance way is the element of greatest importance. Porticos are used in different scales. They indicate entry to areas of different demands in privacy and domination.

In the case of city sectors, whole buildings take the form of a portico, as the "White House" in South Friedristadt.
The entrances to the blocks are indicated by two- to three-story high openings, located on the center of the sides of the block, as (Ungers' perimeter block for Schillerstrasse), or on the diagonal axis, (Kleihues' Vinetaplatz Block).

The entrance to the building, and to the apartment, in particular, is mainly emphasized. The territorial relationship of a house's front door with the street is a determining factor. The horizontal development, that is usually applied in these projects, facilitates separate entrance to each apartment from the street, or from galleries parallel, and open, towards the street. (Gallarate'se, Mint Square, Stern's entry for Roosevelt Island competition). The vertical circulation is given equal importance in plan, as the apartment itself. It is freed from the main body of apartment either internally or externally. The number of stairways are multiplied (Vinetaplatz; Schillerstrasse; Spaces of Abraxas) and become important morphological elements of the facades and of the sections.

In the case of high-rise developments, apartment entrances often occur in separate or hallway alcoves. (R.I.C.-Stern, Ritterstrasse) The long, linear, and blind corridors are systematically avoided by the multiplication of the vertical cores even at the expense of construction and maintenance cost. (Spaces of Abraxas) It is this strategy which allows for the
creation of residual spaces having an identity and a sense of place, conjunctive to the circulation nodes, that might be critically compared with the typical speculative builder's apartment buildings.

The buildings in question also affect the urban space by means of their street-building sectional relationship. With a recess in the building at the pedestrian level, in the form of an arcade for instance, the pedestrian is inserted into the body of the building, and all the while a pleasing urban scale is created. Arcades, first used in ancient markets, still are attractive to the pedestrian providing on one hand, protection from the weather, and a more intimate relationship with the building on the other.

The walls of the buildings are of great importance. They are the tools that define the streets, when treated as two dimensional elements or the blocks, when developed in three dimensions. The change of direction in a wall, (the "turn") is an opportunity for special treatment. The wall can clearly articulate a corner (R.Krier's White House, Bofill's Les Arcades du Luc), it can receive an entrance to the block (Kleihues' Vinetaplatz Block, L.Krier's R. Mint Square) or simply to the building (Ungers' Perimeter Block on Schillerstrasse).

The wall is a means to give the building a face-like
expression as a metaphorical manner to communicate with, and contribute to the image of the urban space.

In the functionalist apartment building, the main entrance is emphasized while the rest of the building's facade is often limited to a monotactic arrangement of windows, usually with a gradation of window sizes which suggest the repetitive diversity of rooms behind them. Thus the window emerges as the identifying icon of the this building type. Now the window provides a formal opportunity in its compositional use for intensification of individuality, as in Stern's project, or it is altered, and the fact of alteration provides the desirable identity of a specific individual building, as in that on Ritterstrase, by R. Krier.

These recent projects describe the roles architecture plays in sustaining city life. They also demonstrate "that even without extravagant buildings, cities can appear beautiful and breathe desire. But to speak of a beautiful city is also to speak of good architecture" (5) This assertion seems definitive for all Enlightenment treatises on architecture; a beautiful city means good architecture and vice versa.

3. History as a Legitimate Source

As it has already been mentioned, architects throughout
The world are finding new impetus in their search for appropriate urban architecture precedents from architectural history, theory and practice, that rise above the generating context of a specific program and location to inform designers of concerns that continue to be essential. These historical models range in scale from that of a single building to an entire city; they also range in time, from the Classical era to the most recent; from contemporary innovation to those solutions to architectural problems that endure despite technological advance.

Thus, remarkable opportunities are available to the architect to develop an urban architecture demonstrating both order and diversity, responsive to variables of the city's street configuration, the density of its buildings and its unique character, its open spaces and continuity, and to its citizen private lives.

