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Housing Concepts

Education and Culture DG

Lifelong Learning Programme

OIKODOMOS Housing Concepts

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Customization

Flexibility and variability

Gated communities

Housing amenities and utilities

Impact of ICT on the human psyche

Mixed urban functions as factors of proximity

Mixed-use housing

Neighborhood

Participatory process

Pattern

Proximity

Reconversion and regeneration

Social mix

Social diversity and availability

Suburban housing

Universal design

CUSTOMIZATION

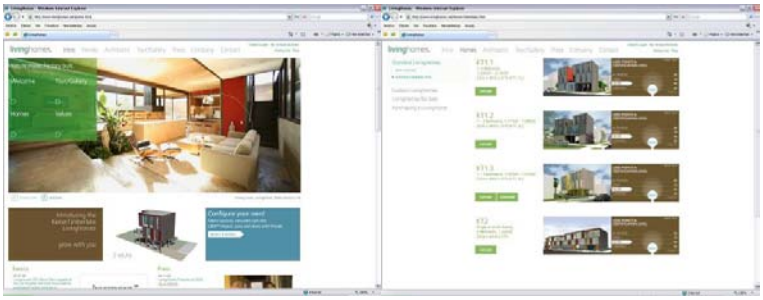
special circumstances of an individual".

Therefore, to customize a house means to design and **build** a place to live according to the specific needs or demands of those who will occupy it, or to **alter** an existing place to meet such needs or demands.

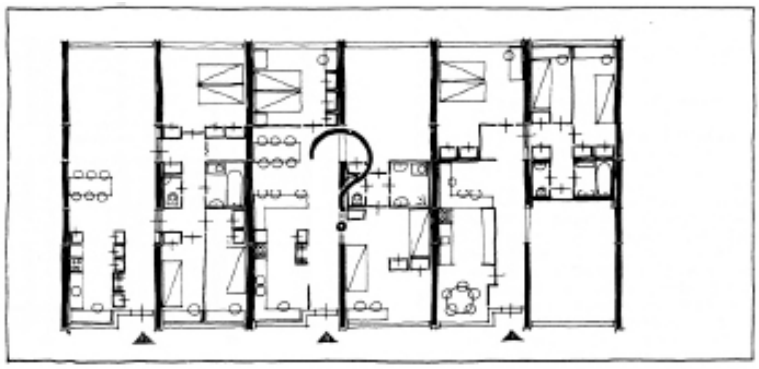
To design and build customised dwellings in collective housing, it is necessary to apply the term "**mass customisation**", which is the opposite of "mass production". To mass-produce a house means to build the same model many times in order for it to be useful to many people.

However, to "mass customize" a house it is necessary to manufacture many components that can be combined in various ways. The combination of these components could be calculated and visualised with a computer program, and the results could be spread through interconnected computer networks. Thus each individual or the members of a family, with the help of an architect, can choose the house in which they want to live, according to their requirements and within a collective environment.

On the other hand, a "mass-produced" dwelling, which is part of collective housing, could also be **adaptable** or **flexible** so that it can be altered and therefore "customised". The spaces of this dwelling may be indeterminate, without a prescribed hierarchy; they can have many uses or might change physically, long term or short term, with walls that can be located in different places, with special furniture or with moving partitions.



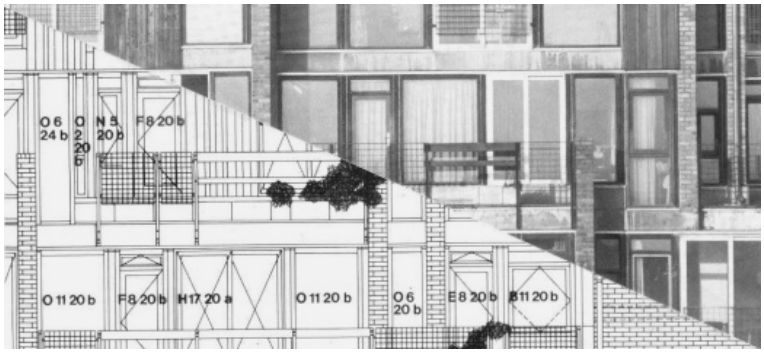
Living Homes Website: "Mass customisation" of Houses through the Internet



Support and Infill: Flexibility

Through the Living Homes website, people can choose, within certain limitations, among several houses, designed by Kappe, Kieran, Timberlake; and can customize them by adding rooms and choosing materials and finishes. A **flexible** house may be part of a support. Following the theory of John Habraken, a support is a permanent structure, framework or infrastructure containing secondary structures, separate units of housing or in-fill built with industrial components, which are interchangeable.

Customization of Adaptable Houses in the Nemausus Building Designed by Jean Nouvel



Customization of Façades in La Mémé, Designed by Lucien Kroll

In a house whose interior spaces have similar dimensions, any room can be **adapted** to become a bedroom, a lounge, a dining room, a study room or a playroom. Thus each space of the house could become a "living room". However, these spaces must possess certain qualities that help their inhabitants to "customize" them, providing them with new qualities. A house can be "customised" inside, outside or both. The inhabitants could alter its façade but also could continue building, whereby the house transforms or expands.

Unfinished or expandable houses are buildings designed by architects but whose inhabitants conclude the process, meaning they continue to build their homes. In this case the architects can design cores or half-finished houses, planting the seed and leaving certain guidelines. Thus a dwelling is not a finished product but is part of a process.

Customization of Semi-finished Houses in Chile, Designed by Elemental

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FLEXIBILITY AND VARIABILITY

Housing flexibility and housing variability can be defined as the design of dwelling structures with an understanding of the prospective development of the site as well as life and social scenarios, and with the possibility of making appropriate changes in the living environment.

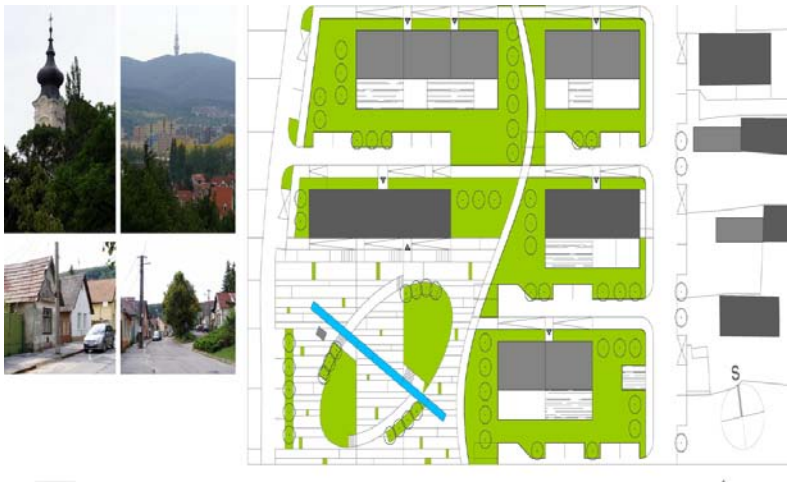
Flexibility and variability enable one to change the living environment according to the new requirements in the course of their existence. It can be applied to urban and architectural design related to the actual and future needs of the people living there. In the urban context it applies mainly to the structure of amenities of a city and community in order to design specific areas for shops, services, offices, leisure and culture.

The variable, flexible structure of amenities of a community within a city offers an attractive mixture of different functions, which can be linked in a variety of ways with multifunctional, point-concentrated units, i.e. shopping malls, multipurpose complexes, courthouses and greenery.

Public spaces play significant role and create a connecting framework for the combination of individual amenities. Public spaces may offer a number of variable, flexible elements that increase their attractiveness of use and may also change their functions.

