



THESIS

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Field of research : Housing and Society

Socio-Spatial Well-Being: the Conceptual Contribution of in- Between Space Layout to Sociability Case study 800 and 1000 dwellings Batna city/Algeria

Presented and Publicly Defended by :
BENTERKI Toubia

Supervised by : **Pr. Alkama Djamel** / Co-supervisor : **Pr. Hamouda Abida**

Committee members

Belkacem Dib	Professor	University of Batna 1	Committee Chair
Alkama Djamel	Professor	University of Guelma	Supervisor
Hamouda Abida	Professor	University of Batna 1	Examiner
Benbouaziz Akila	Doctor	University of Batna 1	Examiner
Bouzaher Soumia	Professor	University of Biskra	Examiner

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Résumé

Améliorer le Bien-être individuel est depuis longtemps une priorité absolue dans la recherche scientifique. Le logement a constitué une préoccupation majeure pour la société et ses membres tout au long de son développement. La qualité de vie est affectée par le type de relations sociales et humaines qui peuvent et doivent être créées, ainsi que par les contributions individuelles de chaque usager. Si vivre librement dans sa résidence et participer à la vie sociale sont deux exigences principales des usagers, il est devenu de plus en plus évident que les résidents peuvent avoir des difficultés à nouer des relations saines avec leurs voisins et à maintenir des interactions fortes et durables. Cela a conduit à un intérêt croissant pour les relations sociales ces dernières années, car les études examinant spécifiquement l'impact réel des espaces interstitiels sur ces relations ont été rares, et peu de choses ont été écrites sur des sujets similaires à cet égard. De nombreuses questions restent sans réponse à ce sujet.

Les espaces intermédiaires sont devenus un enjeu pressant dans divers domaines, notamment l'urbanisme, l'architecture et la sociologie, reflétant leur forte présence dans la mémoire collective de la société. Le problème central réside dans la compréhension des raisons de la contradiction évidente dans l'utilisation de ces espaces, en particulier dans le contexte du logement collectif. Cette étude soulève des questions importantes visant à analyser l'impact des caractéristiques de conception de ces espaces sur le comportement des usagers afin de déterminer dans quelle mesure ils affectent le Bien-être individuel aux niveaux social et spatial.

Cette recherche explore la relation réciproque entre l'espace et la société, en se concentrant sur l'impact de la conception des espaces interstitiels internes sur les relations de voisinage. Elle propose un aperçu complet des investigations théoriques sur le concept de logement, en particulier le logement collectif, avec une analyse critique de la notion d'espace interstitiel dans les unités d'habitation et son impact sur la cohésion sociale.

L'étude présente les résultats d'une analyse de cas de deux cités d'habitation comprenant 800 et 1000 logements dans la ville de Batna, en Algérie, en utilisant une approche multidimensionnelle. Plusieurs méthodes de recherche ont été employées, notamment la recherche sur le terrain avec l'analyse statistique, l'analyse typo-morphologique et l'analyse isosiste, afin de comprendre les facteurs critiques associés aux conflits de voisinage au sein des cités d'habitation et les renforcer. Les données de terrain ont permis un examen attentif des motivations sous-jacentes aux comportements individuels et à leur préférence pour une vie indépendante au sein d'un environnement collectif.

Mots clés : habitat collectif ; espace intermédiaire ; conflit d'usage ; sociabilité ; bien-être ; Batna.

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General Introduction

Introduction

Living appropriately is now an increasingly sensitive problem to the point of forming one of the essential demands of the human being in order to live in a pleasant, healthy, and comfortable environment. The enhancement of people' well-being has historically been a primary priority as well as the issue of housing which remains a critical worry for populations; Across the whole of history, man has developed his housing to satisfy his needs, which are material, sociocultural, and even spiritual.

The house is more than simply a physical product, but also a social construct "A house is a human creation, and even in the face of the most severe physical restrictions and with limited resources, man has created a home." (Rapoport, 1972, p. 64). Housing is a broader and more complicated concept than just a building or a place to reside. This is the way that humankind creates and incorporates his living environment.

Life quality is determined by the quality of social and human interactions that may and must be generated, as well as the unique contributions of each inhabitant. Studies have shown that the percentage of social relationship between the population does not increase much in their number but rather depends on the increase in the proportion of their encounter, that residents of large buildings with multiple roles, common in cities due to expansion, may find it difficult to establish relationships with neighbors, or this relationship may be short-lived, in form and content, as these relationships develop through encounters at the entrance, lift or car parks. The social sciences will have implications for the spatial design of housing developments by incorporating the notion of community. The latter is "a form of social life marked by deep, organic and 'natural' bonds (family, friendship, faith, morality, solidarity, rootedness in nature)." (Tönnies et al., 2010)

Ruth Glass, distinguished neighborhoods, "simple sets of people living in the same area and experiencing the same things, from 'communities', aware of the communality arising from a common spatial experience and willing to act together" (Byrne, 1999, p. 119). The parallel with the Marxian distinction between class in itself and for itself is clear. .

Haumont B defines the neighborhood as a place "where the different cultures of living are staged and confronted". (Haumont & Morel, 2005). He went on to say that our neighbors are at once very close and very distant, completely familiar and completely foreign. And our behavior reflects these proximities and distances, which obviously take place in the contexts of our social situations, according to the positions we occupy in them. Or believe we occupy.

The inhabitant does not neighbor in the same way depending on whether one lives in a suburban or a collective dwelling, or in a rural or urban environment, but also depending on one's own residential history.

In-between spaces are areas which ensure the transitions from one to the other, according to more or less marked and varied graduations or thresholds, are approached here from a particular perspective. That is to say, those that serve the domestic spaces of the dwelling from the entrance to the building.

This notion arises in most of our daily and social forms of existence, and especially in almost all their times and places. "Because it combines proximity and distance and because it designates how relations and separations between beings, and between them and things, are played out simultaneously" (Haumont & Morel, 2005, p. 15).

T. Lee, pointed out that in-between spaces can be used in two contradictory ways; as a unifying element, increasing the fluidity between neighborhoods; or as a delimiting element, partitioning neighborhoods. According to the French sociologist Bernard Haumont's work "The Society of Neighbors: Sharing a Collective Housing," it is now clear that these in-between spaces, half public and half private at best, neither private nor public at worst, correspond to a mix of uses and behaviors that is quite variable and sometimes explosive.

Conflict situations are well known. In collective housing, they take place in the halls and stairwells because of (noise, rowdiness of young people, stairwells soiled by children or dog, etc.).

1. Research question

Neighborhood difficulties may seem anecdotal, but they are in fact radical problems of human coexistence. They are singular, to be solved on a case-by-case basis, and often embarrassing. The appropriate neighborhood space is where one participates with the others, a logic of distribution of activities that lead to good management. The latter is the problem of practically all collective housing. These are therefore spaces that promote sociability, conviviality, social support and develop the spirit of community living. These activities, known as living units, occur in transitional or In-between areas and are associated to a society and a physical space. The boundaries of the neighborhood are determined by the people' perceptions. One does not select one's neighbors. It only picks person's area of residence, but inside that area, there is already a group of households that will form the neighborhood.

The reality of bonding in today's cities is characterized by the loss of social relationships between family members and society at large: It can be expressed by the weak relations between the inhabitants of the city in general, and between the neighbors in particular, and this is the most striking scene that can be seen by any observer of social phenomena in any civil society. To inhabit a space is to evolve in places shared with others. Whether we speak of appropriation or privatization, it always means confronting others, negotiating places to live.” It necessarily means becoming part of a network of social interactions with people we have not always chosen. At once very close and very distant, these neighbors are the object of complex relationships marked by ambivalence and paradoxes” (Eliane, 2016, p. 23).

social heterogeneity generates settings that are not adapted to any of the disposition schemes of the groups concerned. Since the necessary interaction between various groups demands each individual to readjust his or her behavior to a social context in which everything is not self-evident.

In fact, the horizontal and vertical spaces of daily use that do not seem to interest designers or building owners are the spaces that follow one another from the landing door to the building door: the landing, the corridor, the lift, the staircase, the hall, the storage room, the cellar, the garage, the inner courtyard, etc. «In-between spaces are neither intended results of design nor the rest of the sphere of public space. They have a unique status in that their activities have different temporal and spatial dimensions”. (Bouchelaghem, 2011, p. 58). The problem of in-between spaces in which neighborhood relations occur has been constant for a long time now, from the Haussmannian island to the type of collective housing that is being produced in the Algerian space.

In-between spaces were developed and enacted in attempt to (re)create a dense and rich communal life based on the sharing of common utilities in neighborhoods and housing estates defined by architectural dysfunctionality and manifestations of "social secession," monotony, and absence of social activity.

Living at home independently and participating in social life are two important expectations for people. The whole problem of housing today is that of the integration of the individual into the collective, that is to say: "how to create living together", Louis Besson emphasizes that it is necessary to "reintroduce quality into the collective" (Faillebin, 2007) on the urban level as well as on the human level. As an answer to this clear cut on private places -housings- and places of sociability of the common public domain.

The emergence of this question is at the crossroads of many concerns, that of the inhabitants who ask for a habitat and livable districts, that of the architects who seek to restore its letters of nobility to the dwelling, that of all the associative actors who participate by their actions of a city has human size, and who wish to reinforce the social cohesion and the living together. Algeria after independence, had suffered a significant demographic growth, aggravated by a massive rural exodus, are translated by an acute crisis in housing.

The preferred solution was: a series of housing policies based on standardization, prefabrication, normalization and typification through a programmatic approach of parallelepiped buildings repeated endlessly throughout the territory.

These projects have been entrusted to foreign design offices that have reproduced in turn the post-war models built at home, without regard to the structure of the Algerian family or its socio-cultural values, unfortunately this policy presents little consideration to the basic standards of the quality of living environment and presents social dissatisfaction, and the absence of the assumption of responsibility of spaces, of the public, common and In-between field, degraded spaces, dismantled, neither arranged, nor equipped, all that not only gave an image of anarchy in the districts of dwelling, but also the quality of framework of life has to know the cohesion, the user-friendliness, safety, the peace, cleanliness... . . are neglected. The In-between space that we wanted to target is the one that lies between the two basic characters (public/private), namely the semi-public spaces of the access area, the courtyard or the entrance of the building, i.e., the places of contact and informal communication between the open and covered neighbors.

The city of Batna does not escape this trend; like all Algerian cities, it is characterized by this repetition and monotony. Architecturally, the approach is based on the assembly on several levels of several apartments called housing cells adopting a prototype spatial organization, obeying rigid standards, copied from the model of the standard Western apartment. According to what we have observed in several neighborhoods located in different areas, we can assume that the In-between space that is built for the purpose of meeting and conviviality becomes a space of conflict where everyone wants to appropriate it in their own way. This conflictual community life style present in the housing spaces and that the city of Batna undergoes is due to the non-consideration of socio-cultural values in terms of in-between space that has known several types of appropriations. And this has created problems that vary

according to the spatial cognition of each user, namely : the stairwell, the landing, the common courtyards, the accessible terraces...etch

As a response to all these dysfunctions the return to the concept of community space seems important since it presents a space that promotes sociability, community life and living together, the revaluation of this space in the habitat is an element of architectural composition in the production of residential complexes, a stake in the development of social relationships between inhabitants.

It is from this concern that the research work has started:

"How can we assess the influence of the layout factors of the in-between space on the level of user behavior to ascertain the socio-spatial well-being of users?"

"Why it is felt a conflict of use of the in-between space in collective housing in Batna case of 800 dwellings and 1000 dwellings ?"

2. Hypothesis

The configuration of in-between spaces at the level of housing estates continues to be a crucial factor, concrete, and connected to the daily life of city residents as long as they incorporate the highest possible standard of living, vital space, cleanliness, and security, permitting the development of a mutually supportive culture, exchange of knowledge, as well as a fight against fatigue and isolation, and then a particular configuration corresponding to the usual practices. It emerges that a lack of sociability, education, and communal life skills is at the root of all current conflicts in Batna housing the appropriation of in-between areas within the framework of collective living.

Through this research we are called to verify the following hypotheses:

-The design of convivial spaces at the level of housing estates remains an essential factor, concrete, and close to the daily life of the city dwellers as long as it includes the quality of life, the vital space, the cleanliness and the security, so they allow the construction of a solidary culture, the exchange of knowledge and a fight against exhaustion and isolation, and a specific arrangement corresponding to the usual practices.

- It seems that the lack of sociability, education and community life skills is the main factor of all the existing conflicts regarding the appropriation of in-between spaces in the framework of collective housing in Batna.

3. Objectives

The in-between space refers today to recurrent questions in different fields, urbanism, architecture, or sociology, it is part of the collective memory of the inhabitants of a community, which implies the creation of a common culture between the actors of sociology and housing in order to create a space that offers a collective service.

- The demonstration of a thoughtful approach to the design of user-friendly in-between spaces.
- Strengthening community life through user- convivial interspaces.

4. Choice Motivations Of Subject

Housing is a subject at the heart of societies and cultures, even if it can take a great variety of forms and dimensions, its meaning and its social and cultural importance remains unchanging. The way of living and the social memory have a determining influence on the shape of the built environment and its evolutionary process.

5. Methodology

To accomplish the study aims, we propose the following approach, which is divided into three phases:

- Survey (questionnaire), statistical analysis.
- Typo-morphological analysis.
- The spatial syntax. (Depth-map : Isovist analysis)

1/ the tools used in the collection and analysis of data are derived from research techniques in environmental psychology defined as "the study of interrelations between the individual and his physical and social environment, in its spatial and temporal dimensions". Observation and questionnaire.

The multi-criteria survey remains one of the most widely used instruments by social psychologists and sociologists. It consists in eliciting a set of individual discourses, interpreting them and generalizing them through interviews based on a questionnaire whose main function is to investigate information about the inhabitant, the housing and the practices and uses of shared spaces.

2/ The typo-morphological analysis. it is the combination of urban morphology and architectural typology. On a macro scale, Morphology is the study of urban form in its historical

development, based on the component elements, in particular the site of implantation, the city plan, the layout of the roads and the different parts of the city. While at the micro level Typology is the study of building types, in particular types of dwellings, it is a new concept that was introduced in the twentieth century after the failure of the modern movement, etymologically meaning the science of type, from which it takes its name.

3/ Spatial Syntax as defined by its authors is part of a larger framework of a morphological approach in urban and architectural research. The object of the study of urban morphology is mainly the physical form of the city. But in order to meet the need for a morphological approach, spatial syntax has combined formal rigor with an awareness of the social nature of urban and architectural forms. “An isovist is the total area belonging to a given environment; which can be seen from a well indicated generating point (a vantage point)” (Klarqvist, 1999). In pursuing the characteristics of isovists, we find that it is useful in describing visibility and defining spaces based on their visual and socio-spatial qualities.

6. Thesis structure

The research will be split into two sections: a theoretical section that leads to an understanding of the spatial configuration of the in-between space in a residential building and the status of neighbor relations, as well as a second practical section that will be dedicated to statistical, typo-morphological, and isovist analysis on two case studies, the 800 and 1000 dwellings in Batna.

-The first part being theoretical, aims to explore the different issues of the problem: the configuration of the In-between space on the one hand and the social human behavior as a result of this configuration on the other hand. For this, we selected the cases of the residential neighborhood 800 and the city of 1000 dwellings in Bouzourane, which will allow us to examine the various socializing, interaction, and living together behaviors among neighbors

It consists of two chapters as follows:

Chapter 1: Theoretical framework

It is dedicated to the concepts of housing, dwelling, inhabiting a space, and habitability in various fields of research; Researchers remain curious about how people perceive space; and how the sense of appropriation arises as a result of the way it can assert the correlation with space when it is not satisfactorily resolved and that the individual who interacts with space assigns their cultural values to it. The living environment of users is processed here in order to

make it easy when identifying in space, user achieves to locate himself in an environment or to interact with it or very simply; demonstrate the living action, which is, more than (re)finding oneself in a perimeter, on a surface, along a wall, or under a roof, it means the personal experience of a space with which one recognizes oneself in a game of reciprocal belonging.

It focuses on the character of the spaces that were selected for research, as a collection of places open to the neighborhood community. Disclosing the primary feature of in-between spaces but also how they serve as a connection between private dwelling areas and public common spaces. These spaces were investigated in an attempt to clarify the ambiguity of it. In addition to tackling notions linked to in-between places to better grasp their potentials, shedding light on its legislative statute and how their typology, use, and perception vary through time is critical.

Many sociological studies by researchers have brought to light a variety of discomforts characterizing housing, namely the weakening of social relations, the reign of anonymity, isolation, and insecurity among their occupants, which are explored in this chapter as a key indicator for the measurement of population integration and housing programs.

The social structure of primitive and modern societies is investigated, as well as the physical structures that have a negative or positive influence on neighborhood ties, in addition to discovering the variances between sociability and socialization, and then how inhabitants practice the space socially, with the main concern here being the generation of neighborhood relations, and which type of reactivity exists in an interaction, and indeed the difficulties encountered in the sociability process.

Chapter 2: Literature review and methodology

The physical attributes of a neighborhood can affect the social 'Behavior' of its residents, the in-between space reside between inside and outside can be ambiguous in nature, not belonging completely to the two extreme situations that make it up (inside and outside) or any other third situation. This is why this chapter consists of a retrospective of the subject's status by several researchers.

It was devoted to: the presentation of the research methodology. concentrating on the chosen methods and techniques of analysis utilized in this study in order to have a deeper grasp and mastery of the latter before applying it to the chosen corpus.

- The second section focuses on a statistical, typo-morphological, and isovistic analysis of two samples in order to assess and test socio-demographical, psychological, and geographical aspects that might impact the process of judging behaviors based on spatial configurations.

Chapter 3:case studies

This chapter focuses on the residential neighborhoods of 800 and 1000 units , which illustrate the dilemma of conflict of use encountered at the level of internal in-between spaces in collective housing. It is therefore a projection of the matter gathered in the theoretical section onto the field.

Chapter 4: Practical framework

These chapters will attempt to analyze the findings of the sociological survey, typo-morphological analysis, and isovist analysis.

The study was concluded by a results confrontation.