The traditional city may become not only the source of ideas, but also the source of a method, a point of reference, of accommodation and change, stabilized by the order of continuity of urban morphologies. The current appeal of the typological approaches, the elevations, the bird's eye perspective have become the generators, returning design to pre-Modern architectural attitudes.
Together, these forms, processes, and ideas are seen to have a renewed potential for endowing today's urban architecture with a legitimacy absent from the architecture of the recent past.

Finally, the study of these projects opens up the problem of the first historical judgement of this new generation of architects. It is of great interest that they apply their findings from their investigation into historically accepted urban prototypes on housing projects. Thus, they will make the residential district a moment, a piece of the city, contributing to its overall image. They will, furthermore, reconfirm the architectural potency of the building type of housing, which will, in turn possess a distinctive, even dramatic presence to our urban environment.

4. Political and Symbolic Implications

Every decision about architectural design (and urban design in particular), involves a political action, whether intended or not. Modern Architecture, rejecting any dogma and authority, sought to be democratic: As Schultz has observed:

"Its values and forms grew out of daily life, as abstractions of man's understanding of nature... It was opposed to the prior architecture which was determined from "above", and the dwelling only reflected the significant forms developed in connection with church and palace." (6)

The post-functionalist projects are directed again
towards the "devaluated" by the modernists symbols of bourgeois (7) society. They introduce a change of ideological identity, association of forms and program under consideration. Archetypes once considered exclusive to the upperclasses fall into common usage. Thus, elimination of class-distinction is achieved. However, all the "representative" forms of the European upperclass dwelling have come into use once again, especially seen in the building facade. Through the facade, the dwelling "assumes its urbanity". Entrances, porticos, arcades, symmetry, diversity, are elements both of the single dwelling unit and of the public space.

Bofill's and his partners' project, "Les Arcades du Lac", is a formal re-interpretation of the Palace of Versailles. The imposition of classical order on the extensive street facades, and its extension out into the landscape, recall both the boulevards of Paris and the Palace of Versailles. The "Spaces of Abraxas" consist of a "Palace", a "Theatre", and a central, triumphal "Arch" intending to be "a stage curtain that shelters exhibitionists". (8) These are forms which are related with the bourgeois behavior and status. The "Palace Type" is among the generators types of the houses of Roosevelt Island Competition project by Unger.
The post-functionalist projects pretend to be democratic. They, generally, correspond to the prevailing need to provide mass housing at low cost, but they are opposed to the stripped-down aesthetic of "low cost" of the International Style of 1920s. Some of them are projects for mass-housing of workers, of financially deprived classes. Bofill, for example, uses factory-produced, precast elements prevalent in French construction, elaborated with a classical formal vocabulary.(9)

Further, through these architectural expressions can be seen one of the primary concerns of the Post-functionalists, intentional or not, of the role that may be played by volume and mass in the symbolic establishment of the "home".

In the Modern Movement the houses' have "no representative mask". The façade of an apartment building is either uniform (due to the uniformity of functions behind), or entirely absent (as in the facades of Frank Loyd Wright). The house only forms a framework for basic vital functions, and are, therefore, designed "from the inside out". This was the functionalists' major pursuit and deemed by them to be of the greatest value: to abolish the traditional representative function of the dwelling and, in its stead, to allow for a new freedom of action in daily life. In the new houses sleeping, eating, conversation,
play gain an essential meaning and dignity. (10)

Symbolism, with regard to housing, took another dimension in the Bofill and Taller de Arquitectura projects. Through them, the architects see that "it was possible to build symbols -as theatres, temples, triumphal arches- which in the future could be transformed into habitable communal spaces... that it was important to be able to use the vocabulary and elements of architecture of the past and to bring these within the reach of the whole of society, before developing a new symbolism, only possible in the authentically modern society of the future". (11)

Rob Krier goes further and attempts to reestablish even the interior of the European upperclass dwelling with elements such as the gateway, the entrance-hall, and the axial succession of rooms. But almost all result in an awkward geometry of the peripheral rooms. Léon Krier is 'more successful in a similar effort' in the Tegel Housing project.