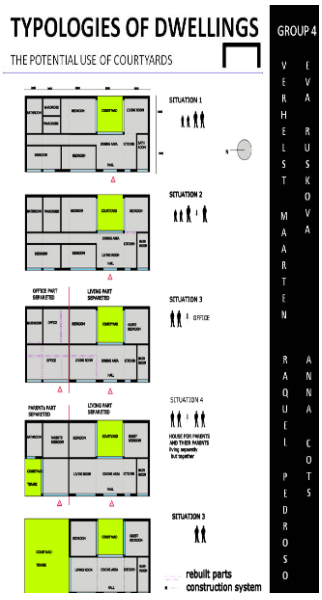
The final outcome in the context of a variable, flexible urban structure improves the quality of housing through its relationship to such structures.

In the architectural context, the flexibility and variability provide specific conditions to create spaces that are designed to change their functional use. They are the spatial expression of the activities created by a rapidly changing way of life. Architects and planners must be able to translate the needs and resources of society into physical solutions; into the forms of buildings, landscapes and cities that serve and express the ideals of the time.



Dúbravka Bratislava: Student semester project at FA STU shows that if the amenities are concentrated in an appropriate form in one area, the final effect of such a solution is beneficial to the overall context of the heterogeneous structure. Unique point: a node with features that benefit residents enhances the value of the residential environment while enhancing its readability and clarity.

Flexible adaptation of the living unit reflecting the changes in the family. Group 4, Oikodomos workshop, Ghent, 2008.



Examples of the variable layouts of the living area (student work)

Examples of the flexible layouts of the living area (student work)

A variable apartment is a dwelling with a layout that allows for certain simple, inexpensive modifications without changing the total area of the apartment. A variable apartment allows the change of layout through inexpensive modifications to the overall building.

A Flexible apartment is a type of flat that allows the adaptation of its layout to current needs in a highly flexible but uncomplicated and effortless manner, without a change to the building itself, such as in the use of sliding walls and a variety of mobile furniture elements. The total area of the apartment remains unchanged. Such an apartment can be compared to a theater scene that can change very quickly. Mobile furniture elements are generally used for furnishing the day zone, which can eventually adapt to different situations.

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GATED COMMUNITIES

Gated communities comprise physical areas that are fenced or walled off from their surroundings. The entrances to these areas are usually prohibited or controlled by means of gates or similar physical obstacles.

Gated communities are by nature separate and enclosed areas, being isolated from the broader urban environment and enclosed through physical barriers. Besides the main purpose, which enables a specific lifestyle of a group within the enclosed area or to protect the residents from possible intruders, gated communities reflect an urban entity that is physically -- often socially and economically -- differentiated from the surrounding urban environment.

Gated communities are categorised into three types: lifestyle communities, elite communities and security zone communities.

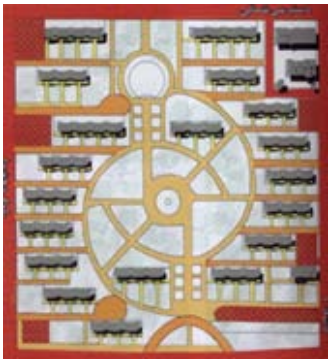
Living in a gated community has undoubtedly become more and more popular as the years have passed. Those who opt for gates point out the reduced crime and traffic, as well as a safer environment for children and the prestige of living somewhere that is exclusive. However, not everyone likes being sealed off from the world.

Gated communities seek to seclude themselves from the outside world, and city status codifies that as self-imposed retreat. Gating makes private what is essentially public.

In the case of crime prevention, gating is not the only way. One of the effective forms of situational crime prevention involves the community taking action to protect itself, which has been defined as “neighbourhood watch”. The main idea of the “Defensible Space” theory introduced by Newman is not only about fences and gates but also about allocating environments under the responsibility of the people.

Mortafa Apartments is a gated complex consisting of 550 units, built in 1987 in Mashhad, Iran. The complex was the first example of high-rise apartments in Mashhad.

Although the site had great potential from its location, it was not in an upscale zone. Moreover, residents were high income earners who were provided with these special services. This residential gated complex is still guarded, and there is a paradox between what is happening outside the gates and life as it occurs within them.



Sheshsad Dastgah, a residential complex in Mashhad, was built in 1976. The complex covers 12 hectares and provides essential facilities for residents. Although the complex could easily be gated, residents have been encouraged to be involved with the enhancement of their security; the role of designers can be considered as dividing the shared space for the people of each block and encouraging the residents' "ownership" of their environment and a sense of responsibility for the surrounding area. This phenomenon could be considered a form of "neighbourhood watch".

These images show Newman's effort to give people the opportunity to take control of their space, providing an outdoor environment in which to live that enhances their self-image, evokes pride and allows them to improve -to define their space by themselves- so that their identity is reinforced. He subdivided all the public grounds between individual families.

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HOUSING AMENITIES AND UTILITIES

The level of the housing quality stems from the fulfilment of the basic and superior living standards within the dwelling unit, as well as the amount of complementary services, housing utilities and amenities, including health, education, shopping, working, recreation, etc. The satisfaction of all human needs and desires represents a very wide range of factors, which must be taken into account and consequently incorporated in any design of living environment. The creation of mixed areas with the optimal proportion of residential units, amenities, working and public spaces facilitates the design of convenient, pleasant spaces for the largest possible spectrum of users and dwellers. Design of the residential areas must be considered as a multifunctional unit consisting of mutually interconnected architectural elements that constitute the cultural and social milieu. They must cover all standard needs of the individual and community expressive of its way of life.

Hence the terms “housing amenities” and “utilities” represent a very important part of architectural and urban planning design.

In the architectural context it implies the items of everyday usage, which increase the standard of living. Housing utilities are all the things that are necessary in order to live. Water, electricity, heating, air conditioning, kitchen equipment, furniture, balconies, terraces, garage, parking lots, etc., are what most people consider utilities when looking for a place to live. Some items can be considered as „luxury“ because they aren‘t necessary for living, such as cable TV, satellite, the Internet and telephone. They influence the quality of housing.

In the urban context it applies mainly for the structure of amenities of a city and the community in order to design specific areas for shops, services, offices, leisure, health and education facilities and culture. It also includes the quality of design of semi-private and public spaces.

Housing amenities and utilities on the architectural scale (student project)

When it comes to home features, prospective dwellers consider ample garage space, walk-in closets, open-plan design, walk-in shower, master bathroom with dual vanities and separate tub and shower, energy-efficient systems, including HVAC/furnace, appliances, and high-performance windows.

Considered is the locality within the city, the proximity to community amenities such as mass transit, major highways, employment corridors, schools, walking/biking paths, playgrounds, sports and entertainments facilities.

Rehabilitation of central public spaces,
Bratislava-Dúbravka (student project)

"Housing spatial quality"
deals with the creation of the complete, compact, functional and attractive central public spaces in the new or re-converted residential structures, which can be comparable with the attractiveness of historical central areas of old cities.

Optimal integration of the local sources and neighbourhood connections contributes to the design quality of a housing environment that is rich and stimulating. Thus the level, standard and spatial quality of the designed housing amenities and utilities refer to the overall housing standards and creation of the attractive network of public spaces within the residential units.

Rehabilitation of central public spaces, Bratislava- Dúbravka (student project)

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IMPACT OF ICT ON THE HUMAN PSYCHE

Innovations such as the World Wide Web and related technologies, including virtual social networks, have emerged and dramatically expanded over the past 20 years. Consequently, as new machines become part of our lives, we become more dependent to them. Therefore, a daily living pattern within housing is affected by these virtual activities.

Our mental map, describing the place in which we live, is therefore modified by these newly encountered inputs, such as virtual communities and teleconferencing, internet TV and so on. Studies on this topic are aimed at determining the increased use of new virtual technologies at home and understanding the extent to which they change our behaviour (Iranmanesh, 2010).

Considering this point, it is crucial to define these modified habits and behaviours and to examine how they can affect our housing environments. The results of this research are carried out from original qualitative field work. A hundred questionnaires were carried out and analyses with SPSS software. The target of this study consisted of university students in EMU (see Figure 2-5).

Three main parts were investigated in this study: the first one concerns recent human needs; the second is related to user's behaviour in conscious and subconscious levels, as shown in mental maps; and the third is to understand how to create answers for user needs and psychology with respect to their housing environment with this deep relationship.