CHAPTER 1

The theoretical frame:

**Housing, In-Between space and
Sociability**

1.Housing

Introduction

Across the whole of history, man has developed his housing to satisfy his needs, which are material, sociocultural, and even spiritual. Rapoport is one of the first to demonstrate that dwellings or the house is more than simply a physical product, but also a social construct, asserting: "A house is a human creation, and even in the face of the most severe physical restrictions and with limited resources, man has created a home.". (Amos Rapoport, 1969)

The history of humanity illustrates that man has always expressed the need to be alone and has represented this in many ways. That according Jean-Pierre Frey, Martin Heidegger's correlation of building, living, and thinking "...indicates that the edifying of a dwelling is an essential activity of humanity, socialization, and all living beings, animals and plants equally" (Segaud et al., 2003)

The quality of living is determined by the quality of human and social interactions that may be developed and that are required, in addition to the personal contributions of each resident.

1.1. Housing, Etymology Of The Concept:

The concept of housing encompasses more than a house or a place to live; it is a broader and more complicated whole. This is the way man structures and incorporates the environment in which he lives. Furthermore, the term "Housing" has several meanings, which we might rank in the following order:

1.1.1. In geography

The one from botany and zoology; it initially denoted, about 1808, the region inhabited by a plant in its natural condition, then, around 1881, the geographical "environment" suitable to the existence of an animal or plant type, This term was extended to cover the "environment" in which man evolved around the beginning of the twentieth century. Finally, we shall use the term "habitat" for "housing circumstances" throughout the interwar period. "As for "livable", term originates from the Latin habitable, which simply means "where one may dwell", and which suggests that what is "uninhabitable" does not allow "habitation". (Paquot, 2005).

1.1.2. In psycho-sociology

We describe habitat depending on man's strong interactions with his living environment. The relationship between habitation and habitat is nearly systematic. Thinking about housing demands going beyond the constraints of the housing itself, no matter how large and kind (communal, individual, isolated, grouped, in-between, neighboring, etc.), in order to integrate the living environment.

Bonetti stated that "the habitat [or space in general] is not an inert entity formed of technical parts and endowed with shapes, but an "active object"... It exists mainly as a result of the interactions that occur between its functional aspects and its inhabitants, which provide it with its entire meaning" (Bonetti, 2019). In contrast, while everyone transports their ways of acting, values, sentiments, and deep ideas from one location to another, their actions are affected by the space in which they unfold, and they are practiced in a certain way based on the places that provide a structure.

Each individual determines the uses of their own intimacy in their environment based on their acceptance of themselves and their physique, their sensitivity, and their personality: intimacy is not the same for everyone, which is why spaces cannot be occupied in a unique way. "A house should not be seen as a standardized and universal thing." (Leroux, 2008)

The most common definition from la rousse dictionary 2012 refers to "having a home somewhere, residing there in a somewhat permanent manner, and living there". According to Benmatti, habitat is defined as follows "...Think about young children's games, offer corners to teenagers, safely house motorbikes and children's cars, facilitate all daily activities..... place parking lots as nearer to the accommodation as possible but not under the windows... also take into account the disabled, the elderly, and the injured, to facilitate the maintenance of common spaces and open spaces" (Bouchentouf, 2017)

The term "housing" refers to housing as well as the totality of socio-economic and infrastructure projects. The equipment required included, but is not limited to, schools, nearby stores, daycare centers, and gardens, as well as public lighting, running water, city gas, telephones, internet access, satellite television, and so on.

1.1.3. From a functional standpoint

The term "housing" refers to the entire structure formed by the dwelling, its extensions, and secondary or tertiary employment.

1.1.4. From a morphological standpoint

The term "housing" refers to the entire evolutionary system that establishes the environment for numerous activities.

1.1.5. In sociology

Mustafa.F states that “the concept of "Housing" is both a product and a tool that reflects the customs and traditions that have survived in a community over time” (Mustafa, 1983). And that the psychological goals of Housing would be converted into spatial dimensions obtained from both internal and external components. More specifically, she maintains acquired conceptions of features and configurations, levels of integration between the inside and outside, views of the outside, as well as levels of intimacy (privacy). For example, This latter has an impact on the design and shape of the space, as well as the behaviors of its residents.

Lawrence R identifies “a dwelling or "home" as a "physical entity that defines and delimits space for members of a household.”(Lawrence, 1987) According to Khandriche, "for a long time, it has been noted that the variety of habitat forms corresponded to distinct cultures, social groups, communities, or civilizations, and so there occurred a link between these two dimensions" (housing and society). “Some have gone to the extent of claim that Housing is a social projection into space”.(Alkama, 1995).

"Housing is not exclusively a roof-shelter, hearth, or habitation, but a socially ordered totality," as stated in the Universalized Encyclopedia 1995. It empowers man to fulfill his physiological, spiritual, and emotional requirements while also safeguarding him from hostile and external factors. It ensures the fundamental growth of the organism. Individual and family life are integrated into the expressions of social and community life through housing.

The divergence between baite (the residence) and maskane (Housing) is highly enlightening in Arab-Muslim culture. the residence refers to the physical component (the container), whereas Housing pertains to the people who live in it (the content). First, a differentiation should be made between the physical and human dimensions; second, we must distinguish the products, their intentional use, and the meaning to be accorded to them. However, the environment for Ozaki is “a setting for social interactions and ceremonial rituals”.(Ozaki, 2002).

1.1.6. In anthropology

This field is involved in the study of the social component of man returns the fact of bringing to light the hidden nature of the reciprocal relationship: "Space / Society".

Housing has always been a manifestation of a way of life, of a specific culture in this topic, and Rapoport outlined the numerous components involved in the conscious act of architectural construction in his book "for an anthropology of a dwelling" in 1972. "This is deeply influenced by the interaction of (objective) variables including location and climate, as well as (subjective) aspects like customs, culture, and tradition". (Amos Rapoport, 1969)

and subsequently describes the home residence as "a complicated institution that produces an environment particularly fits to the manner of life of a people (a social unit of space)". (Amos Rapoport, 1969)next describes the residence as "an institution that produces in a full range of complex goals, and is not simply a building, its objective is the development of the environment most suitable to the style of life of a people (a social unit of space)".

P. Baduel defines Housing in terms of his performance. "Creating housing therefore implies first of all arranging societal relations, organizing proximities and distances, drawing the boundaries between an inside and an outside. » (Baduel, 1986) As a consequence, the inhabited space is thus a directed area, and notably takes data with regards in accordance with the culture of reference.

Marion Segaud, a sociologist, considers living as being one of the four (04) explanatory indications of human interactions to space, which are: living, establishing, distributing, and modifying. "Living is in a certain area and time, creating a link to the region by assigning traits that enable everyone to identify with it" she adds: "Living does not occur in the same method across centuries, cultures, genders, even ages...".(Marion Segaud, 2009)

1.1.7. From an existentialist standpoint

Housing entails more than possessing a roof and a certain number of square meters at one's control. it requires meeting other people in order to exchange commodities, ideas, and emotions. "It also implies arriving at a compromise amongst them, i.e., adopting particular principles" (Norberg-Schulz, 1981, p. 7).

1.2. Dwelling

Above all, the house is a place of life, a safe shelter from all exterior threats. It refers to the social standards that facilitate integration. The dwelling is a compilation of pictures that provides man with a sense of stability. It is "one of the greatest qualities of integration".

1.2.1. Origin of term:

The term "dwelling" synonym of habitation which derives from the Latin "habitatio" and denotes the "fact of occupying". "The term habitus, which derives from classical Latin and meaning "way of being," is derived from the word habituari" (Paquot, 2005). Émile Durkheim (1858-1917) developed this phrase, formerly linked with Thomas Aquinas, and turned it into a crucial idea in French sociology: "the habitus is a collection of frames that allow the individual to stand independently from them".

According to sociologist Perla Serfaty-Garzon, "living in the world is the essential state of the human person," (Perla Serfaty-Garzon, 2003) ;and this dwelling is part of familiarity and continuity. Thus, the true habitation is not a building, but the entire concept of comfort and continuity.

1.2.2. Living's conditions

"The dwelling" involves activity and style of occupying, in addition to living situations, according to Heidegger. "Living in the dwelling is one of the behaviors that cannot be adopted from the same level". Here, Heidegger rejected modernist functionalist notions, specifically: "the keys to urban design lie in the four functions: living, working, recreating oneself, circulating" (LeCorbusier, 1933).

For Heidegger, living is a state of existence rather than a function. "In the sense of mortal occupancy on earth, human conditions inhabit in the dwelling" (Heidegger, 1958, p. 176); determine the habitability and show the identical being of the home.

1.2.3. The living environment of individual

G. H. de Radkowski defines dwelling as "the partition of individual's living environment into two zones (classes)":

1. the first emerged from this another location in which he 'dwells'.
2. the second of all the other areas where this crucial medium can be found.

"The dwelling symbolizes a connection, that is to say a two-term structure: inside/outside, internal life/external life, the first term being recognized, positively defined relative to the first..." (Haumont, 1968, P. 182).

1.2.4. Identifying in space

Ch. Norberg-Schulz reveals that "individual lives when he achieves to locate himself in an environment or to interact with it or very simply when he experiences the significance of an environment". (Norberg-Schulz, 1981, p. 5), We live in these rooms, but our real habitat embraces a wider area, it includes the entry hall, the motorcycle room, the immediate surroundings of the building, the path leading to the street, the adjoining streets, the school, the bakery, the public park...

1.2.5. The framework of life

"Housing is the structure and living circumstances of a population in general, and in particular the way of grouping of human settlements," (Choay & Merlin, 2010, p. 391) explain Françoise Choay and Pierre Merlin. Part of a constructed framework in urban areas dedicated to housing residents, whether or not associated with other functions.

The residential area should be structured according to four levels of hierarchy:

- The neighborhood;
- the neighborhood unit;
- the residential group;
- the housing unit.

1.3. Inhabit

The earliest synonym of the verb "to inhabit" is "to live," and it is described as "to have one's own house" the Petit Robert. The habitation appears as a refuge, a fortress with the virtue of shelter, a joyful memory of origin with the attributes of rest, tranquility, and security. "The home serves as a starting place for the first experience of being in the world, as well as a reference and a tool for self-construction". (Nadège, 2008, p. 14).

According to Nicole Haumont, "to live is to be sheltered and to be able to appropriate space according to specific cultural patterns" (Haumont, 1968, p. 190).

With the word habitat resonates the verb to live, which, more than (re)finding oneself in a perimeter, on a surface, along a wall, or under a roof, means the personal experience of a space with which one recognizes oneself in a game of reciprocal belonging. Consequently, "the

concept of habitat stretches to the living environment, where space rhymes with environment, and where inside and outside merge in the concept of home". (Carlson & Marechal, 1998, p. 14)

(Farrar et al., 2001)

1.3.1. The Ability to exist

to inhabit is to live one's house as an extension of oneself, to own and master a space, and to execute all the tasks of living it. "For the imagination, every corner in a home, any corner in a room, any small space where one wants to snuggle up, to gather in on oneself, is a solitary, that is to say the birth of a room, the germ of a house." (Nadège, 2008, p. 16), Housing marks the identity, is the testimony of the social network of belonging and conviviality, and allows the other to demonstrate its potential to live (and so exist) and be incorporated into society.

In other term "Human has always felt a desire to acquire, at the end of his labour, a place of rest, giving him with comfort, and a place of refuge, offering him with protection from all hazards". (Mansouri, 2018, p. 25).

The achievement of the human desire in two dimensions: material and spiritual, has expanded over time, and what was once a basic marker has endured many transformations based on its two aspects of this dwelling.

"Living is not an action, like going to work or picking up the children from school, but a concept that incorporates all human activities. It is a Fundamental characteristic of existence." Heidegger makes a major advance in this text. However, inhabiting it as being in space may be shifted toward doing with space. Indeed, "the relationship to spaces does not exist in and of itself, but is chaining to the subject of practices." (Stock, 2004).

Heidegger's beliefs were influenced by Norberg Schultze's book Living towards a figurative architecture, in which he reshapes the concept of appropriate Housing on life and the act of living: "Living in certain environments involves the construction of a link between the human being and the provided environment". (Mansouri, 2018, p. 8).

1.4. Types Of Housing

1.4.1. Individual Housing

We allude to "individual Housing" as a single-family housing, or a place where only one family resides; we also refer to "individual housing" (town house in an urban environment) (individual

house in a housing complex), we turn to sociologists who define the housing of isolated individual houses based on the tendencies expressed by the habitat. The housing embodies these tendencies. Physical aspects of these tendencies might be minimized.

The establishment of the housing on natural ground, in other terms, no: Overlay; Individual exterior access to the habitat and Usually takes up an immense amount of space.

“Sharing is easy in individual housing: the garden fence separates the outside from the inside, and the various other forms of fence (from the fence to the wall) correspond to the degree of sociability of the inhabitant” (Haumont, 1968, p. 182); from the most open to the most closed.

1.4.2. Semi-collective Housing

In-between or semi-collective housing is a type of urban dwelling that exists between the private house and the collectif building (apartments). “It is primarily distinguished by a cluster of overlay houses with similar characteristics to individual housing: personalized housing access and private outdoor areas for each dwelling”.

1.4.3. Collective Housing

It is a sort of urban housing in which several households live in the same building; it is the highest density type and increases in height. It has the appearance of big structures known as buildings, with a wide width and multiple levels partitioned into several flats (two, three or more).

It is characterized as a structure in which the spaces required for the fulfilment of the man's or family's fundamental requirements are shared to differing degrees, these spaces being able to be private, semi-private, or common.

The dwelling, whether in a collective building or an individual housing rented or owned, corresponds to a certain number of square meters, it is a "cell" surrounded by walls, has an entry door, and its purposes are private.

Architects, city planners, and government servants in the postwar era still believed that housing residents in collectives was sufficient for them to build communal relations, or that integrating the kitchen area into the living-dining room was sufficient to improve women's standing. Of course, “Nicole Haumont's book calls this causal connection into doubt and demonstrates the rigidity of cultural norms”. (Le Guirriec, 2001, p. 158).

The living space in the apartment building is totally closed, but the building space is only partially closed, “creating a sense of uncertainty, fear in complex housing for a clear solution such as automated closures coupled with communication devices” (Haumont, 1968, p. 182).

The housing problem, involving increasing costs, but more seriously, the economic crisis in general, make it impossible to obtain adequate dwelling. Some individuals then take the initiative to combine their resources in order to construct dwellings by sharing some areas while maintaining their privacy. “The crisis is not the only motive that promotes the creation of self-managed grouped housing; more and more individuals desire to "live differently", share similar beliefs while having a housing" (Parasote, 2011). This sort of housing is a response to several issues that affect us all. The collective building as it is currently configured does not permit men and women to play their specific role in housing representing: Do It Yourself is practically prohibited for males owing to a lack of designated space; “the maintenance requirements for cleanliness is low enough not to occupy a woman who does not work all day” (Parasote, 2011).

Furthermore, in the apartment building, there is a transitional, fuzzy, disturbing zone between the exterior and interior spaces; the common spaces (entrance hall, stairs, courtyard, etc.) which do not belong to the "outside" or "inside," collective housing is now privileged, as it favors the development of social relations due to the numerous interactions it induces.

The living place serves as the "basis" for appropriating. Appropriation cannot occur in the absence of experience. The house represents the individuality of man and his environment. According to Serfaty-Garzon, "what is it that founded the theoretical possibility of the historical and social creation of the idea of the private, if not the human being's connection to the place he inhabits?" (Serfaty, 2003, p. 11).

1.5. Habitability

This term is first linked to “the quality of what can be inhabited”. (Le petit Larousse, 1998) It is an assessment of a place's experience: livable or not, limited or accessible to many alternatives, flexibility of development in accordance with our expectations, requirements, and ideal home.

According to Roux M, "the habitability of the territory is not reduced to guidelines of equipment measured in terms of needs and costs, but that it assumes a much more complex approach of the processes of intimate appropriation: in an identical material environment, being at home does not have the same pleasures, demands, and fears, therefore not the same speech or behavior as those who do not feel at home." (Roux, 2002).

“Habitability is a manner of life that is built on a system of spatial relationships that are always dependent on the sociocultural structure. [...] It is also the process of the actor's involvement with the space that creates for the latter an internal, lived spatial arrangement that, via action and at a specific moment in time” (Baudry, 2007, p. 889) It represents a reality. geographical, important to the actor, identifies him and with which he identifies: his housing.

The collection of structural and compositional aspects of geographic area for the achievement of inhabitation is known as habitability. There are two varieties of models (Baudry, 2007, p. 128):

- The sociological model: focuses on the capacity of this space to anticipate social ties between individuals in the community, which interpret the social practice of the space.
- the psychological model: emphasizes the emotional attachment that people have to their surroundings.

1.6. The Sense Of Appropriation

The continuity of history offers the necessary components for study and comprehension of spatial qualities. The appropriation of space is a very old phenomena, and the usage of the cave as a sanctuary was one of the oldest manifestations of man's appropriation of nature. Throughout history, this occurrence has varied from city to city.

According to the 2001 dictionary Le Petit Robert, it is "the operation of making anything appropriate for an application, for a purpose." (Le Petit Robert, 2001).

“Mitscherlich. A, an Austrian doctor, was among the first to raise focus on the social significance of space appropriation and the significance it plays in the creation and equilibrium of human personality”. (Françoise & Merlin, 2010).

"The appropriation of space could claim a preference position in the theoretical reflection of a social geography connected to reasoning about the spatial dimension of activities, representations, and social relations, without ever compromising the integrity of inequalities and social hierarchies, and therefore power relations." (Ripoll & Veschambre, 2005, p. 7).

The notion of appropriation encompasses various meanings at once; the most basic is the fact of becoming an owner; “it includes the practical use of items with control; and it is defined in reference to the aspects of the environment that allow the individual to earn some value”. (Mansouri, 2018, p. 26).

Mr. Duplay explains appropriation as "a conscious or unconscious phenomena of real or perceived correspondence between a built environment and the requirements or aspirations of its inhabitants."(Duplay, 1982, p. 205).

According to N. HAUMONT, "in order to appropriate his space, the resident encloses it, even symbolically, in attempt to distinguish an area on which he might engrave his mark." (Haumont, 1968, p. 181).