In their urban and architectural intentions, these buildings make a clear gain, but not a complete one. The projects concentrate on external appearance and literal symbol. There are no plans with a complex spatial focus as opposed to the formal. In general, the apartment plans are invariably open, schematic, and relatively neutral with respect to room size and sequence. Some exceptional and isolated cases, such as those of Rob and Léon Krier, do not always result in
satisfactory plans. Stern attempting to give identity and privacy to the individual apartment dweller, designs facades and volumes at the expense of the plans. Bofill, preoccupied with order and proportion of the exterior, does not always provide reasonably generous and well proportioned rooms.

5. Housing as Generator of Urban Space

Housing, in both Functionalism and Post-functionalism, contributes to the image of the urban space, but in a different ways. In Functionalism, the final image of space derives from the successive application of standards (width of streets and sidewalks, circulation systems, fire security, etc.). By contrast, Post-functionalism gives priority to an intentional iconic form; housing is the means to achieve this form.

In other words, the starting point of design differs in the two movements. The Functionalists start from the housing unit (whose improvement is the main intention): it usually results in a well-articulated interior arrangement, but in a poor urban environment. The Post-functionalists start from the image of the urban space (the arrangement of streets and open public spaces): the result, which makes these projects attractive, is the visual- and experience-enrichment of the public space.
6. Form-Making Process Potential

Asserting that function and technology constituted the basis for the generation of form in architecture, functionalism thereby excluded contemporary academic conceptions of meaning and symbolism. Functionalism, by insisting on the use of analytical and inductive methods of design, left a vacuum in the form-making process. This originated automatically forms which were the equivalent of basic operations. However, when a designer works within the framework of a thoroughly Nineteenth-century rationalism, he decides to be governed by effectual factors, whereby purely pragmatic planning and cost considerations confluence to create simple volumes, regular enclosures and cores. The more rigorously the general physical, or mathematical, laws are applied to the solution of design problems, the less it is necessary to have a mental picture of the final form.

The exclusion by modern architectural theory of typologies and its belief in the freedom of intuition can, at any rate, be partially explained by the more general theory of expression developed the turn of the century.

Post functionalism, instead of considering architecture as an autonomous discipline, introduces the question of meaning and representation within the process of
design, in a systematic and conscious way. Thus provided for the tools in the city-form making process, indeed for a wide spectrum of potential forms. The typological problem-solution process, which is mainly applied to the projects examined, is a given system of representation in order architecture, and, therefore, city to be conceived. In this respect, architecture is a "language": as in any language, it is impossible to conceive of its construction a priori, and a presupposition of the language itself is necessary. Similarly, a plastic system of representation, such as architecture, has to presuppose, the existence of a given system of representation. (12)

Emphasis on formal values, reinterpretation of the aesthetic tenets of previous eras, intensification of individualism, and intimate relationships between the township and the private building are the main trends appearing in the post-functionalist housing projects.
NOTES

INTRODUCTION


3) A. Rossi, *op.cit.*, p.65.

4) Bernard Huet, *op. cit.*, pp.6-17.


9) *ibid.*, p.536-36.

10) Stated by W. Gropius, as it appears in L. Benevolo, *op. cit.*, p.522.

11) Bernard Huet, *op. cit.*


13) D. Porphyrios, *op.cit.*


17) Term used by Aldo Rossi, in *The Architecture of the City*, *op.cit.*


3) ibid. pp.17-22.


6) Enrico Guidoni, "Street and Block, From the late Middle Ages to the 18th Century", *Lotus* n.19, (June/1978), p.4.


8) In Aldo Rossi, *op.cit.*

9) Bernard Huet, "The City as Dwelling Space", *Lotus* n.41, (1/1984), pp.6-17


13) ____, "Contextualism", *op.cit.*

14) ibid.