In the current technology we have faced brand-new inventions and experiments that could directly affect the higher levels of our needs. We might not have an appropriate house, but we have a Facebook page and e-mail that provide us with a virtual settlement. This new digital era has an impact on our habits and behaviours with negative and positive aspects. Although the negatives were more obvious, the positives might be more effective due to the high rate of affordances of human beings. Thus the research concerning the effects of these virtual communication technologies on our housing environments has become an unavoidable issue.

Figure 1, possibility of presence under the effects of virtual activities, by author

Two main parts are to be discussed in relation to human nature: human needs and the mental map for housing spaces. The possibility of presence within the house is centred on TVs and computers. It leads the users to be more alone with their virtual devices. Consequently, this phenomenon changes the mental map in the human mind about one's housing environment and affects his/her living pattern.

Figure 2. Time Spent with a Computer in the House

Figure 3. Watching TV or Chatting with Family

Figure 4. Eating in front of the Computer

Figure 5. Location for Laptop or PC

Based on the study of student accommodations in EMU, this habit was one that should be measured. In this questionnaire the author attempted to understand the character of these technologies in young people's minds.

As a result, it can be perceived that the majority of this group spend more than two hours in front of their PCs each day. They eat their food in front of the PC and TV. They prefer to stay in their rooms, and most of them sit and watch TV in their living rooms instead of chatting and looking at each other.

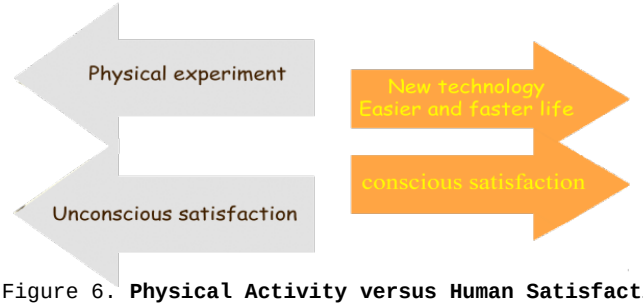

Figure 6. **Physical Activity versus Human Satisfaction (By the Author)**

It is recommended to design for the purpose of balancing the real and the virtual. The creation of useful, simple ways to encourage physical activities in home makes the housing seem "alive." However, it is difficult to force people to do these things in their houses; instead, we must convince them to change their habits slowly through means of slight changes in our designs. For example, Dr. Lim, of UCL, suggested placing an area for plant-growing in interiors as a supplementary food and as a natural object, thus helping to dispose of the dominance of the virtual.

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MIXED URBAN FUNCTIONS AS FACTORS OF PROXIMITY

Urban functional diversity is generally regarded as a condition for the reduction of social distance by reducing spatial distance. The mix of functions is thus seen as a tool for managing flows and relationships between spaces. The connection to urban planning and housing diversity is obvious. Everyone recognises the problems caused by mono-functional spaces, which are land-locked and poorly accessible, resulting from "zoning" areas for housing, industry or commercial use. The spatial dimension of urban development is the right scale where we can adequately address and manage these flows and connections between places. Reflection on the urban mix is a very topical issue. Urban mono-functionality consumes more space in urban development; it poses new constraints through economic, financial, regulatory and environmental (land) pressures, thus motivating the production of smaller, more diverse housing units. The small residential "neighbourhood" with 10 to 15 flats replaces the minimalist linear structures and towers of the large social housing districts from the 1970s.

Interfaces, such as public spaces, being combinations of places with additional complementary functions, are important in a sustainable vision of dynamic urban life.

Urban renewal projects more frequently tend to exceed the mono-functional character of existing urban fabric, causing many of the difficulties in the life of a district or neighbourhood. The industrial suburbs of the nineteenth century saw the emergence of new, original forms of housing (lofts) or services (castles of industry), museums, libraries. Residential functions were thus combined with economic activities, public equipment and utilities. The new proximity also permits the partitioning of higher level functionality (city-hall annex, businesses platforms, medical centre, bowling, hotspots for telecommuting, etc.)

In France, ten percent of the investment in urban renewal goes to the re-introduction of the functional mix.

Mono-functional Housing
Development to Regenerate

Reconversion of the So-called
“Industrial Castles”, Lille Region,
Nord of France

The combination of functional diversity with social diversity has emerged in response to the failure of large housing developments in the 1970s. Moreover, the population rebalancing of some towns and districts may contribute to a better spatial distribution of functions, services and housing. In this context the planning tools have a real effect on the spatial distribution of social groups and activities. In France one can clearly observe the consequences of PLU master plans, the ZUP zones or the "anti-ghetto" regulations carried out by the LOV and SRU laws, etc. In other European countries the instruments of urban planning, such as master plans and different local planning instruments, act in a similar way.

The proximity of people of different social statuses promotes the efficiency of services in a neighbourhood while encouraging the diversity of housing, equipment and profitable businesses, and balances and pacifies the use of public spaces.

The purpose of urban renewal policies is to give certain "difficult" urban areas, designed in the spirit of zoning or strictly mono-functional specialisation, a new structure and more openness by creating or importing attributes that constitute a more "normal" and attractive urban lifestyle.

In new dwelling programs the concept of sustainable cities or eco-neighbourhood is also based on this idea. It favours a more environmental dimension, diversified amenities on the neighbourhood scale, and the integration of various public spaces in housing projects, which are not considered such residual, external spaces.

Functional diversity guarantees a balanced city structure and liveable neighbourhood.

The assurance of public access to diversified places and activities is more efficient than trying to restore order in the disturbed mono-functional city through simple social intermixing.

Polyfunctional Eco-district Grenoble-de Bonne; Proximity of Functions, Neighbourhood Spaces and City-Centre Shared Image

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MIXED-USE HOUSING

Mixed-Use Housing Development, also been known as "**Compact Development**", is not just a design/planning pattern that involves a multi-storey building whose ground floor is made up of commercial units and other floors having residential facilities; instead, it is a development that encompasses **three or more significant revenue-producing and related land uses** whose closeness of proximity shortens trips, lessens dependence on automobiles and encourages alternative modes of transportation such as walking, cycling and public transportation.

Mixed-use development offers numerous benefits to its inhabitants. However, the most frequently stated benefits of this development pattern are **sustainability** and **compliance with housing needs**. Mixed-use may be developed at three scales, namely **mixed-use buildings**, **mixed-use parcels/sites** and **mixed-use walkable/transit areas**.

Because housing is a very sensitive component of any town or city, the concept of mixed use seeks to rediscover the **vitality and attractiveness** of town centres; recognise the role of partnership in promoting affordable housing; and tackle the economic, environmental, social and political problems of providing liveable communities in contemporary cities.

Beside all the advantages of mixed-use housing, the existence of a series of barriers, which are believed to prevent or inhibit the delivery of mixed-use development, remain a recurrent subject of discussion in the debate concerning mixed-use development. Barriers to mixed-use development have been seen differently by knowledgeable minds in this field of study, either as mere perceptions or reality.

Typical examples of livable communities

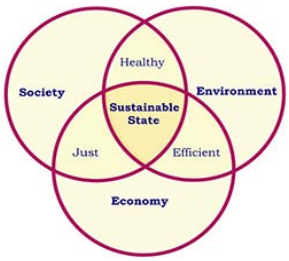
High automobile dependency: consequence of segregating related land uses.

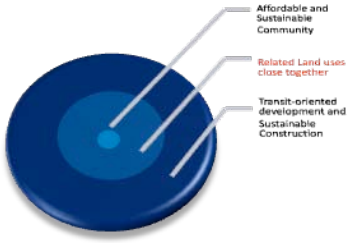
The adoption of mixed-use patterns can promote community living and improved access to services, as well as safety through the around-the-clock presence of people in the concept of 24-hour living.

This pattern of housing development creates a variety of housing choices while reducing land wastage and automobile dependency.