“The spectrum of individual behavior in space that consist of generating it material spatial configurations and interpretations at the same time”. (Lefebvre H. , 1970, p. 248), "Expressions, Adventures, Body and Memories, Signs and Connotations" in another context (Lefebvre, 2000, p. 161), Appropriation or familiarization is what Lefebvre would name “concrete space”.

Appropriation or familiarization is what Lefebvre would name concrete space; Appropriation is an adaptation mechanism that argues that the connection with space is not satisfactorily resolved and that the individual who interacts on space assigns their cultural values to it. It aids in the understanding of user/architecture relationships as well as the identification of social and cultural behaviors.

Appropriation is a form of accordance and adjustment method for places and/or places founded on an internal model. This is what Semmoud wants to convey when she defined it as: "a series of practices that attribute, attach and projected meanings taken from the habitus, to any arrangement of spaces for a given use” (Semmoud, 2001, p. 126). It is precisely in this process of balance between habitus on the one hand and practical implementation of activities in daily life on the other.

According to Henri Raymond, appropriating a space is defined as “the sequence of behaviors that give a limited space the features of a personal or collective space...”(Raymond, 1977, p. 105). In 1978, Professor Moles. A, one of the forefathers of information and communication sciences studies, and the philosopher Rohmer.E defined appropriation of space as “the inking that the producing or delivering in a universe” (Moles & Rohmer, 1978, p. 65), the wanderer by definition, the Touareg or the Bohemian do not appropriate space, they consider making use of it.

Appropriation is, above all, a psychological desire for:

- Security and stability (a protective atmosphere) demanded by the person.
- It is driven by a desire for control and power (mastery of the activity and its responsibilities).
- Finally, there is a desire for identification and personal convictions (identity and status).

1.6.1. Appropriation requirements

A specific area's appropriation requires numerous criteria:

The appropriation of a certain place necessitates various criteria:

- the stronger the identification of the place, the easier the appropriation is
- A space is more acceptable when it can be identified from the outside world.
- A space is appropriated when one inhabits there for an extended period of time. Absence, on the other hand, progressively leads to a loss of appropriation.
- We better appropriate a space if we fundamentally alter its structure, features, or contents.

The appropriation of space occurs when it presents itself to us as possessing properties that meet our requirements, our goals, and does not need appropriative behaviors. “Some spaces do not demand the human who occupies them to personalize them since they already have characteristics that please the occupier”. (Rouag, 1996, p. 106).

1.6.2. Appropriation's levels

The appropriation, according to Fischer. G.N, differs depending on the individual user, the nature of the space, and the resources available. Because of his behavior, culture, socioeconomic level, features, and psychological aspects, the user is also an actor in the appropriation of space. It must be handled in conformity with the 'Express' levels. It can initially be collective, as in common spaces, squares, or streets; it can next be shared in a neighborhood unit where everyone does the same activity; and ultimately, it might be private, as in a personal space, or understood. “These three levels are interrelated, with one able to substitute for the dissatisfaction or lack of appropriation experienced at another”. (Fischer, 1983).

According to Fischer, G.N, (1983), there are variety of methods to convey appropriation:

- The looking seems to be the minimum form of appropriation of the outside world.
- The arrangement of the area all around individual who emerges as the center is quickly comprehended.
- The tangible or psychological demarcation that allows for the differentiation of sub-spaces within an area and the qualification of a place as a whole or in its many characteristics.

1.6.3. The hierarchy of spaces

Space is a place where power is validated and allowed to exercise, and no doubt in the most intimate way, that of symbolic violence as unperceived violence: architectural spaces, whose mute injunctions are addressed directly to the body, obtaining from him, just as surely as courtly society civility, the reverence, "The respect that arises from distancing or, better, from being-far, at a respectful distance, are without a doubt the most important components. significant because of their invisibility [...], of power symbols and the very real impacts of symbolic power" (Bourdieu, 1993).

The two fundamental characteristics of the organization of the living space are:

The private domain : the inside of the building, which is only accessible to building members and their guests.

The public domain : The exterior comprises roads, parkland, and open spaces that are accessible to the public.

Between these two essential properties (public sphere/private sphere), there is an entire transition zone that serves as a spatial intermediary between housing and neighborhood, between individual and society, and to speak of decomposition between two fundamentally hostile environments, which are:

-Semi-private spaces terrace, loggia, courtyard, or patio that serve as an extension of the private realm to the outside.

-Semi-publics spaces from the entrance area, the courtyard, or the building's entry, that is, the points of contact and informal connection between neighbors, children's play areas, and so on.

-Communitarian spaces accessible to a restricted group of people or neighbors only, which can be the stairwell, a courtyard or a common garden, a car park, playgrounds, etc.

-In-between spaces Common parts "serving" the dwellings; circulations leading to all or part of these dwellings (circulations common to several dwellings, horizontal or vertical) such as corridors, cul-de-sacs, lifts and stairs etc.,

1.7. In-between spaces

In housing, all sorts of spaces can be found between the dwelling and the street: a hall, a courtyard, a veranda, a yard, corridors, these places have a separate character, they are legally private but belong to a common use. It is this particular combination of a legal status and a category of use of a different nature that makes them ambiguous spaces and opens the door to

a diversity of interpretations. “There are many ways of designating them: "common parts", "transitional space", "semi-private spaces", "semi-public spaces", "collective spaces", each of these expressions reflects different positions as to the spatial and social functions that these spaces should assume at the interface of the private sphere and the public domain” (Dictionnaire Larousse, 1980, p. 445).

The main feature of these spaces is that “they are places of passing between the public and private spheres, between the outside and the inside” (Haumont & Morel, 2005, p. 3), spaces of transition, intermediary, neither public nor private, they are where activities specific to community life take place, and they are places of sociability.

1.7.1. Terminology

Questions of vocabulary, naming and terminology alone highlight the vague, uncertain and complex nature of these spaces, both from the point of view of practices and the analyzes made of them. The use of the concept of "in-between space" is relatively recent and is still limited to a restricted group of city specialists. As far as Pierre Merlin and Françoise Choay's Dictionary of urbanism and management is concerned, in its three successive editions of 1988, 1996 and 2000, “it does not contain any entries for 'in-between space” (Flamand, 2005, p. 2).

Thus, in-between spaces are evoked in the article "public space" in the following terms: "Between public space and private space proper, architecture and urban planning often distinguish "In-between" spaces, especially in terms of housing. Thus, for example, a space reserved for the use of a private individual, without belonging to him or her, is described “as a "private" space; a space reserved for neighborhood use is described as a "collective" or "semi-public" space... But these two types of space do not generally correspond to precise legal concepts”. (Françoise & Merlin, 2010).

The definition proposed in the Dictionary of Housing and Living focuses on a more anthropological and sociological reading of these places, "an 'in-between' area that gives meaning and qualities to the housing space".

The author of the book *Urban space, vocabulary and morphology*, preferred to give it an architectural definition, it is "the space arranged in such a way as to meet the requirements of the public-private relationship. It generally consists of private spaces which can be seen from the public space (balconies, roof terraces, etc.) or interior distribution spaces such as the

common parts of buildings, located between the private space of the flat and the public space". (Gauthier, 2003, p. 449).

1.7.2. The various denominations

In-between spaces become, in the course of writings, articles, reports, research, programs and architects' projects, "the common parts, collective spaces, external spaces, collective external spaces, free spaces, collective free spaces, spaces outside the dwelling, the exteriors of the dwelling, the green spaces, the public spaces of proximity, the semi-private; the semi-public spaces, the transitional spaces, the articulations, the annexes of the dwelling, the city-dwelling interface, the surroundings of the dwelling, or the extensions of the dwelling (one will recognize here the Corbusian vocabulary)" (Flamand, 2005, p. 2).

The ambiguity of these expressions can be seen, insofar as their meaning is a function of the historical, theoretical and ideological context in which they are used. In fact, these spaces have not been the subject of specific approaches; they often appear only in a secondary manner in relation to a more general problem.

The appearance of the question of these spaces at the articulation between street and housing was in the 19th century, and more particularly in the second half, with many authors emphasizing the architectural and urbanistic codification of practices, "which led to a rigorous distinction between the public and private spheres" (Flamand, 2005, p. 3).

Flamand also pointed out that this specification of spaces, this autonomation of the public/private spheres, contributes to the progressive transformation of the outside/inside relationship. These principles are found at their most extreme in modern architecture through the concept of zoning and in the process of 'liberation' from the restrictions of alignment, the relationship to the street, the old parceling of land, and hierarchy, leading to the negation of the relationship between the building and its environment, its context. It is because the relationship between public and private space has a tendency to turn into indifference, or even confrontation, that the question of their articulation arises.

The idea of the need to "inhabit the people" (Flamand, 1989), Led to a rethinking of the architectural and urban forms to be given to the working stratum. However, although individual housing was favorably received by the reformists, given its alleged capacity to encourage a desire for property, for home and for the enjoyment of the family, it was nevertheless collective housing that was developed the most. The result of economic and pragmatic decisions, the adoption of the apartment building rather than the house did not cause reformers and architects

to abandon moral and hygienic principles, i.e., limiting the number of dwellings served by staircases and landings, ventilation and sunlight in these "extensions of the street" (Cheysson, 1905), in order to avoid interpersonal contact and the risks of epidemics.

It was in the perspective of the emergency of urban sociology and the criticism of large housing estates that new and renewed attention was devoted to In-between spaces, "these in-between spaces of individual housing, contrary to those proposed in the large housing complex, are one of the places where the process of appropriation takes place and expresses itself, necessary for the constitution of the inhabitant rather than the housing" (Flamand, 2005, p. 4).

The practices of the inhabitants, the representation they make of them, and their emblematic dimensions are more important than architectural shapes, aesthetics and educational injunctions. It is thus a matter of observing the relationships established between an individual and his or her space: the collective's in-between spaces, and particularly those of the large-scale housing complex, only appear to be spaces defined by default, a default of appropriation and individualization. In this context, "transitional spaces" attract the attention of researchers, followed by architects; these extension spaces of the dwelling, under the sole authority of the inhabitant, allow him to both organize the public/private dialectic and to carry out this necessary process of appropriation, which is little constrained by a restrictive collective.

The 'spaces of displacement', places of dirt, do-it-yourself and disorder, are mainly analyzed as spaces defined by default in collective housing; too few in number, too small, poorly designed, the spaces of displacement require from the inhabitants a capacity to adjust and divert from the given space.

But the in-between spaces do not only permit the elaboration of the relationship of the inhabitant to his or her living space, they also appear to be the framework and the support of a particular sociability: the neighborhood relations. These in-betweens are thus part of a chain of scales, a continuum of sociability supports between the city, the neighborhood and the dwelling; they do not seem to function as a scale in itself, clearly defined, insofar as the interest is more in the forms of sociability than in the articulation of spatial forms and social links. "It is thus in these collective spaces that affinity neighborhood relations take place, between socially homogeneous individuals" (Flamand, 2005, p. 5), Conflicts, which are often generated by the confrontation of socially distanced populations in spaces in which it is precisely a question of finding a consensus, are nonetheless considered as a form of sociability. Thus, in-between spaces are regarded as a site for the expression and confrontation of habits, classes, or groups, with the challenge of determining the appropriate distance between familiarity and distance, between negotiation and conflict.

According to sociologists, in-between spaces are far from being "empty" spaces, they actually embody the scene of social life, they are also social and cultural in-betweens, since they welcome and facilitate, between convenience and restraint, the possibilities and conditions of being oneself, and with others. These spaces are spaces for meeting and exchanging, for communicating and sharing collectively, they must be able to establish areas of recollection and intimacy, thus imposing reciprocal relations between the inhabitants, they give the individual confidence: it is a familiar space where one feels safe.

These spaces are socialized; the socialization of these spaces varies depending on whether certain inhabitants are willing to assign them a more or less private or public status. "The limits of these spaces vary according to the forms of appropriation and the functions attributed to them, and it is in this way that the inhabitants affirm their identities and have their own practices accepted, through these various types of use" (Bouarroudj, 2011, p. 62).

And finally, they promote the improvement of social skills, to make them efficient. According to Pierre Von Meiss, "Structuring our environment also means structuring the communication process that constitutes the basis of social interaction. But to physically organize our environment is also to give a certain direction to our individual Behavior and even to the being that we are". (Cousin, 1980, p. 20).

1.7.3. The appropriation of the In-Between spaces

Sometimes the collective character of the appropriation of these spaces leads to a marking that is completely opposite to the one sought on an individual basis: this is the case when the inhabitant considers the stairs and the entrance hall as part of his space, as an element of his habitat, whereas this space is in fact soiled in spite of himself by a sign (dirtiness: which is considered as a typical neighborhood insult.) that he rejects

1.7.4. In-Between space in the Arab-Muslim housing

The Arab-Muslim house is also one of the best illustrations that expresses 'sakina'. The word 'sakina' comes from the word 'sakan', which is the Arabic name for a house and refers to dwelling in peace and purity. Islamic-Arab houses include various forms, which were developed in response to religious realities, cultural and traditional factors, as well as the specificity of the local built environment.

This was the situation until recently, when the distribution of housing was horizontal, but now that in most Arab cities it is tending more and more to become vertical, the disadvantages of neighborhoods are increasing compared to their advantages. The notion of *giwar* is deteriorating and the neighborhood is experienced more and more as overcrowding and less and less as solidarity, which is why the introduction of spaces that would enable the resumption of this notion of neighborhood ties, which are so precious and important, seems to us to be essential for the different members of the social group.

In Arab-Muslim culture, the differentiation between *baïte* (the dwelling) and *maskane* (Housing) is quite significant. The dwelling relates to the physical aspect (the container) whereas the habitat is linked to the people who live there (the content). Here, “a distinction must be made between the physical and human aspects; secondly, a distinction must be made between the products, the use that will be made of them and the meaning to be given to them” (Al- Naim, 1997, p. 39) In fact, these interpretations are derived from the Holy Qur'an which alludes to this distinction in several verses: in verse (24/29) it can be noted that: "There is no complaint against you entering uninhabited dwellings "(Le Saint Coran, p. 353). In this verse, the term 'dwellings' is the translation of the Arabic word 'bouïote' (plural of *baïte*) whereas the term 'uninhabited' is the translation of the fact of dwelling, the active involvement of the '*maskane*'.

The distinction between the two notions is clear; the dwelling can correspond to any physical space, whether inside or outside, whereas the habitat exists only through the presence of people. Also, the verse (16/80) states that: "And God (Allah) has made your houses (*bouïtekom*) a dwelling (*sakan*: a place of rest)," (Le Saint Coran, p. 276). Here we see that the significance of the housing is only realized through the activities that take place there, or rather through a process of activities. In other words, the housing requires a highly personal relationship with the home.

1.8. Housing Policy In Algeria

A country's housing policy is never constant and is subject to change and evolution. “it depends on the financial situation of the country, its overall policy, its legislation, which can also change, and the international connection” (Mouaziz -Bouchentouf, 2018, P. 6).

An intervention by André Sauvage. "Three essential parameters are intertwined to make Man an inhabitant: time he emerges from history and stories, from memory and project, place he manages space that cannot be reduced to the sole scale of the house or territory and environment

he diverges in this confrontation depending on whether he is North or South European, Asian, Arab... Anthropology and sociology laboratory" (Sauvage, 2007).

At independence, Algeria inherited an appreciable amount of urban housing, part of which was released by Europeans following their exodus. Different housing because the European population living in Algeria is not homogeneous (income, family size, etc.), but also because the city is segregated into European and Muslim neighborhoods. It would be wrong to say that Algerians discovered European housing in 1962 and that until then they had only known the traditional house, the slum or the horizontal habitat. The experimentation of European housing by substitution started in 1954 and accelerated between 1960 and 1966.

“Muslim families progressively settled in the homes of Europeans who left them for newer and more comfortable ones. 1962 was also the year in which the city was taken, and it is difficult to know how many families moved directly from the countryside, the shanty town, the regrouping camp, the douar or even the village to the beautiful districts of the cities and their liberated housing”. (Bouchentouf, 2017, p. 89).

The model of the mass-produced apartment building is also the one that best responds to the political, ideological and symbolic choices of the very young state. The gourbi (peasant's house), the traditional house of the medinas (Algiers, Constantine, Mostaganem, or Tlemcen) and the Berber house (Kabyle, Chaouia or Mozabite) or the ksours of the south are rejected because they are the symbol of an archaism that the ruling power wants to erase.

the objective is to make the Algerian a modern man who must live in a modern house. In the era of the triumph of functionalism and the precepts of the Athens Charter, it is the model of flats open onto the public space and superimposed in bars essentially.

2. IN-BETWEEN SPACE

We explore every day at the level of the collective space different spaces inside, losing belonging, social identity, cleanliness and especially quality; highlighting the primary interest for our psychic state, our interaction, our community life, these spaces dominating a major portion of our life without us being aware of it.

2.1. Definition Attempt

2.1.1. Etymological Definition

The concept “Space” Derived from the Latin spatium, which generally means "an indefinite extent which contains and surrounds all objects".» (Larousse), It is a multidisciplinary concept, with many different meanings from one discipline to another. It is defined as "a more or less delimited place or benchmark where something can be situated, where an event can take place and where an activity can take place", according to the Robert dictionary. It cannot be reduced to its geographical or physical dimension.

From the 1960s and 1970s , the concept of space appeared more and more in the humanities and social sciences and began to be of more interest through epistemological thinking.

Henri Lefebvre complicates the dialectical relationship between practices (perceived space) and representations of space (conceived space) by introducing a third plane of social space, that of the 'space of representations'. This is the space "experienced through the imagery and symbols that accompany it". (Lefebvre, 1974, p. 49); A space that is regulated, though it also offers opportunities for reappropriation by the imagination.; Segaud states that "space is not an empty, abstract and universal content." (Segaud, 2007) It therefore supports a set of activities.