15) The empiricism and flexibility implied in dealing with physical, cultural, and architectural inputs to the process of design, and the relativity of value judgement on one hand, and the fact that the trends in discussion are presently under development on the other, resulted to a variety of terms. Almost each of the theoretician dealing with the subject uses his own terminology.

Stuart Cohen in his article on Contextualism, after excluding "inclusivism" as a term for contextualism, he proposes the term of "physical contextualism" for the contextualism of objects (which is close to
rationalism) and "cultural contextualism" for the contextualism of images. (which is close to american contextualism)

Mario Gandelsonas, in his editorial in Oppositions "Neo-Functionalism", use the terms "neo- rationalism" and "neo-realism" to describe the two main ideologies. It is of great interest the approach by Mario Gandelsonas who sees both neo-rationalism and neo-realism as possible parts of a wider movement of neo-functionalism. His terminology is based on an analysis of the main concerns of each tendency. "The early ideology of functionalism embodied both notions of realism and rationalism: the former can be seen in Le Corbusier's use of the "object-type", and the later in a consistent logic for the generation of forms in architecture, a logic that was implied by such ideas as "the plan is generator" or "regulating lines". Also, functionalism was essentially based on a simple and embryonic idea of meaning. But wasn't developed in depth because functionalists' work "was firstly an attack on the symbolic architecture of the Academy and secondly, because there existed no rigorous theoretical context that would allow such a development."

16) Grahame Shane, "Contextualism", op.cit.
17) ibid.
19) ibid., pp.145-169.
20) ibid., pp.213-238.
23) ibid., pp.239-254.
24) Kenneth Frampton, op.cit.
26) K. Frampton, op.cit.
28) K. Frampton, op.cit.
THE PROJECTS


2) ibid.


6) Antoine Grumbach, op.cit.


9) Vittorio Gregotti, op.cit.

10) ibid.

11) ibid.


15) ibid.


17) Rob Krier, "Berlin: South Friedrichstadt", Lotus


20) Gerardo B. Manrique, op.cit.

21) C. Jencks, Modern Movements in Architecture, op.cit., p.387


23) ibid.


27) ibid., p.53


29) R. Bofill as it appears in Berry Bergdoll, "Subsidized Doric", in "International Housing", Progressive Architecture, (10:1982), pp.74-78. (p.74)

30) Berry Bergdoll, "Subsidized Doric", ibid.

31) ibid.

32) ibid.

33) ibid., p.78.


35) ibid.


39) A. Grumbach, op.cit.


41) ibid., Apendix, p.169.


47) ibid.

48) ibid.


...The term "second typology" has been coined to distinguish it from the "first typology" developed out of the rationalist philosophy of the Enlightenment, initially formulated by Logier and proposed that a natural basis for design was to be found in the model of primitive hut.

51) W.Gropius, as it appears in L.Benevolo, op.cit..
52) A. Vidler, op.cit.


55) ibid.


58) Rafael Moneo, On Typology, op.cit.

59) For a survey of information on typological theories and their evolution, see Rafael Moneo, On Typology, op.cit.

60) R. Moneo, op.cit.

CONCLUSIONS


2) (Utopianism not with the meaning that appeared in Modern Movement- as an instrument for social change). Deborah Berke, "Rob Krier and the Utopian Tradition in Housing", in Rob Krier. Urban Space, op. cit.


5) Stated by Francesco Milizia, as it appears in A. Rossi, The Architecture of the City, op.cit., p.53.


7) The term bourgeois should be understood with the French meaning of middle class.
8) See note no.27 of "The Projects" section.

9) The titles of different articles on Bofill and Taller de Arquitectura projects show the political questions that these projects raise:

and Peter Hodgkinson himself calls his project "Versailles for the People".

10) Ch. Norberg-Schultz, *op.cit.*


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