Communities developed using a single-use approach are often characterised by restricted movement and a reduced tax base.

Planning Proposal for a Mixed-Used Community in the City of Cleveland, Ohio.





Initiatives required in order to promote the realization of mixed-use communities include promoting an area-based approach, comprehensive reviews of new development plans, revitalization of single-use areas, preservation of existing mixed-use development, and post-occupancy evaluation.

Attention has been drawn to the crucial role housing plays in driving the delivery of mixed-use schemes. It contributes a qualitative benefit to a mix of uses, since its active period is not limited to workdays.

Today, mixed use incorporates lessons from the past with the needs and awareness of contemporary development. Generally, solutions to overcome the barriers that prevent the building of affordable mixed-use communities should be based on the critical dimensions of **affordability**, **land use**, **public private partnership**, **transit-oriented development**, **diversity and inclusion** as well as **education.**

Transition between mixed use of the past and contemporary development

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NEIGHBORHOOD

The neighborhood has continued to be a subject of research. The first observations and analyses were realized by The School of Chicago in the years 1920 to 1930. Subsequently, from the 1950s through 1970s, they were pursued by the various approaches of urban sociology in developed countries such as the United States, Great Britain, France and Germany. Today these research results remain controversial because the question of the existence of neighborhoods needs to be reconsidered.

The concept of neighborhood has several definitions that spark debates between researchers.

In a first sense, the term “neighborhood” -- herein being an area or district -- designates a part of the city that can be defined by its physical geography, history, housing and architectural aspect or by its residential, industrial, commercial and administrative functions.

In the latter sense, the notion of neighborhood means the place where people live. The neighborhood represents then an intermediate space between the housing and the city, a practical device that allows the link between what is the most intimate (the private space of the housing) and what is the most unknown (the whole city). According to the individuals, and according to their daily spatial practices and their social relationships, the neighborhood can have vague, variable outlines. This neighborhood can be coincident with the street frequented by the individual, as it can coincide with wider entities such as the city centre or even the city as a whole.

Finally, in the third sense the term neighborhood or quarter means an entity that is spatially and socially more limited than a city, which shows a collective unity of life; a place of relationships and specific social practices, connected by proximity; or a space of life defined by the behavior of the inhabitants. However, one can question the idea that the neighborhood is dying due to the spatial explosion of the towns, the extension of the phenomena of mobility and the transformation of urban lifestyles. The decline of the neighborhood as territory, and the scale of social practices for the benefit of the housing and of the city, caused the neighborhood trends to disappear. Some researchers, including the American sociologist Louis Wirth, declare that this occurred as long ago as the 1930s. Contrastingly, other researchers show that the neighborhood is still a living space that is strongly invested by certain parties, particularly the "gentrifying inhabitants". Inhabitants of gated communities become identified and integrated into local life, while they live in the city as a fragmented archipelago space.

"The photographic and sociological workshop: production of a common point of view on the West's sector of Echirolles" took place in 2001 and 2002 within the framework of the project of the urban renewal of West's districts in the city of Echirolles.

This approach to the workshop made for and by the inhabitants, especially to the photographer Anne-Marie Louvet and the sociologist Paulette Duarte, allowed the integration of inhabitants' expertise in the districts and the participation of the inhabitants in the projects of the district.

This workshop was the object of the exhibition "Looks at the West's Districts" at the museum of Villancourt Moulins, in Echirolles, comprising 13 panels of photos accompanied by inhabitants' words.

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PARTICIPATORY PROCESSES

Participatory processes are spaces for reflection where architects and inhabitants try to reach a consensus. The architects contribute their knowledge about the built environment, and the inhabitants contribute their personal experiences from living in different places.

A participatory process is therefore an educational process, not only in terms of giving and receiving but also of sharing knowledge.

Contemporary collective housing, usually homogeneous, is occupied by diverse individuals, who often do not know each other or are unrelated. These individuals try to distinguish themselves and reflect their identity by altering their domestic spaces. In the participatory process, architects determine the similarities or common goals, as well as the differences between the inhabitants of collective housing, so that they help them to create living places that reflect their respective identities. By finding a common denominator, they assist in defining the character of the community, which responds to the conventions of the group. By finding the differences, they facilitate each inhabitant's ability to personalise his or her home.

However, a participatory process is not intended for inhabitants to become designers but for architects to take into account their demands and expectations. The inhabitants become an integral part of the design team.
Participatory processes can be based on **dialogue** (exchange of information and negotiation), **observation** (of the behavioural patterns of people in living spaces) or both, and use graphical means of representation to facilitate communication among architects, inhabitants and other technicians.

Participatory Process of Giancarlo de Carlo in Villaggio Matteotti, Terni.

The inhabitants spoke with the architect about their needs and their expectations of their future houses in meetings, interviews and during exhibitions of the project models and drawings.

One of the first architects to promote a participatory process of **dialogue** with the inhabitants, in meetings, interviews and exhibitions, was Giancarlo De Carlo, who was part of Team 10.

De Carlo's participatory process consisted of three phases:

1. Problem definition or discovery of the needs of the inhabitants;

2. Formulation of a hypothesis or development of a design proposal;

3. Analysis of the use or evaluation of the results.

Participatory Process of Christopher Alexander in Mexicali

The inhabitants learned how to identify a pattern language that would help them to build their community.

Christopher Alexander, in his books “A Pattern Language” and ‘The Timeless Way of Building,” proposed a system to **observe** and identify patterns of behaviour of individuals, and thereby discern the relationship of these patterns with the qualities of the spaces they inhabit.

The system allows the architect to create new spaces with new qualities; the shapes and sizes of the spaces that are built; the placement of the elements will depend on factors such as the actions performed on them, the number of people using them or the amount of time that these people would use them.

Conversely, the architect Ralph Erskine **observed and established dialogues** with the inhabitants of the communities in which he worked. Its participatory process was to work with the inhabitants in the community, moving his offices there. In this way the inhabitants could also watch the development of the project and express their points of view.

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PATTERN

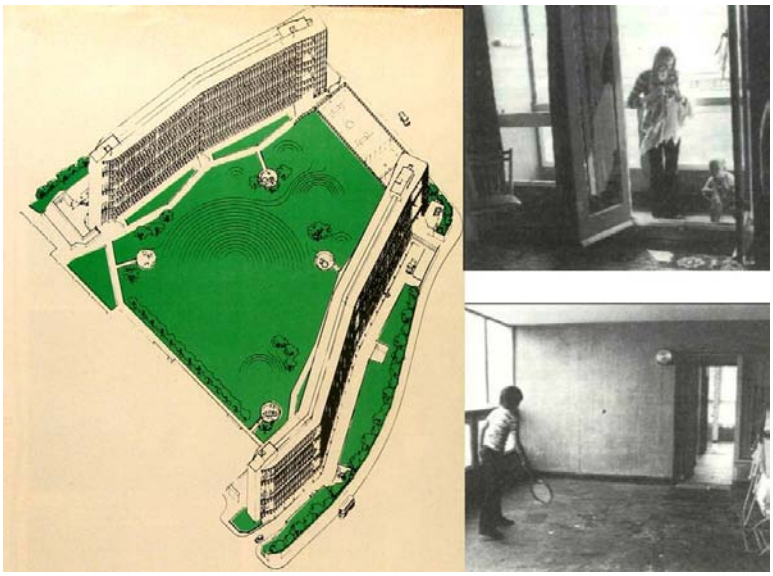
Housing conveys repetition and variation over time, at different scales (town, building, and house) and periods (a lifetime, a generation, etc.). A housing type, repeated throughout different generations, gives rise to a town structure. The repetition is not just duplication, because it also conveys an adaptation to changing needs. Over the centuries, vernacular housing has proceeded in this way: maintaining a particular way of building throughout time, “a timeless way of building”, using the expression of Christopher Alexander (1977).