According to Amos Rapoport and Robert E. Kantor, space " implies the presence of animating qualities ":

1. Complexity: "people tend to prefer the delicate act of orientation/disorientation, of hiding/seeing" (Von Meiss, 1993), despite the fact that this act of disorientation is not recommended in a city or a complex of public buildings because it can become a very stressful experience for the user.
2. Movement: The notion of movement refers directly to the notion of dynamic space that Jean Cousin developed in the perspective of the theories of psychologists and anthropologists.
3. Lightness: basing on that “Every action taken by the designer (choice of materials, type of structure, openings, etc.) tends to create a feeling of extreme lightness of the space” (Zeghichi, 2014, p. 122).
4. Transparency: the continuity of the space provides a sensation of lightness and freedom owing to the amplitude created and the quantity of light that penetrates, it is done in three ways: in materiality / in framing / and in inter-penetration.

5. The articulation of space: this does not seem to have been of any importance in the contemporary era as a result of the concern for lightness and transparency.
6. Spaciousness: is a matter of dimensions in relation to the human body, which will be under the influence of various emotions, where ceiling height, width and depth are the main factors at play.

Types of Space

In order to properly manage the different attributes of the types of spaces treated in the habitat and the social significance given to these spaces, it is classified as follows:

- Indoor and outdoor

In the words of Bachelard (Cousin, 1986), "interior space is a controlled space, its limits are well defined by architectural elements". Man can control his comfort. "It is defined by the space unoccupied by interior spaces, it is difficult for man to control it.

According to Cousin (1986), man is divided between the two realities. "He desires both freedom by moving away from the mother (home as protector) and secondly, he wants to get better at security, at control". (Andréa, 2013, p. 11).

- Open and closed:

The creation of built-up boundaries has an impact on the activities that can take place there. Cousin (1986) differentiates between open and closed spaces. "Closed spaces encourage immobility, rest and introspection". These spaces are often private and intimate, such as a bedroom or a living room. Open spaces, on the other hand, can suggest movement, especially if the openings are arranged in a single axis. "The physical movement or gaze will then be directed towards the opening. This is true of entrance thresholds such as doorways, vestibules and stoops. A space that is too open, on the other hand, can block movement by suggesting no direction, as on a terrace or balcony" (Andréa, 2013, p. 12).

Moley (2006) suggests a very similar but slightly more precise definition. He distinguishes three types of space (Djaoui, 2016, p. 6):

- The private spaces, which are all extensions of the dwelling, terraces and gardens at the entrance to the building, clearly play on this inside/outside, private/public dialectic, with a presentation of what must be visible and what must be remained hidden.
- Collective spaces, which are the common parts of the housing , the various facilities; they are usually hardly perceptible because they are synonymous with dirtiness, the triviality of daily life, the management of fluids and waste, and the deposit of useless objects that one does not know what to do with.

• The spaces in the margin between housing and street have a lower degree of use by the guests of these inhabitants and by various representatives of the public space (deliverymen, postmen, technicians, gardeners and various maintenance agents, representatives of shops, health professionals, law enforcement agents, etc.).

Space significations

A space is "a more or less well-defined place in which one can situate oneself. We can distinguish the inside from the outside of a space, its inside from its outside". (Pattaroni, 2016).

A distinction is made between the different meanings of a space as a construction:

Spatial dimension: physical or architectural characteristics Space as a lived space.

Social dimension: organization of people's activities and relationships, activities and attitudes in this space.

Sensitive and affective dimension: sensations, feelings, memories. Space as a cultural and symbolic representation (signifier).

Cultural dimension: what it means or represents in our culture.

Albert Levy has outlined 5 categories of space:

- Urban space: this is the space where there is a relationship between building/urban fabric, architecture/city.
- the space of use: it aims at the relationship between space and social practice, it is interested in all types of correlations between the individual and the environment, between the inhabitants who organize themselves according to the typology of the space and the elements that constitute it. Time is an imperative dimension here.
- Aesthetic-symbolic space: the relationship between space and its geometric configuration and dimensions.
- bioclimatic space: characterized by its components forming an atmosphere.
- the technico-plastic space: this is the sensitive space where the artistic factors of the space are appreciated.

However, new concepts are being introduced, such as The social space (neighborhood, district, family) which derives from the space of use, defined by R. Ledrut in 1968, through his work "The social space of the city " and " the lived space " by Armand Frémont.

In this context we are addressing the neighborhood space (int-between) which is our object of reflection that we are called upon to manipulate and design, while giving it the human dimensions to make it habitable.

The word "In-Between"

This word refers to that which is in between (inter) two, with the idea of middle (med-) or centre. The foundation of the in-between space consists of a static environment that does not promote any movement. "In this place, there is a state of equilibrium between the forces between the axes of reference". (LepetitRobert, 2009).

In the in-Between space, where the functions of these spaces are to be implemented, each potential user expresses the utility of these spaces for :

"The motorist is the traffic lane and the car park. The child is the play area. The walker is the green space, the water, the rest, the oxygen. The technician from the town hall is the passage of the networks. The designer is the space that must be organized to enhance and complement the housing different requirements "can take place in these spaces: - movement - rest (all age groups) - discussion and meeting" (Bourdieu, 1985, p. 55).

There is no use of the concept of in-Between even in the Merlin 2000 dictionary of urban planning and development. Its use is restricted to the concept of collective space, a space that is neither public nor private.

For David, the in-Between nature involves the notion of habituation of space by man: "it is a space where one stops for a while to acclimatize to the new conditions that one is going to be confronted with in the universe that one is about to enter." (Henry, 2003, p. 199)

As a concretization of the federated social space ideas, two spatial proposals have emerged. The first was culturalist with the open block and the second progressive with the garden city. It was the latter that inspired Le Corbusier for his project Immeubles-Villas: two buildings surrounding a central green space, thus trying to unite the individual and the collective through outdoor spaces as an extension. The expression "extension of the dwelling", which Le Corbusier ended up with, "embraces spaces or facilities, individual or collective, internal or external to the building". (Moley, 2003, p. 64).

The functionalist movement has contributed to the reflection on the relations of in-between spaces. "Their emergence has to do [...] with the question of micro-social spaces in the residential unit, and not yet with the gradual articulation of public and private spaces, from the street to the dwelling". (Moley, 2006, p. 60).

"In-between spaces are to be understood as places (even symbolic) of interaction between different social fields, between different human activities, as spaces of exchange of practices" (Bright, 2011, p. 31).

According to the psychosociologist Élian Djaoui, the notion of in-between space covers several realities that do not completely coincide (Djaoui, 2016, p. 6):

- **the spaces located between the threshold of the dwelling and public spaces:** [...] On the inside, these are access spaces (courtyards, halls, entrances, air-locks); on the outside, they are extensions of the dwelling (balconies, verandas, loggias) [...] They involve movement paths (of people, goods, information) between these two territories;
- **the common, private, service areas** meet the needs of the inhabitants of a single residence or housing estate. These are therefore spaces that have a highly operational function ("garbage rooms", " bicycle or wheelchair rooms", spaces for storing household items, garden storage rooms, underground car parks, basements, etc.).

In this research we will be concentrating on the internal in-between spaces (from the door of the apartment building to the door of the dwelling).(see Figure 1.1)

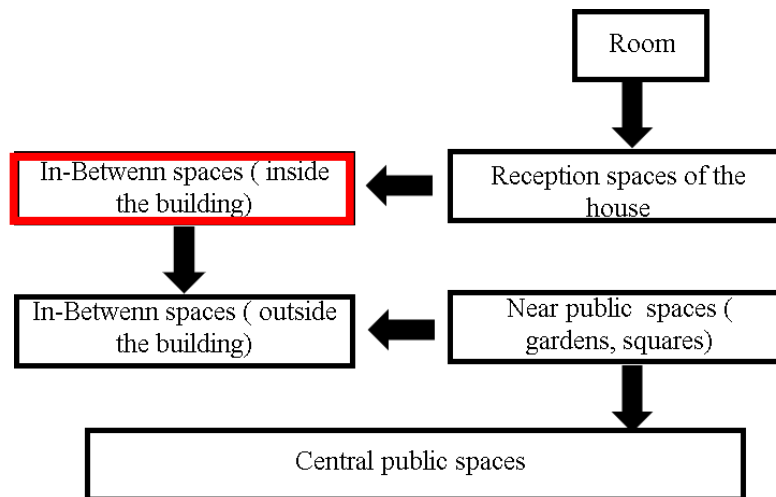


Figure 1. 1. From the most intimate to the most public places.

Source : Thomas Faillebin, les espaces intermédiaires comme projet d'urbanité 2007.

2.2. Concepts Relating To In-Between Spaces

2.2.1. Zoning / Mixing of functions

In 1943, Le Corbusier in the 'Athens Charter', of which the main guidelines were: 'Sun, vegetation and space are the three materials of urbanism [...] The keys to urbanism are the four functions: living, working, recreation, circulation [...] "The plans will establish the structure of each of the sectors attributed to the four key functions and they will determine their respective locations in the whole. The key functions will each have their own autonomy"' (Corbusier, 1957, p. 21). "The zoning, as well as the homogenization of housing estates, which according to L.

Mumford entails a uniformity that eradicates, through the buildings, the symbolic function that he maintains as one of the essential features of architecture". (Foura, 2003, p. 97).

2.2.2. The notion of "Need"

A. Maslow in 1943 formulated a theoretical framework that consists of five basic needs ranked in an order of priority (see Figure 1.2):

- 1- Physiological needs
- 2- Security needs
- 3- Love needs
- 4- Need for esteem
- 5- Need for self-fulfillment.



Figure 1. 2. Maslow’s hierarchy of needs

Source : <https://www.thoughtco.com/>.2020.

Rothblat [1971], in a study on housing satisfaction, has not considered biological needs but has selected the needs, illustrated in the following table, that can be affected by the surroundings (see Table 2.1):

Familial needs	need to belong	need to be valued	need for independence
a-easiness of supervision by parents of their children outside the dwelling	a-relative easiness to create friendships with neighbors	a-the degree of ownership of the house	a-easiness to have privacy for personal and family matters

b-the frequency of the family's leisure time in the dwelling and in the immediate environment	b-the degree of participation in formal and informal groups	b- a sense of family status	b- satisfaction with the layout and size of the house
c- the degree of the husband's involvement in work activities in or near the home	/	c-a sense of achievement in leisure activities	c- feeling versus the uniqueness of each flat in the building

Table 1. 1. Rothbalt Classification of needs

Source : ANTIPAS, *op. cit.*, p.99.

P-H Chombart de lauwé distinguishes two types of needs: object needs and state needs. The former corresponds to indispensable external elements, the absence of which would cause a socio-psychological and biological imbalance (e.g., social life or healthy air). “The state need is governed by images and symbols necessary for the psychological balance of the individual or group” (Lamraoui, 2001, p. 53).

The notion of need in sociology is differentiated (see Figure 1.3):

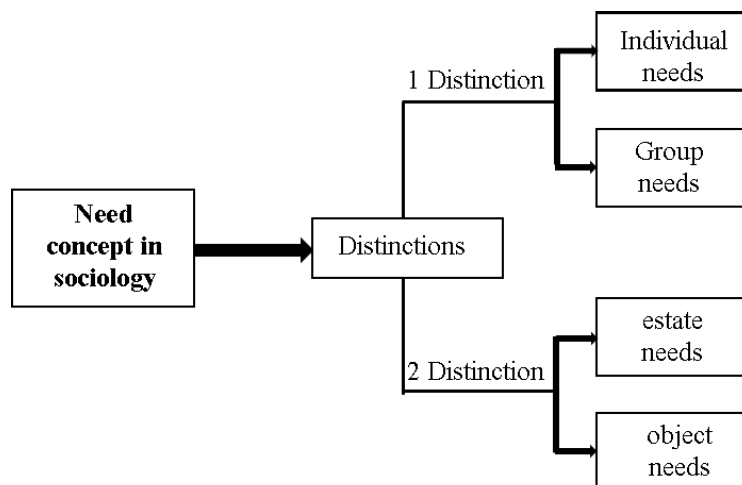


Figure 1. 3. The concept of “Needs” in sociology according to Chombart de lauwé

Source : CHABI, 2008, p. 101

2.2.3. Family / Community

The notion of community was defined in 1965 by G.E. Homans "as the feeling of belonging to a social or territorial group where there is a sense of identity and a high level of social interaction". He chose frequency of visiting, frequency of going out with friends and expectation of help as indicators of social interaction.

R. Unterman and R. Small in 1977, define a sense of community as "the feeling that each inhabitant has of wanting to belong to a whole in which he or she lives, takes pride and identifies with. And for this sense of community to be realized, the inhabitant needs to know and interact with his neighbors". (Oussadou, 1988, p. 45)

2.2.4. Homogeneity / Heterogeneity

According to the studies, between heterogeneous and homogeneous communities, and specifically in terms of the social component of housing blocks, H. Gans, advocates "...a certain degree of homogeneity in the block. This would encourage positive relationships between neighbors and allow those who want to find friends in the immediate neighborhood to do so without diminishing the ability of others to seek friends outside... On the other hand, heterogeneous blocks would produce cold and, perhaps, negative relationships between neighbors and eliminate the chances of making friends within the block." (Antipas, 1974, p. 162).

"Homogeneity can be the result of the repetition of elements, in terms of: size, orientation, location, contour, configuration, colour, material, texture and function which is the factor that facilitates distinction" (Wlodarczyk, 2005). The homogeneity and functional similarity of the living environment gives the impression of monotony.

Also "the similarity of values and aspirations of the population (social class, age, family status and age of children), can be the condition for the formation of social relations between neighbors and inhabitants, and constitutes an element of definition of social homogeneity" (Wlodarczyk, 2005).

For L. Festinger, homogeneity is defined by three characteristics: "Homogeneity of the group; homogeneity of interests and homogeneity of interests" (Oussadou, 1988); Homogeneity of the group in terms of social dimensions: class, economic status, age, occupation and family status; homogeneity of interests, having the same work and leisure activities; and homogeneity of aspirations, desired habitat and desired quality.

2.2.5. Neighborhood / Neighborhood Unit

According to Moley "the neighborhood is an In-between group between the family and the city, in those community organizations where people live as opposed to the special purpose organizations in which they work". (Moley, 2003, p. 49).

In the same book Wood defines it as: "the most satisfying and enlightened form of the social extension of the personality, the intertwining and complex network of interactions between people".

According to Mac Kenzie, the word neighborhood has two general connotations: "physical proximity to a given landmark object" (Moley, 2003, p. 49); that is to say the familiarity of relationships between people living in close proximity to each other.

A Rapoport finds that the neighborhood unit as a "cognitive construct is subjectively defined. It is apparent that the subjective cognitive definition is a socio-spatial pattern, a combination of social and other spatial factors." (Rapoport, 1980, p. 71).

However, S. Keller in 1968 in his doctoral thesis: "Espaces hors logement: critères d'évaluation sur la base d'un examen critique de la littérature spécialisée" (Antipas, 1974, p. 83) demonstrates that it is impossible to speak of a neighborhood unit because the human component (the inhabitants) is far from homogeneous. She concludes that the concept of neighborhood unit is no longer useful and replaces it with: in-between grouping or neighborhood of service and collective responsibility.

T. Lee, pointed out that in-between spaces can be used in two contradictory ways:

- as a unifying element, increasing the fluidity between neighborhoods;
- as a delimiting element, partitioning neighborhoods.

2.2.6. The notion of « Boundary »

The notion of the boundary refers to the dialectic between private and public that has evolved through civilisations. The street, for example, was part of the private space, was polyfunctional, an extension of the dwelling as a support for daily domestic activities.

As M. Ghomari points out, "the notion of limit is similar to its mode of crossing: hearing, smell which allow crossing without being material tools" (Ghomari, 2002).

Thus, the notion of boundary is not a strictly spatial notion, it includes socio-cultural achievements that participate in the construction of identity, perception and practice of the

boundary that intervenes in the systems of territorialization. Hence the variation in the definition of the limit. This boundary between public and private is always redefined, accompanied by the notion of prohibition or selective control over its crossing.

J.-C. Depaule [1985] notes that there are levels of boundaries that combine the material characteristics of the built environment and the Behavior of users. This boundary with its characteristics contributes to a feeling of intimacy or, on the contrary, a feeling of intrusion for the inhabitant.

Finally, the notion of limit "conveyed by the concern for the separation of the private and the public, appeals to values (social, cultural, symbolic) that define rules of conduct revealing the nature of the social bond". (Ghomari, 2002, p. 208)

M. Ghomari concludes that "The gradual progression from one space to another responds to the principle of moving from the unknown to the known", we are talking here about the degree of flexibility or rigidity of these spaces depends on the design, the social composition of the user groups, but also on the articulation with other spaces. (Ghomari, 2002, p. 211).

2.2.7. The concept of security

According to the psycho-sociologist Lebois.V, "the interest is generated by four factors: the reinforcement of access systems, the visibility of circulations, the limited access to open spaces (such as gardens or courtyards), and the lack of equipment that" allows people to settle down (such as benches) (Lebois, 2014, p. 3).

"The fewer common spaces, the fewer neglected corners, the fewer conflicts" (Lamarre, 1991, p. 24).

2.2.8. The notion of "Compliance

Conformity is an adaptation of the space of the dwelling to the Corbusian vision of the 'dwelling', that which Le Corbusier based on his own rationality [...] which orders the functions of the dwelling from the narrowly ergonomic technical reduction of living. " These functions have in fact nothing to do with inhabitant practices, structured by deep cultural models or habitus." (Pinson, 1993, p. 157).

The use that the inhabitants made of this "conformity" highlighted, either by the linguistic expression saying the absence of conventional devices, "or by the practices aiming at rearranging or restructuring the space according to the same perspective, their refusal of this conformity" (Pinson, 1993, p. 157).

2.2.9. Immutability / Change

The first offers a space at a given moment, the second with continuous change. A. Antipas after his study found this point: to favor the possibilities of adaptation of the free space so that it can contain diverse activities and correspond to changes in Behavior and social organization and thus allow its appropriation.

2.2.10. Participation

Two forms of participation are distinguished: Passive participation of inhabitants in social life within predetermined spatial structures. And active participation of the inhabitants in changing the spatial structures.

2.3. The Question Of The "In-Betweenness"

The spaces which ensure the transitions from one to the other, according to more or less marked and varied graduations or thresholds, are approached here from a particular perspective. That is to say, those that serve the domestic spaces of the dwelling from the entrance to the building.

This notion arises in most of our daily and social forms of existence, and especially in almost all their times and places. "Because it combines proximity and distance and because it designates how relations and separations between beings, and between them and things, are played out simultaneously". (Haumont & Morel, 2005, p. 15).

The French sociologist Bernard Haumont, in his work "The Society of Neighbors: Sharing a Collective Housing", states that "it is clear today that these in-between spaces, half public and half private at best, neither private nor public at worst, correspond to a mixture of uses and Behaviors that are quite variable and sometimes explosive". Already heterogeneous from the point of view of the status of the property that governs them or that which relates to those who are in charge or responsible for them without being owners, these spaces bring into play and stage symbolic differences and practices of appropriation. They often crystallise the tensions and contradictions of collective life.

They add whatever the size of this collective and its nature or composition. Haumont's work, strongly emphasises that "tenure status is a major determinant of the ways in which issues of cohabitation are resolved or not resolved".

On another occasion, he states that it is a question of observing that these in-between spaces, poorly defined places participate in multiple (in-between) conflicts. They are directly or

indirectly places where each person lives, experiences and confirms daily his or her representations of self and of others, as well as the norms and values that will govern the modes of relationship to be maintained or developed. We can easily notice that these places, which ultimately hold restricted places in time and space of each person, are nevertheless important, if not primordial places. It is up to us to decide how to appropriate this space in order to give it the appropriate use.

According to Meiss, "the exterior is synonymous with public, social, open and cold, while the interior is synonymous with private, intimate, hidden and warm. The in-between is therefore the inherent articulation of the type of space is then intrinsic to our image of the house and contemporary constructions should offer a continuity with this architectural culture" (Meiss, 2007).

In between Spaces would then possess characteristics of both realities (interior and exterior). A built space, on a human scale, with clearly established and controllable physical boundaries can be exterior. "It is then subject to the natural elements, but some control over comfort and privacy can still be achieved. Terraces, galleries and stoops are constructed examples of this type of space that embrace the qualities of both indoor and outdoor space". (Andréa, 2013, p. 11).

"The notion of in-betweenness is understood here as that which is neither completely private nor completely public" (Wiser, 2014, p. 15), it also and necessarily entails a set of meanings and representations as a cluster of notions and representations that refer to practices and spaces, or the processes of mediation or better still intermediation.

The relationship between private and public space guarantees the inhabitants a certain privacy and the possibility to interact with their environment. Spatially, this relationship manifests itself as a limit or, on the contrary, as a connection. It is therefore a question of qualifying the relationship between the inhabitant and the external environment, of proposing adequate architectural devices for each situation between each space, from the most private to the most public. Each time it is a question of different physical or non-physical thresholds of different orders of privacy that are crossed. Every day. The thresholds connect spaces of different pretensions and in most cases have a transitional role between public and private space.

2.3.1. Potentials of in-between places

2.3.1.1. Ownership

Domestic outdoor spaces are normally associated with relaxing activities such as eating, reading, watching, etc. However, these activities are mainly static and the climate does not encourage them to be carried out all year round. However, the use of outdoor domestic spaces needs to be clarified.

Indeed, this restricted use is not cultural; it is impossible to conclude that a given population would not use domestic outdoor spaces simply because it is not customary to do so. Rapoport raises an interesting principle in his view of spaces as inhibitors or enablers of human activity.

Thus, he explains that "environments [can] act as a catalyst, allowing Behaviors that were previously blocked by highly inhibiting environments to be expressed". It would therefore be logical to think that current intimate spaces inhibit their use because they do not adequately control the climate and the relationship with the public.

2.3.1.2. Adaptability

The evolution of domestic practices has accelerated in the last century (Rapoport, 2000), which underlines the importance of the adaptability of the house. Several authors such as Lawrence, Rapoport and van Eyck agree that verandas, galleries, green roofs and other in-between spaces contribute to making contemporary buildings more adaptable to future occupations. This relative adaptability comes from the fact that these spaces are not designed for specific activities. Being fairly informal, they lend themselves well to other ways of living, or rather to activities that surround the primary acts of living, i.e., protecting oneself, eating and sleeping. They are rooms that can be used for all sorts of things, which makes them very appropriate for the use that is made of them.

2.4. Inhabit The Indoor And The Outdoor

In fact, the horizontal and vertical spaces of daily use that do not seem to interest designers or building owners are the spaces that follow one another from the landing door to the building door: the landing, the corridor, the lift, the staircase, the hall, the storage room, the cellar, the garage, the inner courtyard, etc.

Given the incivilities of some people in these spaces (rubbish bins on landings, dirty walls....), the lighting, for example, is not designed in accordance with standards and is often defective insofar as the short-lived bulbs are not replaced, the floor coverings are dirty and sometimes slippery, the accesses (entrances and exits) are poorly signposted, the doors are difficult to close

and open, or are difficult to cross in the event of a disability or load, which indicates a lack of functionality and accessibility.

The in-between spaces are prioritized as follows:

- a. Circulation and movement.
- b. Communication and leisure spaces.

1. The threshold of the dwelling, which consists of the entrance door, the landing, the interior corridors and passageways, are the first In-between spaces that we encounter.
2. Leaving the landing, we find the stairwells and lifts.
3. Then what marks the border with the street are the entrance doors, the interface between private and public.

Bachelard pays particular attention to this. According to him, two terms come into opposition: the inside and the outside. "One cannot live in the same way the qualifiers attached to the inside and the outside" (Bachelard, 1957, p. 194), Although the space connecting the other two retains the same characteristics for each direction, the effects experienced will be dissimilar from one individual to another.

Cousin (1980) is one of those who have worked on and analyzed spatial relations in depth. Drawing on several authors, as well as his own, he presents spatial sequences, explains the possible variations in their composition and analyzes the effect felt when people pass through these types of spaces. Transitional and In-between spaces encourage the development of social qualities. To make them effective, it is appropriate to diversify and control them in the environment. "Structuring our environment also means structuring the communication process that forms the basis of social interaction. But to physically organize our environment is also to give a certain orientation to our individual Behavior and even to the being that we are." (Cousin, 1980, p. 20).

He adds The way in which the succession and location of transitional and In-between spaces is carried out in the architectural journey has a particular importance on the Behavior of the user. "Spaces are certainly, in turn, positive and negative, static and dynamic, depending on the volumetric changes or movements of our body, transforming our awareness. This is what makes architecture alive."

"Spatial interpenetration achieves continuity from one space to another when an important defining element, a wall, a ceiling, a floor, visibly belongs to two or more spaces". (Von Meiss P. , 2007, p. 122).

Of course, everyone seeks to live in a place, but as Besse notes, "we also live on the thresholds, the streets, the cities, the landscapes. We also live outside and in an unceasing series of passages, from the inside to the outside, and from the outside to the inside". (Besse, 2013, p. 9).

Indeed, what makes architecture an animated structure "is the apprehension of man's spatial journey through the location and understanding of the relationships maintained between transitional and In-between spaces". (Pigeon, 2013, p. 13). Moving from a positive environment to a similar one gives the individual confidence: it is a familiar space where one feels safe. The transition can be abrupt or gradual, but the encompassing nature of the spaces, one after the other, keeps the user in control. On the other hand, "when moving from one negative space to another, there is a kind of ambiguity since these places, infinite and continuous, are difficult to appropriate" (Pigeon, 2013, p. 14).

Between the negative and the positive character of public space, there must be a margin to smooth the transition. It is the need for privacy that requires solutions to avoid any threatening gaze. "Among the solutions that exist, we can in some cases favor the layout where the buildings offer the flats a private space thanks to the base composed of a certain number of steps" (Zeghichi, 2014, p. 145). The interior floor is never at the same level as the road, so that passers-by cannot look through the windows.

2.5. The Legislative Status Of The In-between Space

In Haumont's book "Society of Neighbors" he mentions one of the major causes of the current state of undefined interspace, which is the ambiguity of the status of ownership of social space. It is quite normal that the investment of the inhabitant outside the dwelling is only favored in the case of the isolated house, around which the "garden" plays an essential role: it is, however, a space with private status. Thus, in this dominant conception, a very strong duality emerges between the private interior of the dwelling, the 'home', which is valued, and its 'common' exterior, which is considered hostile, unhealthy and dangerous, unless its public nature is reinforced (see Figure 1.4).

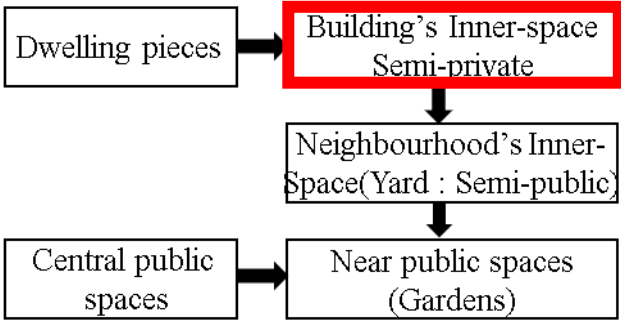


Figure 1. 4. The in-between space positioning
 Source : author,2023.

This conception was part of a series of themes promoted in congresses by the main French protagonists (Emile Cheysson, Jules Siegfried, Georges Picot, etc.), and developed by Frédéric Le Play in his major work of 1864, “La réforme sociale”. These include hostility towards the city as a harmful concentration, the establishment of the family home to stabilize and territorialize the family and housing, and the idea that people should own their own homes.

The ideal housing model is the isolated house in private ownership, particularly because it offers a clear delimitation between the private domain (the house and its garden) and the public domain (the street). On the other hand, the societal model, phalanstery or familistère (an establishment where several families or individuals live together in a kind of community and find in cooperative stores what they need), where the family is inserted into a community system, is generally rejected.

As for the multi-dwelling building, the "block", it is considered "whatever one does, [as] a kind of nuisance, a necessary evil (Queker, 1897); it is accepted only because of the urban constraints, but it should preferably be small and its service areas should be comparable to an extension of the public road. The will to separate the dwellings from the distribution of the building is first of all concretized inside the dwelling by the use of "vestibules" or "entrances" which serve to isolate the dwellings from each other and from the outside space. In addition to the spatial devices, there are regulatory devices: any overflow outside the dwelling, however small, is forbidden. Prohibitions and regulations specify that "nothing should be left in the courtyards, stairways, corridors, landings, vestibules, cellar passages or any other places in the house not included in the rented premises", "no laundry should be left at the windows", "no cleaning should be done in the stairways or corridors", "nothing should be thrown out of the windows", "nothing should be done that might disturb the other tenants". (Weber, 1897).

The appropriation of balconies and windows is also forbidden, even if, for some authors, "small planted galleries" can transfer the moralizing virtues attributed to the window of the isolated house to the multi-dwelling building. Small planted galleries" (Schmidth, 1897) it can transfer the moralizing virtues attributed to the garden of the isolated house to the window of the multi-unit building.

From independence onwards, the public authorities began to legislate systematically on the spaces shared by different inhabitants in collective buildings - the In-between spaces - which were then subject to official and institutional regulation. Housing remains under the sole control of its inhabitants, but the spaces between the street and housing are now subject to specific legislation. First of all, it is a question of defining their physical boundaries, but also the values and principles necessary for their proper functioning. A certain number of texts are implemented in order to delimit what belongs to the public domain as opposed to the private domain.

2.6. The In-Between Space Through History

The genesis of the notion in the long-term initially corresponds to the gradual transition from traditional society (with its forms of village or family communities in addition to the practices of public space) to modern industrial society (rise of family life folded back on the couple and of individualism).

The historical evolution of the notion is based on three aspects: the decline of traditional communities, the development of the human sciences questioning the new micro-social forms they could take in an urban environment, and the gradual disappearance of spaces of urbanity with the rise of mass production asserted by the rationalist ideology of the Modern Movement.

The problem of in-between spaces in which neighborhood relations occur has been constant for a long time now, from the Haussmannian island to the type of collective housing that is being produced in the Algerian space.

In the ancient city, the threshold of the building or the door of the house marks a boundary between private and public space. "In social housing, this boundary is stretched to the extreme and includes in-between spaces. A sign of the split with the traditional organization of buildings by islands" (Haumont & Morel, 2005, p. 4).

2.6.1. First emergence of the concept

“Les congrès internationaux des habitations à bon marché “(CIHBM) and the International Congress of Modern Architecture (CIAM) have documented the history of the concept of in-between space since its inception in the nineteenth century, following the questioning of housing, hygiene, and morality.

2.6.1.1. CIHBM

E. Cheysson, one of the first to explicitly formulate the idea of "extension" and "threshold" in a text presented to the International Congress of Low-Cost Housing: “that the building be served by several staircases, so as to eliminate those long, unhealthy, and obscure corridors, which establish a dangerous promiscuity between the inhabitants of the same floor; that each level give access to only two or three flats; that the staircases, widely lighted and swept away by the winds that blow away the odors” (Moley, 2003, p. 21) should seem to be an extension of the public highway, and should leave each tenant with the illusion of an individual place to live.

C. Moley explained that the origins of the problem of in-between spaces were found in three dialectical issues in the design of urban collective housing: defining a relationship between the city and housing, compensating for the disappearance of the house and defining a residential unit.

George Picot, its central actor, summarizes the dominant thinking of these congresses as an absolute necessity to eliminate the banal corridor and the corridor where tenants can meet. He argues that landings and stairways are the places where disorder dominates, and that they should be considered as an "extension of the public way". That is, the home begins at the door to the landing. He explains that "the tenant, who values the integrity of his home, feels that he is only at home when he has passed through the door onto the landing".(Claudio & Thibault, p. 23).

They see them as breeding grounds for epidemics: "However bad a cul-de-sac may be, the open-air corridor, lined with low houses, is at least airy; it is not as foul as the narrow, steep, dark staircase leading to small landings which the tenants use as a courtyard to deposit household waste" (Haumont & Morel, 2005, p. 24).

To conciliate the need for hygienic logic and appearance The 19th century was characterized by the search for the right form to adapt the public/private dialectic to the requirements of the hygienic movement.

2.6.1.2. CIAM

The concept that was present in the Charter of Athens, "Extension of the dwelling", has the function of revaluing community life: It is not enough to clean up the dwelling, but it is also necessary to create and develop its external extensions.

2.6.2. The in-between space In the Arab-Muslim housing

Islamic architecture evolved from various architectural styles, particularly Roman ones. The Roman housing is the first vector of Romanization. Very typical, it is the symbol of a way of life that was quickly adopted and sometimes even reproduced or altered by the inhabitants of the territories in which the Romans developed it.

The Arab-Muslim house is also one of the best examples that expresses the "sakina". The word 'sakina' comes from the word 'sakan', which is the Arabic name for a house and refers to dwelling in peace and purity. The Islamic-Arab houses include various forms, which were developed in accordance with religious realities, cultural and traditional features, as well as specificity of the local built environment.

“The Islamic city is composed of all the residential areas within the walls, almost always organized in compact districts with few free areas between them, called (hara, howma...) and the main characteristic of the city was the very strong differentiation that existed between the central areas served by the primary road” (Chaline, 1996) where the economic activity was concentrated, and the areas dedicated to residence, composed of all the residential quarters served by a network of secondary roads (darb) and dead ends (zuqaq). .

Islamic cities were populated by more or less homogeneous social groups based on a combination of several factors (religious, ethnic, socioeconomic), and the neighborhood served as a social unit in general. Each neighborhood with collective services was a fundamental social cell of the city, a place of solidarity and mutual defense, the place is under control even when a person does not pass through the door of the neighborhood, he is noticed.

Community life was maintained by the presence of privileged places of meeting and exchange (mosque, zaouïa, the Koranic school, bath, fountain, a bread oven...) Usually reserved for the houses alone, and in a larger nucleus cumulating or not with other districts. Isolated inside the city by a complex network of streets, totally introverted with a rigorous closure on the outside and an opening on the inside by means of the patio, and for Raymond the courtyard house

realizes in such a perfect way the social and even religious inspirations of Islam that one could qualify it as Muslim.

This type of architecture affords an optimal social organization and living environment by:

-fostering the privacy of the Muslim family.

-reflecting the psychological and cultural requirement to protect the family nucleus from external interference.

2.7. The Evolution Of In-Between Spaces In Algerian Housing

2.7.1. Traditional housing

With the spread of Islam, Algerian society has been gradually transformed into an urban society; the traditional city was originally founded on the basis of tribal and nomadic values.

If we have to compare the two European and Arab-Muslim cities, we discover that while the European stresses a system of streets and squares, the latter is mainly a structured, hierarchical networked entity conceived on the basis of alleys and dead ends, in which C.Noberg.Shulz sees the establishment of apparently irregular urban spaces but in fact organized in accordance with the schemes of Islamic civilization.

2.7.2. Colonial housing

The Algerian families have been socially destroyed by the unbalanced colonial development, because of the numerous displacements towards the peripheries of the cities by creating the slums, which obliged the colonial authority to find a fast solution to shelter this great number of individuals, by erecting them the building type housing, which refers to the Haussmannian city (see Figure 1.5 and 1.6). The latter are characterized by:

- The proportionality of the facades.
- The regularity of the urban grid.
- The superposition / juxtaposition in the blocks.
- Extraversion was de rigueur.



Figure 1. 5. The Haussmannian building in Paris

Source : <http://www.bienstrouves.com>



Figure 1. 6. The Haussmannian building in Algiers

Source : Algérie Europe coopération 2014

The in-between spaces proposed in these new neighborhoods were not convenient for the autochthonous population because they were designed for the French population with the same way of life and conditions of occupation of the spaces.

From the 1950s onwards, the French authorities implemented a process of adaptation of the family to a new type of housing (Constantine plan), where the inhabitant was confined to spaces of circulation where people crossed each other by chance without much possibility of stopping.

In 1956, a new urban perspective respecting the environment and the Algerian way of life was launched: Diar Almahcoul, Assada, Climat De France... etc., with an introduction of accessible terrace lanes, grouping of certain housing around a patio.

2.7.3. Postcolonial Housing

The new ZHUN instrument has been developed in order to respond to the qualitative requirements of housing. The result is a high monotony in the form of a succession of four- or five-levels apartments, following the quick prefabrication techniques.