Alexander gave the term “pattern” to the archetype, which in itself contains a set of rules -- deeply embodied in the unconsciousness of people -- to be reproduced throughout time. Because the rules are understood by the inhabitants, the process of repetition and adaptation can be applied to the design and construction of the built environment generation after generation, thereby determining a particular way of living and building that characterizes a culture.

According to Alexander, “Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it the same way twice” (Alexander, 1979). The rules embedded in a pattern describe both the problem and the solution to the problem. These rules can be of different kinds: social, insofar as there is a pattern in the way inhabitants interact among themselves and with the built environment; design, which determines the arrangement of spaces and formal languages; and constructive, which guides the process of construction. All of them are interwoven in the pattern. A pattern embodies both the formal -- at the building and neighbourhood levels -- and anthropological characteristics of a particular culture materialised in the built environment.

The idea of a form, a language that serves as communication between designed objects (including buildings) and users, can also be found in the work and texts of Allison and Peter Smithson.

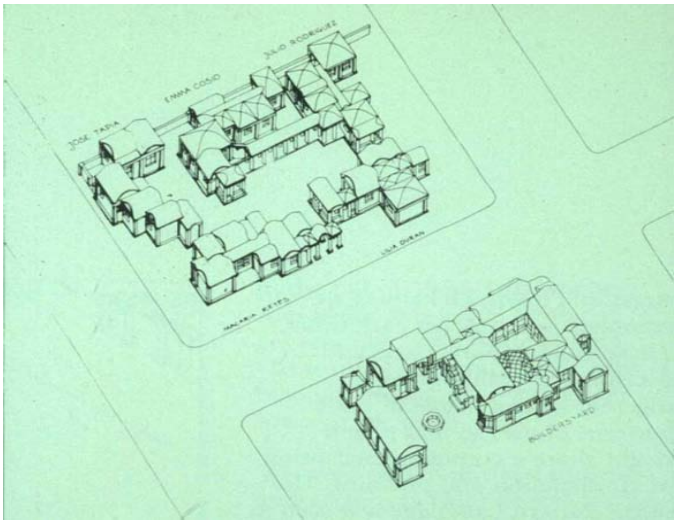
The notion of a form-language, expressed in the article Signs of Occupancy, 1972, bears a resemblance to Alexander’s pattern language.



An ideal house should not only respond to the objective properties of a building spatial arrangement, activities and structure but should also leave the dweller space for interpretation:

“The ideal house is that which one can make one’s own without altering anything. Make one’s own in the usual way that is within the limits of the fashion of the time, and without feeling any pressure either to communicate one’s trivial uniqueness or to absurdly conform”.

In the Mexicali Experimental project of 1975, Alexander applied the pattern language as an alternative to the traditional system of housing production, to engage dwellers in the process of designing and constructing their houses.



The goal was to build an autonomous community that would be the reflection of its dwellers, to achieve “the connection between the vitality of the people and the shape of their houses, the connection between the force of social movement and the beauty and vigour of the places where people live” (Alexander et al., 1985). Despite these intentions, a study conducted 20 years later concluded that there was a mismatch between the intentions of the architect and the needs of the residents (Ruesjas, 1997).

Insofar as a pattern is an explicit description of the rules governing the construction of the built environment and the processes of giving it meaning, it facilitates the participation of different actors in the design and construction of the built environment. A methodology for the participation in the planning process was provided by Alexander in “The Oregon Experiment”. Other experiences applying patterns to participatory housing were developed by Alexander the PREVI project in Perú, and in Mexicali in México.

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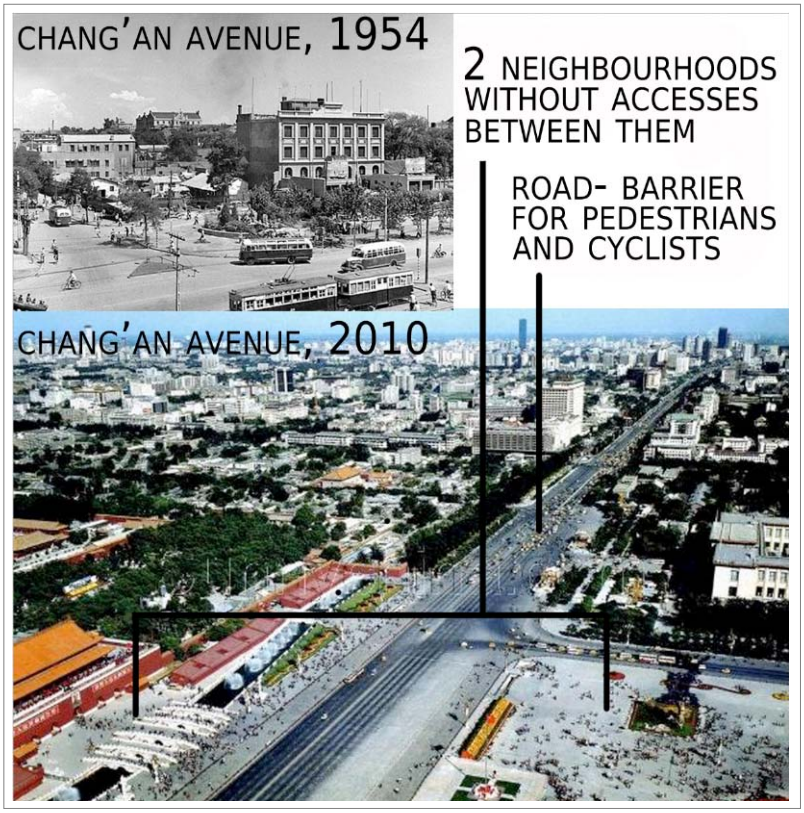
PROXIMITY

Proximity: The state, quality, sense or fact of being near or next; closeness.

Proximity is clearly about distance, but we should not simply define a distance as the length between two points. Its meaning should widen and define proximity as a mix of social, territorial, symbolic and physical aspects. For example, one can utilize the physical proximity while experiencing a set of important social boundaries. This is exemplified in a housing block where one lives close to neighbours but have no real social relationship. The opposite situation can occur as well: living in a house with a surrounding garden and having a real intense relationship with one's neighbours. Likewise, we can notice the difference between rural or more urbanised areas that affect the model of proximity: density, functional mix, accessibility and the way of defining limits affects the reading of relative distances.

In other words, proximity does not refer to absolute values but is a relative issue, lately in an increasing way. New technologies define new models of proximity, thereby configuring relationships based on car traffic or public transport, wireless technologies, eliminating distances. On the macro scale, air traffic also changes the way we inhabit the contemporary landscape.

Urban planners can design physical borders and know how we can create or destroy them, but they cannot control all the defining social factors.



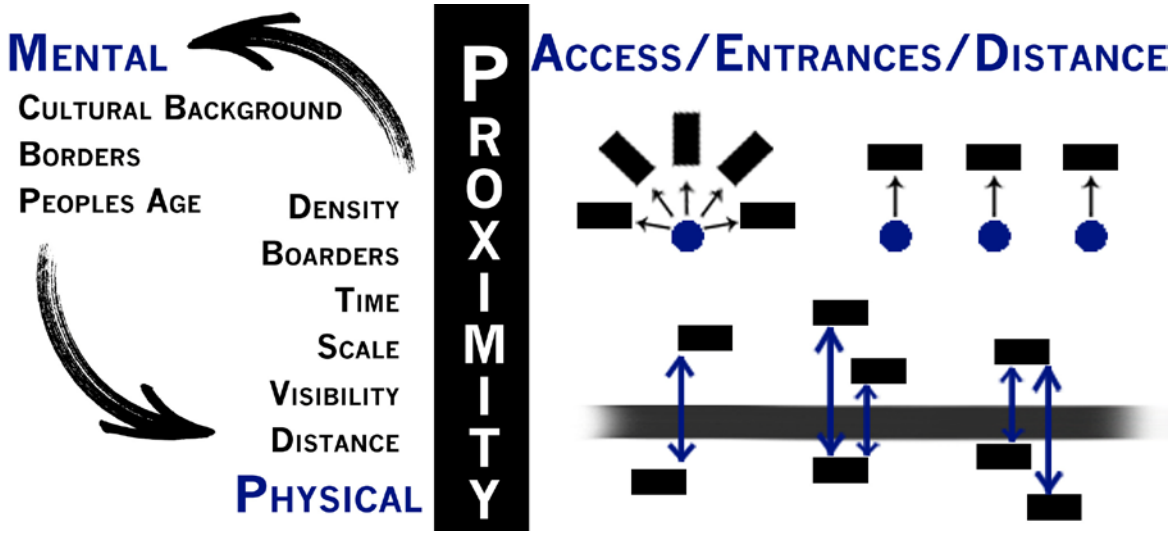
In an urban context, proximity is defined by the relationship to accessing and moving in the interdependence between two points. "Hu-tongs" in Beijing are based on sets of repetitive relative distances with social meaning. The recent changes in the urban configuration on a larger scale have produced new boundaries within the city, interrupting the inhabitants' initial understanding and intuition of proximity.

The change is not only visual or physical but also has consequences in the social behavior of its inhabitants.

Comparative between L´Eixample and El Raval (Barcelona)

The chosen zones illustrate different models of proximity within the same Mediterranean context.

While in the first case -- L'Eixample -- physical proximity is defined by repetition, as a consequence of the grid, the second case is defined by a rather irregular configuration of narrow spaces, each to be used in a different way. In the first area proximity is defined by a model of continuity, or repetition, while in the Raval area it is based on spatial/social differentiation with a different territorial and social reading of urban space.



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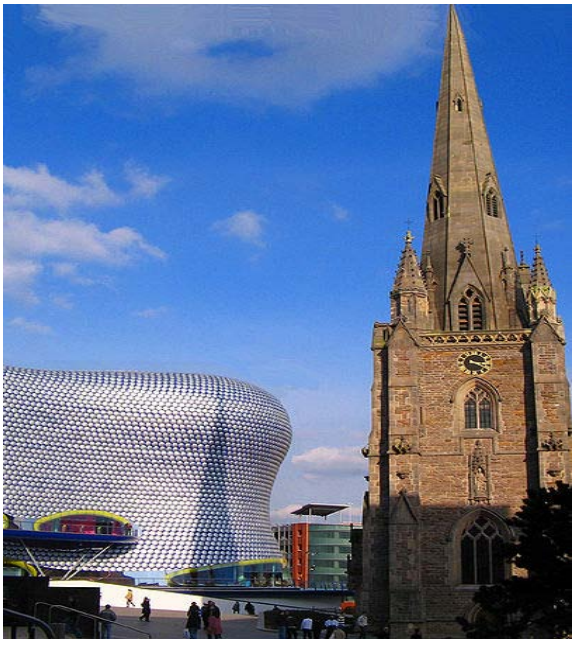
RECONVERSION AND REGENERATION

The concepts of reconversion and regeneration designate a state of transition for spaces that have been abandoned or have undergone economic decline, such as religious, military, railroad, harbour or industrial wastelands. These abandoned or economically depressed spaces are the object of transformation today. Some become mono-functional spaces as residential spaces and/or cultural spaces, whereas others become multifunctional as residential, cultural and economic spaces, etc.

In numerous European countries the policies of reconversion or urban regeneration are organised to boost the activities and the functions of these spaces. In the United Kingdom, since the 1970s, policies of urban regeneration have been developed in order to resurrect the centres of cities affected by industrial decline, unemployment and poverty. The existing industrial buildings are then the object of actions of demolition and building, either total or partial, to develop housing, new economic activities or social and cultural faculties. In France, the policies regarding the reconversion of industrial sites in decline date from the 1960s. However, since the 1980s they have grown with the development of the approach of the urban project and the awareness that it is necessary to reduce the urban sprawl and “make the city on the city". Today this policy, called “urban renewal”, attempts to requalify the old industrial or military wastelands that were once the neighbourhoods of social housing. It aims by renovating and renewing the built to re- economically and culturally revitalise these spaces and make them multifunctional.



Bullring Commercial Centre and Saint Martin’s Church, Birmingham. Source: website

Birmingham, a traditional industrial town of a million inhabitants, knew well the decline of economic activity and the loss of 200,000 jobs. In response, the city encouraged economic diversification (information and communication technologies, environmental technologies and business tourism) and the regeneration of its city center and some suburbs that had faced difficulty.

Various projects were implemented: a center of international congress, a concert hall, new sports facilities, and the regeneration of social housing districts in order to receive jobs.

The district Mistral in Grenoble
Current aerial view

Source: Town of Grenoble

The district Mistral in Grenoble
Aerial view (proposed)

Source: Town of Grenoble

The project of urban renewal Mistral / Eaux-Claires, adopted in 2005, for the next fifteen years, concerns a big part of sector 3 of the City of Grenoble that has 8192 inhabitants, 1139 social housing and 90 hectares. It has four objectives, to:

-diversify the housing by a varying typology and by a vast range of modalities of access to housing from social renting to the home-buying,

-equip sector 3 with new facilities and develop a space of centrality on the Ampere's block;

-create possibilities to set-up economic activities;

-link the districts between them and the rest of the town, by quality public places and the development of the green spaces; and

-treat the nuisance of the highway and promote the access to public transportation".

Source: Duarte, P., et al. *Les démolitions dans les projets de renouvellement urbain. Représentations, légitimités et traductions*. Paris: L'Harmattan, 2011, p. 90.

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SOCIAL MIX

The social mix becomes a main theme in the new tastes for city and neighbourhoods. Planners have for many years endeavoured to encourage neighbourhoods, specifically those in Western Europe and North America containing the appropriate social mix of residents along with a variety of public policies, to achieve diversity among their residents.

The image of the ”liveable city” has thus become a key factor. The post-industrial cities have a growing interest in marketing themselves as being built on a foundation of neighbourhoods and therefore being capable of harmoniously supporting a blend of incomes, cultures and lifestyles.

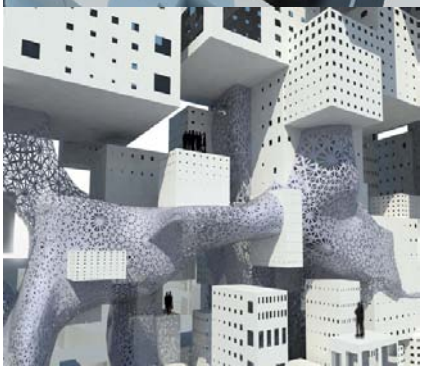
Due to the concentration of poverty in specific areas, certain disadvantages have emerged. Rising crime rates, high levels of unemployment, the anti-social behaviour of youth within unimproved areas of cities, and the individual’s inability to move out of poverty were problems. Thus the social mix was suggested as a means of raising the standards of lower classes by nurturing a spirit of emulation as well as encouraging diversity and standards, along with the aesthetic design of social housing. Because poor housing conditions can lead to poor physical and mental health, these would be influenced by this issue. Great numbers of people face barriers to their full potential because of where they come from or who they are. The relationship between life opportunities and housing should be well documented, given that one's health is impacted by where he or she lives. The mitigation of these problems needs a new approach; one that does not place vast swathes of the population into pigeon holes but treats them as individuals. This reflects our modern society, particularly in developed countries where social diversity has become a sign of neighbourhood vitality. The social mix, or diversity, can be defined in a number of ways, including household type, income, culture and education.