The community spaces (in-between) are not subject to any development, and the only spaces developed among the free spaces are the roads and the car parks. They were conceived and introduced as only technical spaces, and certainly not as being able to be extended to other types of spaces in order to become a special basis for social and community life, and therefore were reduced to a minimum. In fact, in the executive decree n° 91-175 of 28 May 1999 defining the general rules for urban planning and construction, the only references made to spaces complementing housing are purely technical, for example

Art 39...the stairways, halls and corridors of all apartment buildings must be permanently ventilated. Their width must not be less than one meter ten (1.10m).

It is now clear why this "conception" of housing projects in Algeria was obsolete - the importance given to complementary spaces to housing can ensure harmonious social relations and a balanced development of life in residential areas.

2.7.4. Actual situation

It is characterized by :

- Unsanitary conditions
- Trash and discharges in the proximity of the buildings.
- Total disengagement of the inhabitants.

This means the degraded state that characterizes our neighborhoods which have not yet reached three decades.

2.8. The Typology Of In-Between Spaces

The internal in-between spaces are spaces serving the dwellings, such as the circulations leading to all or part of these dwellings (circulations common to several dwellings, horizontal or vertical) such as corridors, dead ends, lifts and staircases ...etc., we distinguish :

- Corridors: these are more or less narrow passages, but longer. In a house, they give access on foot to a part of the house, and allow direct connections between dwellings.

- The dead end: it is a semi-private space, it is narrower than the street, plays only a role of local service (that the access to the residents), thus it is a place of meeting, communication and exchange, between the inhabitants.
- Vertical circulation: this is provided by lifts and stairs. These are semi-private common spaces, which allow contact and meetings between the different inhabitants.
- Architectural arrangements: the interior and exterior fittings and equipment of residential premises, whether privately or publicly owned, must be accessible to all.
- Access to buildings: the main access level to the building for occupants and visitors must be: accessible in continuity with the accessible external pathway, and easily identifiable, using different or visually contrasting architectural elements or materials.

2.9. Space For Social Life

Firstly, these "common areas" are designed and imposed "with a view to the (re)creation of a dense and rich collective life based on the sharing of common facilities in neighborhoods and housing estates marked by the dilapidation of the architectural framework and by phenomena of "social secession", boredom, absence of social life" (Brighet, 2011, p. 156).

As was well described here "Spatial planning also involves a process of cultural creation, in the sense that ideas, values, norms and beliefs are expressed at the spatial and symbolic level to create new forms and meanings" (Low, 1988).

In fact, it is the place in which a system of social interactions takes place, but social space is not a hollow form; it is not neutral; on the contrary, it is capable of bringing about, of generating social reactions of a kind that cannot be found elsewhere. The role of space in the structuring of a social system and a cultural system does not mean that space plays an autonomous role. "Every concrete social formation is the result of a combination of spatial, social, cultural and personal factors". (Adimi, 2012, p. 44).

Amélie Flamand has been able to observe that a social space "represents places of plurality, of difference, of freedom, places of the stranger. "In large housing estates, individuals are offered spaces that allow them to free themselves, to free themselves, in short, not to be systematically caught up in relationships of knowledge, civility, citizenship, openness, freedom". (Flamand, 2008).

Armand Fremont, a French geographer, distinguished between social space and living space: The first of which is (living space + the social relations they have there) while the living space (the set of places frequented on a daily basis). The living space is the space often used, frequented and appropriated by the inhabitant who interacts with the elements of this space.

In this step we add that the so-called "social" space requires 3 attributes (dimension, density, and heterogeneity) for it to become sociable.

- **The dimension**

“Louis Wirth defined the dimension, as that of human regrouping which causes spatial segregation and the weakening of family and neighborhood ties” (Cliche, 2002), There is a direct relationship between social distance and the size of the residential complex.

Cliche adds that "The large size also appears as a source of anomie, that is, as a disrupter of the norms of reference from the diversity and contradiction of the latter [...], the effects of the size cannot be autonomized from the cultural model and the social structure" despite the fact that it appears from afar that it is characterized by multiplicity and diversity.

- **The density**

We distinguish 2 types: physical density which is done by physical elements with proximity and remoteness as impacting factors on communication, and population density, where small spaces generate deep relationships and the reverse is also likely, where there is overcrowding leading to struggles between its inhabitants.

- **The heterogeneity**

It is the outcome of a multicultural population that generates superficial relationships between individuals who share the same neighborhood. Unlike a neighborhood which is characterized by a homogeneous population where the inhabitants will maintain certain characteristics (the same function) "At this point, the neighborhood appears as a means for the group to preserve its cultural identity and maintain its religious and family traditions". (Claval, 1973).

2.9.1. Social space

Numerous studies have revealed the sociological aspect of the social space and the characteristics that define it as a place of daily life that takes place outside. “Man in this type of space enters into a mutual exchange with his environment; individual/environment, in interrelation with its elements and with other individuals, where he will learn to live together; individual/individual”. (Bouchelaghem, 2011, p. 42).

According to Fisher et al "Social space is a medium for social relationships. These spaces constitute a medium of social ties and neighborhoods, which are distinguished in terms of density, intimacy and security". (Fischer, et al., 1977).

The occurrence of relationships is made through degrees of communication, the intensity of relationships qualifies the degree of habitability of the social space.

Norberg Schulz in his book "Art of Place" gave the essential traits that constitute the architectural form of space or figure (space + use).

Gaston Bachelard and Martin Heidegger have spoken extensively about the notion of inhabiting and the mysterious meaning of social life. These scholars have explained that space is perceived as long as it is interrelated with other unseen elements. Whereas, “space and its organization, its configuration condition the relationships of the inhabitants” (Bouchelaghem, 2011, p. 46).

2.9.2. The transition space as a generator of experiences

The terms "transitional" and "in-between" were elaborated by the French philosopher Henri Bergson. He claimed that spatial transition is not just a space that connects opposing environments. According to him, two types of transitions are to be considered (Pigeon, 2013, p. 1) He differentiates between them by using the terms In-between space and transitional space: "the first, [In-between], would correspond to a static approach to space itself, with its qualities making it In-between in terms of scale, status and character [...]. The second, [transitional], would refer to a dynamic notion, that of the passage from one space to the other, with a transition attenuating their opposition." (Moley C. , 2006, pp. 54-55).

The study of transitions takes a significant turn as a result of this theory, as does all of its meaning. A transition space is a zone of closeness in which one may sense the presence of sociability. In this chapter, Ahmed Rouadjia explored the Algerian term that really portrays the social activity that takes place in the housing estates: "The Algerian houma is no longer what it was." Those who gave her charm, warmth, and spirit are either dead or too elderly to bring her back to life. “The links of yesteryear of the "houma" will go altogether, relaxed as a result of damaging modernism and the recompositing of the community staying there." (Djelal, 1992) N. and A. Haumont and M.G. and H. Raymond, in their book “Les pavillonnaires”, based on a 1966 survey in the Paris suburbs. They revealed practices and representations of the house based on spatio-symbolic systems of opposition and gradation: outside/inside, front/back, shown/hidden, clean/dirty, public/private. This last opposition implies in particular for the inhabitant, as the work calls them, "spaces of transition": the limit between two opposed spaces is not reduced to the separative role of a simple border or wall, it calls for a gradual and controlled crossing device.

2.9.3. Space for collective use

In his famous book "The Society of Neighbors: Sharing a Collective Housing" Haumont Bernard asserts that "it is not without reason that architects have called in-between spaces with this term". He expresses that "the inhabitant, when he enters this in-between space, crosses a space which is no longer public space but where the civility proper to it still prevails" (Haumont & Morel, 2005, p. 4).

However, it is not so private, In this place of gradual transition that creates a constant relationship between the inside and the outside, and participate at the same time of the outside and the "home" that represent alternately the public and the private, The shown and the hidden. There are successive material and symbolic thresholds linked to codes (of politeness, self-presentation, etc.). These function here as limits that put opposing systems in tension.

The observation of common spaces shows that the latter is at all times a place where a set of Behaviors, uses and markings take place, which testify to a will to hierarchize the relationship into an intimately private sphere and another public one.

This situation is attributed to a total absence of management and regulation of the space as well as "to the conception of a normative habitat stemming from Western models which do not meet the aspirations of the inhabitants and which do not give any possibilities of adaptation" (Brighet, 2011, p. 150), conceived on a spatial framework out of step with a socio-cultural framework, the extension, the overflow becomes therefore more than necessary in order to guarantee needs related to the necessity to protect the intimacy and the security of the private space. The rhythms of use of these internal community spaces differ from a building to another.

2.10. The Use And Overriding Of The Use Of In-Between Space

The word usage is derived from the Latin "Usus" which means, according to the Larousse dictionary: "The action, the fact of using something (Usage), and the practice usually observed in a group, a society" (le dictionnaire la rousse, 1998).

This term has experienced a terminological evolution through the various architectural theories, from Vitruvius' "Utilitas" meaning the useful, to Alberti's term "Comoditas" during the Renaissance, referred to in his Book IV, which means "the convenience through which the adequacy between the architect's project and the needs of individuals is expressed". (Adimi, 2012, p. 43)

Thus, use is simply a meaningful gesture by a user with its own cultural, socio-economic and psychological characteristics. Thus, "the quality of use allows the evaluation of the quality of places in the satisfaction of material and social needs". (Queffelec, 2002).

The use is made out of nostalgia for the traditional house which is articulated around the patio, and for others it materializes a zone of protection of family intimacy, forbidden to any intrusion by people from outside the dwelling. "Neighborhood spaces are defined not only by their layout and morphology, but also by the feeling of intimacy or territoriality, and by the social relations they have generated as places of conviviality and sociability" (Bouchelaghem, 2011, p. 87).

The community space (interior intermediary) refers to several notions, namely

- External space in relation to the interior of the dwelling.
- Accompanying space because they are complementary and contribute to either a positive or negative image of the dwelling;
- Residual spaces: because they belong to everyone and to nobody;
- Free spaces: because they allow free use by the inhabitants;
- Urban spaces: because they are an integral part of any urban composition

In-between spaces represent a major challenge in the architectural and urban production of social housing. Collective spaces put at the service of individuals, spaces of proximity sociability, controlled spaces, or even spaces requiring

Through the challenges of their architectural and urban production, "in-between spaces translate and underline the consideration of an In-between level, between the individual and society", the "residential collective". (Brighet, 2011, p. 156).

This was noticed during the period of confinement (Covid 19) through the photos shared on social networks, which confirms the return of the real use of these spaces and the appearance of a Behavior of sharing and conviviality.

3. SOCIABILITY

3.1. The Social Structure

The individual only exists through the social group of which he or she is an integral part and from which he or she is inseparable, "a social group which is often more of a community than a society in the modern sense of the term or which remains a holistic society" (Dumont, 1983). The social structure of well-defined neighborhoods usually reveals a dominant social group which, forming about half the population of the neighborhood, (sets the tone) and "defines the

style of relations prevailing in the neighborhood, in short imposes its norms on the community” (Chamboredon & Lemaire, 1970, p. 6).

Understanding social relationships is crucial to the proper design of collective housing. Understanding the different relationships between individuals allows for better management of spaces and the way in which encounters can be formed.

The socialized being, inserted in collectives. Going beyond the simple dualism between individual and social, as Lussault reminds us (Lévy & Lussault), “is an essential condition for understanding both the functioning of societies and the motives for individual action”.

Moreover, an individual does not belong to a single social group and the variety of his or her social affiliations is a very important element in understanding the complexity of the relationship between individuals and society. “The contemporary individual is a plural man” (Lahire, 1998) with multiple and interdependent identities. It is based on social structures of various dimensions.

Durkheim raised an important question in this context: what is the origin of the social bond? The answer to this question should lead the sociologist to find 'the moral rules' that create a relationship between individuals that goes beyond their ego (= beyond their own interest) and weave bonds between them that 'bind them to each other'.

The reality of bonding in today's cities is characterized by the loss of social relationships between family members and society at large: It can be expressed by the weak relations between the inhabitants of the city in general, and between the neighbors in particular, and this is the most striking scene that can be seen by any observer of social phenomena in any civil society, and this is what Ibn Khaldun warned about six centuries ago, where he stated that Cities characterize their inhabitants with a special character and affect their culture and activities and social relations. They are also developing rapidly in terms of spatial expansion, increasing population growth rates. This development would lead to a similar development of the social relations and systems that characterize the city dwellers, as for the regions According to him, “the Bedouin develops very slowly and the social phenomena that prevail there are characterized by the character of stability and relative stability”. (Elabidi & Elkhalif, 1994).

This is despite the increasing number of people in cities after their expansion, and relationships were expected to increase and intertwine after the increase in population, but studies have shown that the percentage of social relationship between the population does not increase much in their number but rather depends on the increase in the proportion of their encounter, that residents of large buildings with multiple roles, common in cities due to expansion, may find it difficult to establish relationships with neighbors, or this relationship may be short-lived, in

form and content, as these relationships develop through encounters at the entrance, lift or car parks. However, proximity to outside entrances in horizontal single-family dwellings increases the chances of familiarity more than inside entrances in tall buildings, so a study shows that "(20%) of residents of high-rise buildings have no relationship with the neighbors of the residents of the same floor in which they live, and (30%) of them have no relationship with neighbors in the same architecture in other floors" and there is no doubt that "the multi-level buildings that the phenomenon of expansion in cities required to overcome the housing problem in cities after their expansion led to the lack of relationships and their interruption among the population of the city on Although they are in a single building" (Al Abdullah, 1999).

3.1.1. The logic of primitive societies

It is distinguished by the organization of group life based essentially on the cult of the ancestors, on the weight of a common past. Traditions, customs, rites and inherited habit's structure and organize the life of these societies.

Durkheim adds that "the individual integrates the ideals and codes of his society through the influence of the common conscience. It represents the set of beliefs and feelings common to the average member of the same society" (Müller, 2013).

This collective consciousness, which plays the role of a soul for the group, generates social solidarity and social ties. It has two important functions:

- It ensures the integration of each individual into society;
- It guarantees the stability of society by exercising permanent social control (= it ensures that standards and values are respected).

3.1.2. The logic of modern societies

By involving diversification of activities and specialization of individuals, it thereby promotes the exchange of skills and interdependent relationships. The individual reveals himself while being linked to others because he cannot survive alone; each individual who has an important role to play for society cannot be punished or atoned for when he has deviated from the norm. He will only be punished in such a way as to make reparation for the disorder caused.

3.2. The Physical Structure

Social well-being is influenced negatively by physical structure; for example, in term of height, going beyond the four-floor limit has the effect of damaging the psychological state of the occupants. Thus, people's mental and social well-being is affected. "high-rise buildings reduce or even remove contact between people and the ground, but also reduce human relationships

and contact with the daily rhythm of life that teems at street and courtyard level” (PIGEON, 2013, P. 19).

However, Alexander provides a nuance to this principle. “The four-floor height limit for housing projects is not set in stone: it can vary up to five and six levels. However, this situation must be managed carefully and accurately so as not to lose the human qualities of the project” (Alexander et al., 1977).

Jan Gehl (1987) works in the same direction as Alexander. With the help of the cross-sectional illustration, it is possible to better grasp the variations of contacts with the different boundaries with the ground level. Thus, Gehl mentions that "more concrete contacts are only possible on the first floors of the building. Between the third and fourth floors, there is a decrease in the means of contact with the ground. There is a loss in the physical details of people and communication between individuals is weakened". (Gehl, 1987, p. 101).

Continuing Alexander's comments, he notes that anything above the fifth floor is free of contact with the ground and what happens there. "Low buildings along a street are in harmony with the way in which people move about and the way in which the senses function, as opposed to all buildings, which are not. In addition, he indicates that the upper floors can be integrated with observation points for users. However, if activities are to take place there, they will not have the desired results in bringing people together. These meeting places will be more effective when located on the same level, ideally on the ground, at a greater distance from each other than when stacked on different floors.

Another way of structuring the built environment is proposed by Gehl, partitioning into smaller groups can improve human relationships. “Several examples demonstrate that the residents in these small units are more quickly and more effectively able to organize themselves for group activities and to solve mutual problems”. (Gehl, 1987, p. 63).

3.2.1. Enriching impressions of the representation of the place

Daily impressions are closely linked to form, material, colour and sound, which enriches the representation of place and the formal side of the code of society. Several cities have shown us that despite their poverty in the choice of materials (economic aspect) they have been able to communicate messages that testify to a social life -the time of its perception-. The beginning of the 1960s marked a completely different period in which the era of the aesthetic-mythical was represented. This era can no longer concretize these messages nowadays, we have suffered from the absence of this image which increases the factual state of deficit of messaging of the magic-symbol transmitted by the social space. “The latter has suffered from social phenomena such

as: individualism and allusion, instead of ritual and the sacredness of collective life” (Bouchelaghem, 2011, p. 59).

3.3. Socialization

The social space, a space for teaching daily life, which, in the era of traditional architecture, clearly represented a discipline of sociability of warm and reciprocal relations between the couple inhabitant/inhabitant, inhabitant/space. A sociable life of multi-space, sociability and intimacy between the members of the semi-detached, a life on the scale of the dwelling and which is repeated on the various other scales of the neighbor and the district.

According to the sociologist Lahire, ”socialization is the process by which a biological being is transformed, under the effect of the multiple interactions” (Bruner, 1991; Dornes, 2002) that : “he or she has from birth with other individuals and with a whole material world resulting from history, into a social being adapted to a determined socio-historical universe” (Lahire B. , 2013, p. 1394).

In our societies, writes Pierre Bourdieu, "the State contributes in a decisive way to the production and reproduction of the instruments of the construction of social reality. [...] the state establishes and inculcates common forms and categories of perception and thought, social frameworks of perception, understanding or memory, mental structures, state forms of classification. In so doing, “it creates the conditions for a kind of immediate orchestration of habitus, which is itself the foundation of a kind of consensus on that set of shared evidences that are constitutive of common sense”. (Bourdieu, 1993, p. 59).