Le Fauvelles Social Housing in France, 2007

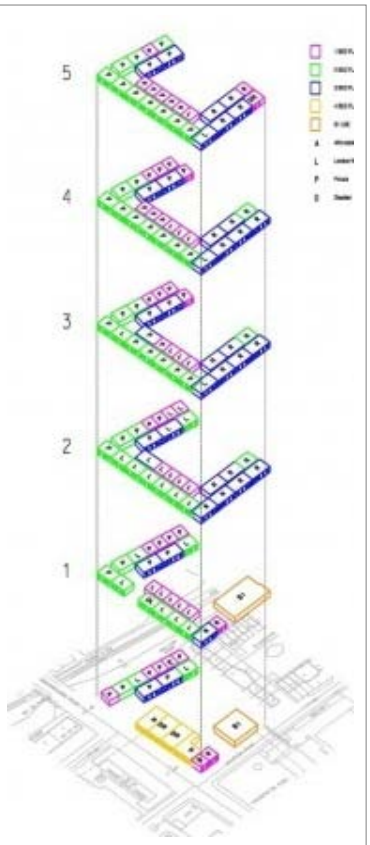
Le Fauvelles Social Housing in France, 2007. Groupe 3F and the Courbevoie Town Council launched a competition for the last remaining plot in the urban development.

With a view to adapting their spaces them to collective living, residents can change the placement of bedrooms and living areas as their family grows, depending on the lifestyle and hobbies of family members.

This project utilises various external features, such as front lawns, courtyards and terraces, to encourage mutual trust among neighbours.



Social housing in Hamburg, Germany, with a new spatial formation within its structural division**s**



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SOCIAL DIVERSITY AND AVAILABILITY

Architecture and urban planning are part of the physical manifestations of a society, being expressive of its values and resources. A city, as a complex system comprising a multitude of elements, is thus generated in the course of a city development. The phenomenon of architecture and urban planning should reflect social diversity in providing living environment forms that are socially generated.

Social housing diversity and housing availability are significant factors in the phenomenon of city formation; they introduce a very wide scope of problems connected with the social and economic aspects of life.

The understanding and implementation of social differences in the planning of living environments helps to fulfil the various desires of humankind in the process of constructing dwelling forms, thereby contributing to the examination of these forms for various social groups.

Social diversity and availability are basic parameters of the scenario of social quality in the scope of effective housing, taking into account the different social profiles of the dwellers.

The aim of architects and planners is to implement effective housing concepts that reflect differentiated social conditions of the future users and consider the fulfilment of their requirements.

The basic aim of housing availability for different social groups is to determine the most appropriate input conditions, which essentially influence the quality of a living environment.

Socially diverse housing in Vienna; an apartment complex Tokiostrasse, Artec Architecten; emphasis on the design of private outdoor spaces; a principle according to Cité verticale (Casablanca, Morocco, 1952, architects George Candilis and Shadrach Woods). In: ARCH, a magazine on architecture and other culture. May 2010, Borovičková, Z.: Terraced house Tokiostrasse, Vienna, p. 40, published by Eurostav Slovakia www.archnet.sk

Photo: Artec Architekten, ARCH 05/2010

The better the country and/or society regulates its social housing policy, the better the overall parameters of the quality of housing will be.

Disproportion between the lack of affordable housing and a surplus of expensive luxury apartments is a characteristic feature of many eastern European capitals (e.g., Prague, Bratislava and Moscow.

This handicap can be changed and improved through the effective scenarios of social housing.

Affordable social housing, Záhorská Bystrica, Slovakia
Architects: Šmondrk, Norbert - Studio KFA; constructed in 2010
In: ARCH, a magazine on architecture and other culture. October 2010, Gürtler, I. Záhorská Residence, p. 28, published by Eurostav Slovakia www.archnet.sk

Photo: Lubo Stacho, ARCH 10/2010

Minergo, a low-energy residential complex, Bratislava, Slovakia,
Architects: Hantabal Architects; constructed in 2011.
In: ARCH, a magazine on architecture and other culture. 04/2011.
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Minergo, Photo: J.Hantabal, ARCH 04/2011

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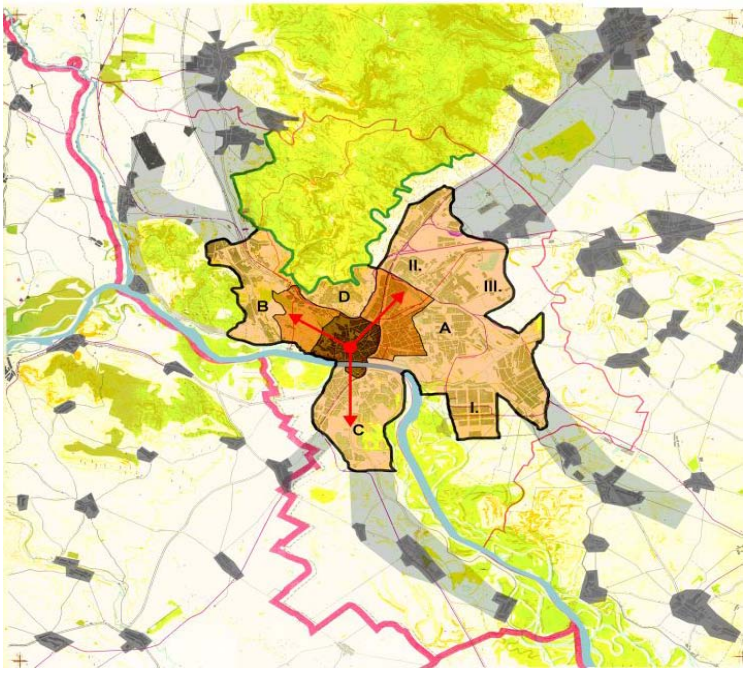
SUBURBAN HOUSING

The word “suburb” generally refers to a residential area. It may be a residential area of a city or a separate residential community within commuting distance of a city. Most suburbs have lower population density than inner city neighbourhoods. Suburbs grew in the nineteenth and twentieth centuries as a result of improved rail (and later road) transport. Suburbs tend to proliferate around cities that have an abundance of adjacent flat land.

Suburban housing is a phenomenon that occurs in the process of town development, substantially affecting the characteristics of the living environment. The current trends represent the two different directions of the construction of new residential areas. One focuses on the extensive form of construction at the edges of cities and rural settlements without a comprehensive settlement of the services and amenities, and the second focuses on the densification of existing residential structures that were built in the past, in contact with the existing areas. The problem of the construction of the current suburban residential zones is that it’s a deficient solution in terms of applying the economic, social, environmental and cultural factors that contribute to the harmonisation of the living environment. These factors, adequately considered in the design of the suburban residential units, significantly contribute to the quality of the living environment, bringing forth a “city” way of life.

The main starting point in the development of the suburban living environment should be the application of the principles of sustainable development.

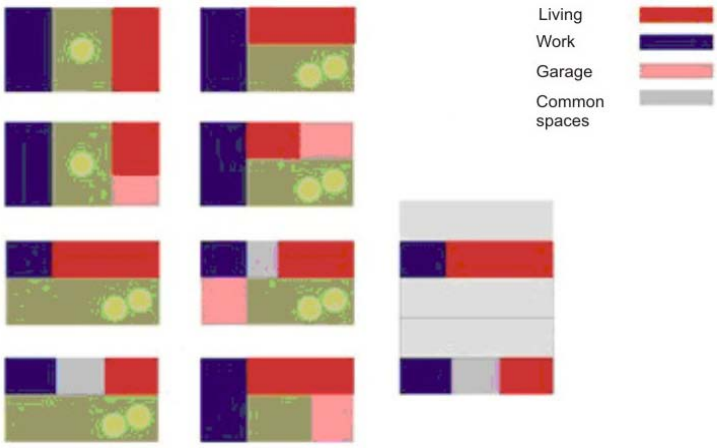


Extension of the Housing structure in Bratislava (shown in grey).

It is desirable to design **compact** and **intense** forms of housing estates and to provide the proposed suburban zone with the maximum functionality, which would participate given the appropriate atmosphere. At the same time, the requirements on the extent of the territory should be reduced to the greatest possible extent.

The most important aspect in light of the current trends is the optimal structure of various functions necessary for the quality of life in a given environment.

One of the key problems today is the relationship and proximity of housing and work.



Scheme of the volumetric concepts of the family houses incorporating living and work.

Negative examples of suburban zones.

Positive solution of the suburban housing (preliminary study, Bratislava- Rusovce; architects: Fečík)

The emerging problems of today should be seen as negative examples of suburban zoning.