Studies on socialization have never really been organized as a specialized sector of sociology. It is a sociogenetic approach to actors that concerns sociologists of religion, politics, sport or housing as much as those of the school or the family. However, since the great founders of sociology, “many sociologists have sought to grasp how the most varied socializing experiences are sedimented into more or less durable ways of seeing, feeling and acting (whether they are called propensities, inclinations, or persistent or permanent ways of being), and how these products of the past, more or less homogeneous or heterogeneous, incorporated by the socialized, partly determine their actions and reactions in various present-day contexts of action” (Lahire B. , 2013, p. 1396).

3.4. Sociability types

3.4.1. Internal and external sociability

The distinction between these two forms of sociability, internal (inward-looking) and external (outward-looking), is made through the rate at which residents leave the home, which is

considered to be “an indicator that they are moving towards one of the two forms of sociability” (Forsé, 1993, p. 16), The following graph explains schematically the categorization of relationships (see Figure 1.7):

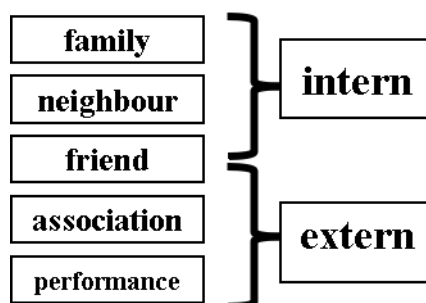


Figure 1. 7. The categorization of Relationship

Source : FORSÉ.M., 1993 : « La fréquence des relations de sociabilité : typologie et évolution »

3.4.2. Sociodemographic characteristics with a significant impact on sociability

Grasping in this field made us capable to collect a set of socio-demographical features that have a significant impact on sociability; “The most common criteria are: marital status, sex, age, number of children (under 15), level of education, occupation, household income, level of urbanization” (Forsé, 1993).

A survey carried out in 1990 by Forcé M in France, with a representative sample of 2000 individuals aged over 18, in which sociability was approached from the angle of the frequency of relations with the various members of the personal network, shows that exchanges between neighbors are reduced in the residential set.

These exchanges intensify when women are more involved than men, and this is only true when they are housewives, the divorced and single have few neighborhood relationships, the most involved being married couples.

Age plays a more significant role, with exchanges increasing as age increases. The number of children reinforces this effect: the more children one has, the closer the neighborhood relationship becomes. It is the children who create the conditions for the development of neighborhood relations. “It is also in the rural municipalities that we find the most intensive exchanges, the more the level of urbanization increases, the less neighborly relations are developed” (Forsé, 1993, p. 13).

He adds ; “The higher the level of education, the less likely it is to have close relations with one's neighbors”. According to the study, farmers, housewives and retired people have the most exchanges with their neighbors, while students have the least, and between these two extremes, employees outperform managers, In-between professions and workers.

3.4.3. Impact of size, light, density and shape on the sociability of neighbors

Those who live in contemporary collective housing now are the ones who leave their housing estates, or come from houses in poor condition. An uprooting of the population from one old model to another. "The inhabitants find themselves in a collective use space, each with their own experience, their own way of perceiving, reacting and living, trying to appropriate a single space with a different configuration from the old one". (Bouchelaghem, 2011, p. 87).

Sharing the same building creates links that are consolidated over time and often constitute privileged operators of modes of collective action "The neighborhood is in this way an opportunity for the contraction of social links that makes it possible to share daily concerns". (Brighet, p. 113).

Good lighting is undoubtedly an essential element, whether natural or artificial, with an emphasis on natural lighting wherever possible. The space must be lit not only to facilitate the function being carried out but also to create comfortable and enjoyable environments.

Inhabitants will be subjected to stressful situations in terms of family relations, neighborly relations, poor health and low educational level as well as violent Behavior and outright social discrimination. "These parameters will eventually lead to discomfort because the determinants of good psychological health such as intimacy, self-esteem and security are not fulfilled". (Zeghichi, 2014, p. 166).

Human ingenuity has found in housing an ideal field of action for developing the design of its immediate environment, through a permanent articulation between the functional and aesthetic comfort requirements it sets itself, or can achieve, and the social and symbolic meanings it seeks.

The social sciences will have implications for the spatial design of housing developments by incorporating the notion of community (see Figure 1.8). The latter is "a form of social life marked by deep, organic and 'natural' bonds (family, friendship, faith, morality, solidarity, rootedness in nature)." (Tönnies et al., 2010).

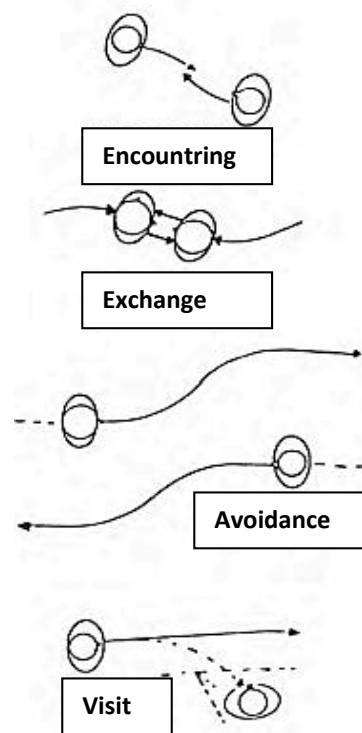


Figure 1.8. The Encountering process

Source : Moles and romer 1998.

3.5. The Social Practices Of Inhabitants

To inhabit a space is to evolve in places shared with others. Whether we speak of appropriation or privatization, it always means confronting others, negotiating places to live. It necessarily means becoming part of a network of social interactions with people we have not always chosen. “At once very close and very distant, these neighbors are the object of complex relationships marked by ambivalence and paradoxes” (Eliane, 2016, p. 23).

The studies aiming to characterize the practices of inhabitants in different types of housing, individual or collective; they have in common that they refer their analyzes to the categories proposed by N. and A. Haumont and M.G. and H. Raymond, in their book *Les pavillonnaires*.

3.6. Social Distances

However, Behavior towards others varies for each individual. Hall incorporates the concept of social distances, which he divides into four categories. He calls them intimate, personal, social and public distance. “Depending on the distance between the protagonists, reactions will be perceived differently” (Hall, 1971). Hall distinguishes between a near and far mode for each of the distances playing with people's reactivity. “This system of social distances is in some ways similar to human shells”. (Pigeon, 2013, p. 15).

3.6.1. The intimate distance

It commences from the surface of the skin to approximately 45 centimeters from the human being. At this distance, one's feelings towards the other are immediately transmitted. For example, fear, anger, love and joy can be expressed. However, the presence of an individual in this zone can seem awkward, even invasive. Given the close proximity to oneself.

3.6.2. The personal distance

It ranges from 45 centimeters to 1.30 meters from the body. It is described as "the fixed distance between the limbs of non-contact species." (Hall, 1971, p. 150) In fact, the personal distance is similar to the human personal bubble. It is in this interval that conversations arise between individuals in close proximity, such as family members or close friends. The position that the individual takes towards the other expresses what kind of relationship they develop, what attitude or feeling they have towards each other.

3.6.3. The social distance

At this point, it is about the boundary between personal and social distance, which Hall (Hall, 1971, p. 152) "This is where informal discussions take place between acquaintances, without necessarily experiencing much reciprocity". In addition to noting a decrease in the precision of the other's physical features, people do not touch each other, or at least are not encouraged to do so.

3.6.4. The public distance

This distance, which is more than 3.75 meters, is generally highlighted during formal meetings. At this distance, the individual validates his or her position in relation to a possible encounter with the other," i.e., whether he or she takes the lead or flees. Thus, he or she may attend an event without taking part in it, act with a detached view of the situation" (Pigeon, 2013, p. 16).

3.7. Neighborhood Relations

The study of neighborhood relations is not a new subject; "geographers and urban planners have shown the extent to which it requires a resolutely open, plural and extensive approach" (Terrier & Rainhorn, 2010, p. 8).

3.7.1. The neighboring notion

However, as early as the 17th century, the term "neighbor" attracted the attention of dictionary writers, as did the noun "neighborhood" and the verb "to neighbor". "Much more than the definitions that are given, all of which are devoted to highlighting what results from the physical and daily proximity of people subject to relative promiscuity" (Terrier & Rainhorn, 2010).

For her part, the French historian Farge explained that “if the forms of conviviality, solidarity and mutual aid and, a fortiori, the tensions, disputes and confrontations have generally produced many sources and, consequently, given rise to numerous works, few have tackled these questions in a space clearly circumscribed to relations of proximity” (Farge, 1979).

3.7.2. The verb To neighbor

One of the activities of the neighbor can be “to negotiate on this ground to bring points of view and practices closer together, thus softening and erasing conflicts” (Durlhe et al.,2007,p.328).

3.7.3. The neighborhood

In a word, the neighborhood now goes beyond the confinement of the narrow spaces that ordinarily define proximity, “except when it proves to be one of the most felt spatial manifestations of social exclusion” (Choay & Merlin, 1987).

Another definition was given in 1944 by Ruth Glass, who distinguished neighborhoods, "simple sets of people living in the same area and experiencing the same things, from 'communities', aware of the communality arising from a common spatial experience and willing to act together (Byrne, 1999, p. 119)”. The parallel with the Marxian distinction between class in itself and for itself is clear. .

Haumont B defines the neighborhood as a place "where the different cultures of living are staged and confronted". (Haumont & Morel, 2005). He went on to say that our neighbors are at once very close and very distant, completely familiar and completely foreign. And our Behavior reflects these proximities and distances, which obviously take place in the contexts of our social situations, according to the positions we occupy in them. Or believe we occupy.

Relationships maintained between a member and individuals who are close. "The neighborhood is the grouping of subjects whose residences are close to each other and who maintain a certain number of relationships of mutual aid and frequentation” (Cliche, 2002, p. 8)

3.7.4. The enhancement of neighborhood relations

It allows us to look at the daily experiences that take place in the in-between spaces, between the private space of home and the public spaces of the street or the neighborhood. "Whether in the village, the city or the suburbs, people socialize and interact in their local community and build networks with neighbors. That said, “identities based on shared place intersect with other sources of meaning and social recognition, in a highly diverse structure that allows for many competing interpretations”. (Castells, 1999, pp. 79-80)

This topic was dealt with in several works, namely: Claire Bidou (*Les aventuriers du quotidien. Essai sur les nouvelles classes moyennes*, Paris, PUF, 1984) to Sabine Chalvon-Demersay (*Le Triangle du XIVe. De nouveaux habitants dans un vieux quartier de Paris*, Paris, MSH, 1984) or Claire Bidart ("Sociabilités : quelques variables", *Revue française de sociologie*, no 4, 1988, p. 621-648), up to more recent works, like the one published by Bernard Haumont and Alain Morel (*La société des voisins. Partager un habitat collectif*, Paris, Éditions de la MSH, 2005). They have focused on forms of cohabitation in these common areas by exposing the confrontations - muted or violent - between different conceptions of civility, cleanliness, sociability and, quite simply, *savoir-vivre*. "Mechanisms with recurring effects are at work here, which respond to social codes and cultural norms that are often different, to the point of constructing forms of otherness that we would not necessarily have suspected" (Terrier & Rainhorn, 2010).

One does not choose one's neighbors (one chooses one's area of residence, but within this area there is already a set of households that will constitute the neighborhood). The question remains: how far does this residential proximity extend? There is no objective criterion: the contours of the neighborhood depend on the perception of the residents. "The neighbor belongs to a perceived neighborhood area, and it is variable: it may be the street, a block of houses, a building or even a stairwell" (Drulhe, Clément, Mantovani, & Membrado, 2007, p. 327) Claire Bidart talks about "elastic" spatial entities. (Bidart, 1988).

3.7.5. The right neighborhood spaces

It is the one where one participates with the others, a logic of distribution of activities that lead to good management. The latter is the problem of practically all collective housing. These are therefore spaces that promote sociability, conviviality, social support and develop the spirit of community living. These activities are called living units, taking place in so-called transitional or In-between spaces, are linked to a society and a physical space. That is to say, "these spaces deserve a design that adapts with the lifestyle of the inhabitants, their intentions, and activities" (Bouchelaghem, 2011, p. 48).

According to J. Miller, current modernism provokes rationalism as the cause of transformations of these spaces to those of transit or transition, where linking with the environment is extremely difficult. These spaces are neither intended results of design nor the rest of the sphere of public space. "They have a unique status in that their activities have different temporal and spatial dimensions". (Bouchelaghem, 2011, p. 58).

3.7.6. What is a "good neighborhood"?

There are rules that are characterized in some way by their lightness and respect for privacy, and above all by their non-intrusiveness in all matters of private life. He or rather she (speaking of neighbors) is someone who does not wait to spend time in your home, who exchanges polite words in the street or over the garden fence, "The role of the good neighbor is that he is an intermediary [...] She is the 'go-between', passing on news from one family to another, from one household to another. Her role is one of communication" (Membrado et al.,2003,p.4)

While being based on the old survey conducted by François Héran (1987), which insisted on the links between the definitions of neighborhood and types of housing, that is to say, as Membrado Monique explained, that one does not neighbor in the same way depending on whether one lives in a suburban or a collective dwelling, or in a rural or urban environment, but also depending on one's own residential history. And also "friendship does not presuppose a spatial form or basis, the neighborhood is constituted from and by spatiality" (Bouchelaghem, 2011, p. 55).

She further adds that good neighborliness is an ex-change between the inhabitants, reciprocal services, we see this solidarity when the neighbor is absent, his neighbor replaces him in the reception of mails for example, he also protects his house against strangers (in case of theft for example)... The help brought by the neighbor goes further than that even.

3.8. Living In A Community

Moles (1998), on the other hand, speaks of the psychology of community. Community refers to a sense of belonging to one or more groups, solidified by the frequency with which these meetings take place. Moles (1998) divides his theory on community into two different types (Pigeon, 2013, p. 16).

- The nearby community

Consists of voluntary or involuntary encounters, a face-to-face meeting between the individuals involved who belong to the same social groups with similar characteristics and obvious recognition.

- The distant community :

Represents people with a lower degree of closeness, for many varying reasons, but who know that they can relate to each other or have something in common. They recognize each other through the image they project to others. Now they can interact with each other, and eventually develop a relationship.

3.8.1. Types of reactivity in an encounter situation

Where Moles' work intersects with Hall's is in the types of reactions in an encounter situation. Moles (1998) detects, as with the concept of communities, two types of reactivity, either near or far.

1/ The first is similar to that of the relative at the community level. This kind of encounter consists of a spontaneous, immediate event. A live meeting, a face-to-face meeting where all or part of the senses are called upon. "The dialogue is established without any dead time, without pauses, since the message of one is instantly grasped by the other, and vice versa." (Moles & Rohmer, 1998, p. 130).

2/ On the other hand, the distant type of reaction highlights the effort that individuals have to make to get together because of the distance separating them. However, the fact that they are moving highlights their belonging to one of the two communities explained earlier. Here, it is possible to associate this concept with that of public distance, given the large gap between the different interlocutors.

For its part, the four distances elaborated by Hall that have already been mentioned (intimate, personal, social and public distance) can lend themselves to the concept of responsiveness close to Moles. However, the public distance must be kept small in order to maintain the spontaneity of the encounter and to keep the dialogue without delay.

As with Hall, especially with public distance, the delay in one person's reaction to the other is important. This allows one to analyze the projected image of the other and thus decide whether or not to meet them.

3.8.2. Forms of contact

According to a study by Festinger, Schachter and Back (Antipas , 1982) , "there are two forms of contact between individuals", or to use the terms already employed, two forms of encounter.

3.8.2.1. Active contacts

Which "involve conscious action on the part of the subject for the contact to take place". (Antipas , 1982, p. 43) .

3.8.2.2. Passive contacts

Where the building greatly influences the type and frequency of encounters independently of people's willingness to socialize.

Therefore, a nuance can be raised with regard to this research and the remarks made by Moles. The latter insists that encounters, whether voluntary or involuntary, should be carried out

according to people's awareness of their membership in a group. Antipas (1982) cites that voluntary encounters come from the individual while the built environment shapes involuntary encounters.

For their part, Festinger, Schachter and Back (Antipas , 1982) notes “two types of distance in relation to passive contact: physical distance and functional distance”. They can be associated, in a way, with Hall's social distances, but attributed to the design of the building in a collective housing project.

▪ **Physical distance**

For example, the distance between different dwellings may or may not facilitate dating. The smaller the distance, the greater the chance of encounters and the greater the frequency with which they are likely to occur.

▪ **Functional distance**

The effects of physical distance are tempered. The way in which equipment and services (stairs, mailbox, laundry) are arranged in the project, encounters will vary, depending on its proximity to the services.

Thus, the junctions between these physical and functional distances become key points for the creation of encounters. "Overall, the physical distance and the functional distance mean that more than half of the friendships are formed at the courtyard level, in one case, at the block level, in the other case." (Antipas, 1982, pp. 44-45).

These relationships between different individuals depend on the number of services and facilities in the project, but also on the varying distance between them. Herbert J. Gans (Pigeon, 2013, p. 18) mentions that “the physical and functional distances must be well balanced”. If the distance between them becomes too small, people will feel that they are in the presence of others at all times and that social contact is forced. People need to be able to maintain their privacy both inside and outside their homes.

Among the research on "non-verbal communication" systems, there are two active streams, specializing in "body communication" in particular (Hall & Koechlin, 1973, p. 258) :

- Kinesics, which is concerned with "the communicative aspects of the learned and structured Behavior of the body in movement", a current led by Birdwhistell.
- proxemics, which is concerned with "observations and theories concerning man's use of space as a specific cultural product".

Kuper sees that "Settlement factors, with their planned or unplanned consequences, provide only a potential basis for neighborhood relations. There is no simple mechanical determinism

due to the physical environment. "The characteristics of the inhabitants, their attitudes towards neighborhood relations, their status, their aspirations and their compatibility in general, will determine the development of active social relations, starting from a simple awareness of the existence of neighbors" (Antipas , 1982, p. 40).