A response to the problems of suburban development is the attention devoted to high-quality processing of territorial plans, use of the sites that have lost their original function and the revitalisation of existing estates. The architect’s role is to develop future housing schemes that will find appropriate solutions of the broad scope of problems connected with the suburban housing.

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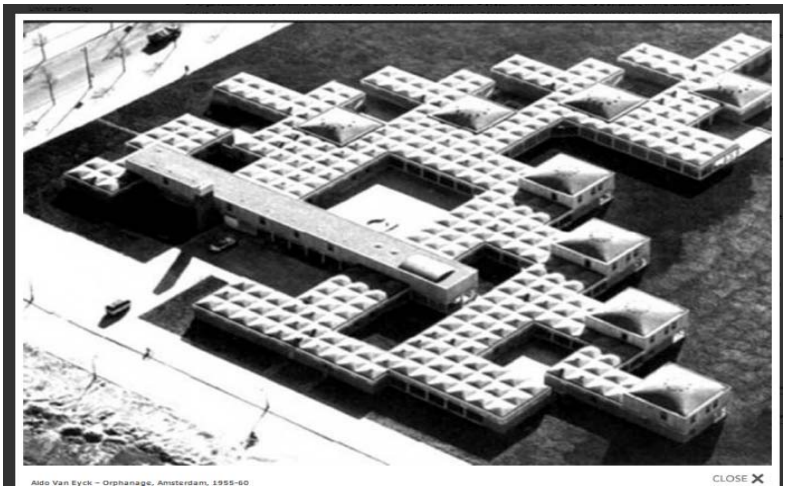
SYSTEM

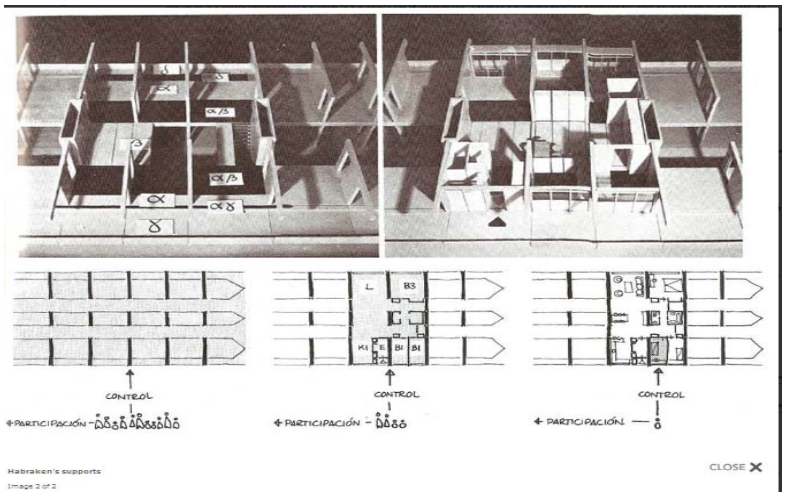
Housing can never be seen in isolation. It is always part of a larger ensemble: a settlement, a city and the built environment. Considered as an object, a house is always in relationship with other elements: houses and buildings, the surrounding spaces and the landscape. In order to address housing planning and design, we cannot lose sight of the fact that a house is always part of a greater assemblage of interrelated elements.

An organisation of parts within a whole is usually understood as a structure. A system, on the other hand, is a structure with a functional purpose. A structure is a stable organisation, while a system is a dynamic set of interactions. A systems-oriented approach to housing conveys not only an understanding of its structural condition but of the functional purpose of the system in which housing is embedded. For example, we can see housing as part of an ecosystem aimed at reducing energy consumption or as part of an industrialised system whose goal is to produce the maximum number of housing units at a minimal cost. The notion of a system is equally applicable to living beings, physical reality and abstract thinking. In fact, systems-oriented thinking blurs the separation between these realms, between the natural and the artificial, and between the physical and the abstract (von Bertalanffy, 1968).

A system is always dynamic, because it’s a conceptualisation of the interactions between the parts that make the whole, and in turn between these and the environment. Accordingly, a systems-oriented approach applied to housing design and planning would pay attention to the dynamic relationship between the elements -- physical and abstract -- which comfort housing and other elements of the built environment.



Van Eyck Orphanage:
In the 1950s, Team X introduced concepts such as clustering, association and growth to overcome the notion of functionalism postulated by the modern movement. These ideas were synthesised in the term “mat-building”. According to Smithson, “this concept of building to epitomize the anonymous collective; where the functions come to enrich the fabric and the individual gains new freedoms of action through a new shuffled order, based on interconnection, close-knit patterns of association and possibilities for growth, diminution and change”.



HABRAKEN'S SUPPORTS

In the 1970s, Habraken and the SAR proposed a view of mass housing based on the distinction between two independent systems: support and in-fill. A support is the collective domain controlled by the community, whereas the in-fill is the private domain in command of the individual household.

By ascribing a specific realm in the decision-making process to the individual user -- the infill -- he or she could participate in the creation of the dwelling.

Habraken's method epitomizes the distinction between "building systems" and "systems building". The former refers to "an assembly of building subsystems and components, and the rules for putting them together in a building". The latter term, "systems building", pertains to "the application of the systems approach to construction, normally resulting in the organisation of programming, planning, design, financing, manufacturing, construction and evaluation of buildings under single, or highly coordinated, management into an efficient total process". For example, it is possible to achieve better management by producing building components in a factory, whereas with systems building "the architect is not simply incorporating new technology; he is asking society to radically transform its economic organisation so as to provide shelter more efficiently". Habraken's theory of support and in-fill is therefore an example of systems building applied to housing design (Fergusson 1975).

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UNIVERSAL DESIGN

”Universal design shouldn’t be a matter of choice, it is a moral necessity”.

The term “universal design” was coined by the late Ronald L. Mace, from the College of Design, North Carolina State University, USA. In 1988 he defined the term in the following way:

“Universal design is an approach to design that incorporates products as well as building features which, to the greatest extent possible, can be used by everyone. Universal design is a simple concept, but one that requires a fundamental shift in thinking.

Traditionally, design has catered to averages, creating a world in which few people can actually thrive. Universal design strives to encompass the widest possible ranges of size, strength and capability, doing so without the need for adaptation or specialised design. The intent of universal design is to simplify life for everyone by making products, communications and the built environment usable by as many people as possible.”(1)

Thus, as argued above, UD is a design concept that recognizes, respects, values and attempts to accommodate the broadest possible spectrum of human ability in the design of all products, environments and information systems. It requires sensitivity to and knowledge about people of all ages and abilities. Sometimes referred to as "lifespan design" or "trans-generational design”, UD encompasses and goes beyond the accessible, adaptable and barrier-free design concepts of the past. It helps eliminate the need for special features and spaces, which for some people are often stigmatizing, embarrassing, different looking and usually more expensive.

Maison à Bordeaux, Rem Koolhaas ; Best Design Award of 1998.

This house has the advantage of being wheelchair-friendly. It accommodates technical facilities for this purpose and reflects certain flexibility in use on its different levels.

Although this design is often cited in the context of universal design, it is more an example of design for special needs; the use of the platform in interior space could create hazardous situations.

Canadian National Institute for the Blind, Mary Jane Finlayson.

This design is not only highly accessible to its clients, visitors and employees but is also a model of accessibility for others to follow in designing for physically challenged persons.

Some of the centre’s innovative accessibility features include talking signs and elevators, natural and diffuse lighting, varying floor textures, tactile maps and office signs.

Universal design should incorporate design criteria that can be universally applied to new homes, preferably at minimal cost. Each design feature adds to the comfort and convenience of the home while supporting the changing needs of individuals and families at different stages of life. It allows more people to live independently. This not only reduces personal costs for care and adaptation as well as lower public expenditure for social and health care, it also enhances people’s quality of life.

The local neighborhood is also critical in facilitating independence but also interaction and dynamism for many people.(2)

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