3.9. The Difficulties Of Cohabitation

Neighborhood difficulties may seem anecdotal, but they are in fact radical problems of human coexistence. They are singular, to be solved on a case-by-case basis, and often embarrassing. Every man hopes to find in his housing a calm and non-defensive place and a place of non-aggressive exchange, "the articulations (inside/outside, intimate/public...) produce on the inhabitants an effect of rupture, a possibility of establishing friendly relations while preserving one's intimacy". (Salignon, 2007, p. 61)

Good personal relations in the neighborhood can go hand in hand with strained relations between the different components of the resident population. From the interactions produced by the 'being-together', which result in the adherence to or rejection of practices. Social polarizations and solidarities emerge and the collective is structured. But this structuring does not necessarily take the form of well identified groups. Instead, entities appear which bring together individuals who share the same interests.

In a large housing estate, not all the residents are in possession of a culture of *savoir vivre* specific to this type of housing. As Alain Morel points out: "The aggressive tension that emerges only worsens when social insecurity, malfunctions and deterioration of the building are combined". (Alain & Haumont, 2005, p. 10)

On the question of social relations in the design of housing, Jean-Yves Authier and Yves Grafmeyer emphasize in their work on urban sociology about :

"When housing designers integrate the dimension of the social relations of individuals and social groups, [...] a strong idea seems to impose itself: density is a source of conflict. It is therefore less a question of encouraging encounters than of encouraging good cohabitation and peace between neighbors". (Authier & Grameyer, 2008, p. 23)

3.9.1. Conflict space

Regarding the space where the disputes occur ;"Conflict always involves, whatever its origins, objectives and course, an opposition or antagonism between categories of actors with momentarily or fundamentally divergent interests" (Torre & Caron, 2006, p. 1).

For the collective is, from their point of view, essentially a source of conflict. The landlords thus set themselves the objective of 'zero conflict' as well as 'zero risk'. In their view, conflict

is an anomaly to be combated, it cannot be part of normal urban life. This is why it seems imperative to them to keep control of these places insofar as, according to their experience, “any collective appropriation inevitably leads to dissension and 'let it be' is systematically a source of excesses”. (Lebois, 2014, p. 4). Conflicts of use can quickly escalate in the absence of a mediator.

It is also a question of linking the different scales of housing, reconciling the scale of the dwelling and the scale of the city, reconciling the scale of domestic and family life and the scale of collective and community life.

Eliane finds that, without there necessarily being any conflict in the residences, the systems of fences are multiplying, clearly separating the inside from the outside, the space of the residents from that of people who are not part of the housing unit. This deliberate desire to put a distance between people and each other expresses both the need for security and the need to claim a sense of belonging.

It is therefore a question of encouraging the individual's social relations, of "protecting the self and allowing social relations". (Eleb & Chatelet, 1997, p. 12).

3.9.2. Social heterogeneity

As a whole, social heterogeneity creates conditions that are not adjusted to any of the systems of disposition of the groups involved. This is first of all because "the obligatory contact between these groups requires each individual to adapt his or her practices to a social environment where everything is not self-evident, unlike the residential area, the condominium or the old working-class neighborhood, which are very socially homogenous” (Pinçon, 1981, p. 530).

3.9.3. The individualization

A point noted by François de Singly (2003) on the more global scale of societal change: 'Some of the problems posed by the second phase of individualization have arisen from a gap between an increase in individual freedom and a stagnation of collective freedom, i.e., the ability of groups to define together the conditions in which they want to live. “This gap has resulted in the superiority of the 'consumer' over the 'citizen'. Indeed, the former feels that he has a better grasp of the world in which he lives, in contrast to the ways in which he is asked to participate in political life. (Lebois, 2014, p. 4).

Conclusion

This chapter explored the intricate relationship between housing, dwelling, and inhabiting a space. We examined how scholars across various fields investigate how individuals perceive and interact with their living environments. The discussion highlighted the concept of

appropriation, where users assign cultural meaning to spaces and transform them to foster a sense of belonging.

We then shifted our focus to the critical role of in-between spaces. These liminal zones act as bridges between private housing and public spaces, fostering interaction within neighborhood communities. However, the lack of theoretical frameworks surrounding them has often resulted in undefined spaces lacking clear purpose. Our analysis revealed how inhabitants have addressed this ambiguity through appropriation practices, personalizing these spaces to enhance their functionality and foster a sense of community.

Furthermore, we explored the concept of sociability, highlighting its importance in fostering connections between community members. However, contemporary housing design, particularly in high-rise buildings, often lacks dedicated spaces for social interaction. This absence can lead to a shift towards individualism in recreational activities and a sense of isolation within individual dwellings.

Building on this foundation, the next chapter will delve into the specific research methods employed in this study. We will explore the methodological framework used to analyze the relationship between in-between spaces, housing design, and the promotion of sociability within communities. We will also conduct a comprehensive literature review to critically evaluate existing research on these topics, identifying research gaps and framing the contribution of this study.

CHAPTER 2

LITERATURE REVIEW AND METHODOLOGY

1. Litterature Review

1.1. Introduction

The physical attributes of a neighborhood can affect the social 'Behavior' of its residents (Richard Sennett, 1992, *The City at a Glance*; Goodchild, 2008, *Homes, cities and neighborhoods: Planning the residential landscapes of modern Britain*). In 1980s, this concern centered on the relationship between urban design and anti-social Behavior, with some authors, such as Alice Coleman, 1985, *Older women: housing issues and perspectives*, arguing that an inevitable corollary of poor design was, in her view, 'social unrest' (Hickman, 2012, p. 4).

In general, “social contact between neighbors seems to be enhanced by the presence of three variables in neighborhoods: the possibility of passive social contact, proximity to others, and an appropriate space to interact” (Festinger et al., 1950 *Social pressures in informal groups*; Fleming et al., 1985 *Social support and the physical environment*.) (Skjaeveland & Garling, 1997, p. 181) .

The idea of a "Third space" belongs to Edward W. Soja who thought of the architectural transition zone in a broader sense: as a flexible and creative space, a place where transformation processes are objectified, yet denying a bipolar logic and allowing the coexistence of opposing realities. For him, the Third Space is a place of coexistence for: "subjectivity and objectivity, the abstract and the concrete, the real and the imagined, the knowable and the unimaginable, the repetitive and the differential, structure and agency, mind and body, consciousness and unconsciousness, the disciplined and the transdisciplinary, everyday life and endless history" (Soja, 1996, pp. 7-56).

The term 'in-between space' has been adopted by many academics and practitioners namely Anderson 1991 'On streets: Based on a project of the Institute for architecture and urban studies'; Gehl 1996 'Life between buildings: Using public space'; Hajer and Reijndorp 2001 'In search of new public domain'; Hillier and Hanson 1984 'The social logic of space'; Skjaeveland and Garling 1997 'Effects of interactional space on neighboring'; Stevens 2007 'Betwixt and between: Building thresholds, liminality and public space'; Dovey and Polak 2007 'Urban slippage: Smooth and striated streetscapes'. A recent study aims to define the in-between space variously as “an interface, a public/private boundary, between threshold, soft edge, liminal space, buffer zone and as a smooth/streaked space” (Can & Heath, 2016).

This space between inside and outside can be ambiguous in nature, not belonging completely to the two extreme situations that make it up (inside and outside) or any other third situation.

Drawing on Plato's writings, Grosz (Grosz, 2001, pp. 90-93) However, this also raises the question of who will have ownership and control of these In-between spaces. However, it also raises the question of who will own and control these spaces in between. And as R. de Villanova has noted, the design of these spaces can lead to new situations where no code of conduct has been handed down by tradition; "one no longer knows who to greet as a close neighbor and where anonymity begins" (Harle', 1993, pp. 417-423).

1.2. Hierarchization Of In-Between Spaces

The quality of the urban space, the street, and the building must be related in such a way that the organization of the outdoor space and the built space complement each other, not only in giving form to each other but also in the spatial organization. In this way the boundaries and divisions between exterior and interior, between public and private become less clear, and create an interaction between the two different domains, while allowing a freer use of the public space. One can be interested in In-between spaces at different scales but also between different levels of privacy. This can be between the interior and exterior of a building, but also between different levels of privacy within the same building.

The In-between spaces are hierarchized as follows:

2.1.1. Communication And Leisure Spaces

2.1.1.1. The threshold

The threshold, by connecting two different and contiguous spatial zones, represents the moment and space of transition between the outside and the inside, the limit between the private inner world and the foreign outer world. The threshold of a dwelling is composed of: the entrance door, the landing, the interior corridors and passageways are the first In-between spaces that we encounter.

a) Entrance doors

It is of course the opening to enter or leave a house or flat. An entrance door is therefore the door that guarantees the security of a house.

b) The landing

The arrival landing or floor landing, also sometimes called the communication landing: landing located in the extension of a floor. - The In-between landing or resting landing: landing inserted between two flights of stairs and located between two floors. In principle, an In-between landing does not serve any premises.

c) Corridors

They are narrower or longer passages. In a house they give access on foot to a part of the house, allowing direct connection between dwellings.

d) The passageway

It is a public space since everyone passes through it, it does not belong to any inhabitant of the building and therefore cannot be appropriated except in the case of the inhabitants on the top floor who sometimes put objects there that have no place inside the flat.

2.1.2. Traffic and movement spaces

as we leave the landing, we find :

2.1.2.1. The Staircases

This is the space limited by floors, walls and/or partitions within which the staircase is placed. Staircases are an essential device in a collective building (any multi-storey building) to allow vertical movement.

A staircase is actually an inclined plane on which horizontal steps are fixed, it is a composition of vertical and horizontal planes. But because it is inclined, “this plane requires an exceptional attitude on the part of the man to stand normally because the height h is linked to muscular Behavior”(Moles, Rohmer,1978) . These efforts then represent a constraint for the body (There is an obvious Behavioral factor linked to muscular mechanics), Ibid, “contrary to the horizontal plane which is the usual plane for man” (Jean Cousin, 1982) and which ([...] allows the body to transport itself with the minimum of effort) .

2.1.2.2. The Lifts

Paradoxically, it is one of the few forms of public transport, due to the context, where the person entering often says "hello" to the other occupants, or two people converse easily, even if they don't know each other

2.1.2.3. Access To the building

On entering the building, the entrance should be emphasized and distinguished from the body of the building. “ Inside, the difference from the outside should not be striking or disturbing due to strong glare or a shocking thermal difference”. (zoghichi, 2014, p. 149).

2.1.2.4. The Entrance hall

The entrance hall of the building should be designed as a reception area of adequate height and width; access to the stairwell under the In-between landing should be avoided.

2.1.2.5. The Lodge

Because of its location, which in some cases is inside the façade, it is entirely part of the façade. This "interior" character of the loggia assimilates it to a part of the habitat to be fitted out, contrary to the balcony which is the show, open space, the loggia is a hidden, closed space. In functional terms, the loggia is generally used for domestic activities.

2.1.2.6. The Terrace

The terraces play well with this dialectic inside/outside, private/public, with a staging of what must be visible, even ostentatious and what must remain hidden.

2.1.2.7. The Balcony

It is the most frequently encountered transition space, representing the buffer space between the interior of the flat and the void, the space towards which the latter can be extended. The balcony can be seen as an opening to the outside which serves to take in air and therefore it contrasts with the inside, like air to air. For some, the balcony is a space to show off, thus the aesthetic personalization of the dwelling.

1.3. The Use Of Spaces According To The Researchers' Vision

1.3.1. Studies Of The In-Between Space In Francophone And Anglo-Saxon Cultures

According to Gehl : “Life in and between buildings seems in almost all situations to be considered more essential and relevant than the spaces and buildings themselves” (Gehl, 1987, p. 29). In-between spaces are to be understood as “places (even symbolic) of interaction between different social fields, between different human activities, as spaces of exchange of practices” (Brighet, 2011, p. 31).

According to Moley in his 2006 book ‘Les abords du chez- soi en quête d'espaces intermédiaires’, there is a very similar but slightly more precise definition. He distinguishes three types of spaces (Djaoui, 2016, p. 6).

➤ Private spaces : These are the extensions to the dwelling, namely :

- Terraces.
- Gardens at the foot of the building.

They play well with this dialectic inside/outside, private/public, with a staging of what must be visible, even ostentatious and what must remain hidden.

➤ Collectif spaces

- The common parts of the building.
- The various facilities.

They are generally not very visible because they are associated with dirt, the triviality of daily life, the management of fluids and waste, DIY, and the deposit of useless objects that one does not know what to do with.

➤ Buffer spaces

- between the residence and the street

have a lesser degree of use by the guests of these inhabitants and by various representatives of the public space (deliverymen, postmen, technicians, gardeners and various maintenance agents, representatives of shops, health professionals, law enforcement agents, etc.).

According to the psychosociologist Élian Djaoui, “the notion of In-between space covers realities that do not completely overlap” (Djaoui, 2016, p. 6):

- **The spaces between the threshold of the dwelling and public spaces**

On the inside, these are access spaces (courtyards, halls, entrances, airlocks).

On the outside, they are extensions of the dwelling (balconies, verandas, loggias).

They impose movement paths (of people, goods, information) between these two territories.

- **Common, private and service areas**

Meet the needs of the inhabitants of the same building. They are therefore spaces that fulfil a very utilitarian function (bin rooms, pram or bicycle rooms, spaces for bulky items, garden sheds, underground car parks, basements, etc.).

In this research, we will base ourselves on the internal In-between spaces (from the door of the apartment building to the door of the dwelling).the internal in-between spaces are spaces serving the dwellings, such as the circulation leading to all or part of these dwellings (circulation common to several dwellings, horizontal or vertical) such as corridors, dead ends, lifts and staircases, etc.:

- Corridors.
- The dead end: it is a semi-private space, it is narrower than the street, it only plays a role of local service (only access to the residents), so it is a place of meeting, communication and exchange, between the inhabitants.

- Vertical circulation: this is provided by lifts and staircases. These are semi-private common spaces, which allow contact and meetings between the different inhabitants.
- Architectural arrangements: the interior and exterior fittings and equipment of residential premises, whether privately or publicly owned, must be accessible to all.
- Access to buildings: the main access level to the building for occupants and visitors must be: accessible in continuity with the accessible external pathway, and easily identifiable, using different or visually contrasting architectural elements or materials.

1.3.1.1. The threshold

According to the German philosopher Walter Benjamin, the word "threshold" means change, passage, escape. The threshold does not necessarily mean a border. The threshold is a zone. Entering a new space is a kind of ritual, the beginning of a journey that leads to change.

The space 'between' is a term used by Herman Hertzberger and means a space of transition, of connection between areas that have different identities. This type of space is translated in architecture as the threshold. It is the transition and connection between several areas with different characters. The concretization of the threshold is to create a scenario for the welcome and the farewell and is therefore the translation of hospitality into architectural terms.

For Meiss, “the act of building is the creation of limits, thresholds and boundaries that mark a place”(Von Meiss, 1986). These thresholds have utilitarian (passage, ventilation, light, protection from danger, control of access) and semantic (decorations, meaning given to the threshold) roles. Steps, stoops, eaves, gates, balconies, doors and windows create a separation or a connection, a differentiation or a transition, an interruption or a continuity and/or a border or a passage. They are thus found between the opposite polarities, i.e., between house and town, between nature and buildings and between exterior and interior.

According to Meiss , the exterior is synonymous with public, social, open and cold, while the interior is synonymous with private, intimate, hidden and warm. “The in-between is therefore the inherent articulation of the type of space is then intrinsic to our image of the house and contemporary constructions should offer a continuity with this architectural culture”.(Von Meiss, 1986)

In his various works (2000, 2003, 2005), Bonnin proposes an anthropology of thresholds and transitional spaces. Interested less in architectural forms than in uses and modes of living, he seeks to bring to light the cultural meanings invested in these places. These meanings oblige

each individual to adopt a certain number of Behaviors; “he or she cannot deviate from them on pain of being a source of social disorder and of being sanctioned” (Eliane, 2016, p. 13).

It is therefore a question of deciphering, through a fine ethnological observation, a whole universe of meanings. This is the kind of work, a veritable semiology of space, that Bonnin has undertaken in order to understand the relationships woven by the individual with these spaces, taking thresholds as his object. As he states: "In a certain way, the threshold is the foundation of spaces. The threshold exists as soon as one has had the intention of separating a place from the rest of the world: an interior, a finite and closed space, with chosen and controlled qualities". (Bonnin , 2000, p. 69).

Like Janus, the threshold has two faces: at once separation and link, enclosure and opening, outside and inside. It is a call to hospitality but also a distancing or even an exclusion. The marking of this passage draws a border between territories, a border that is not only material but also socio-symbolic. The founding threshold, one might say, is undoubtedly that which separates the domestic territory (the interior) from public spaces, the exterior.

The person is led to cross a certain number of thresholds and "to cross these limits, and thus to practice for a moment the In-between space, is to leave a social group, a role, a status, a practice, to operate in oneself and on oneself a transformation in order to prepare oneself for the new space to come, for the new groups, role, status, practice or moment of the practice that one is going to adopt". (Bonnin , 2005, p. 231) Bonnin equates this work 'in oneself' and 'on oneself' with ritual practices.

He draws on the work of Van Gennep in 1909, the French ethnologist and folklorist, using the concepts of rites of passage and ritual Behavior, with its different stages, separation-margins-integration.

There is both movement in space and social transformation of the individual. The person who decides to leave his or her home goes from being a resident, a neighbor more or less known to the other residents, more or less integrated into a sociability network, to being an anonymous individual who will melt into the crowd.

Conversely, a person who is welcomed goes from being a stranger, a little worrying, to being a quasi-member of the community because they have been offered hospitality.

Bonetti (1994), in a very similar way (Eliane, 2016, p. 13), emphasises that this transition “between the inside of the home and the outside, although apparently familiar, is in fact very

perilous. It requires a change of posture, a readjustment of the way one presents oneself (...). One does not leave an intimate space to face the public space with impunity without preparing for it, without making an effort to recompose one's appearance and attitudes. A whole series of rites accompany this change” (Bonetti, 1994, p. 197) . The multiplicity of locks thus makes the change less difficult, especially as it is gradual: the vestibule, the landing, the lift or staircase, the inner courtyard, the porch.

These in-between spaces, and more particularly “the thresholds, have a major, crucial function, that of transforming the potentially dangerous stranger into a friendly person” (Eliane, 2016, p. 14).

Serfaty-Garzon, referring to the 'sacredness of the interior' of the home, gives the threshold the function of 'civilizing the intrusion' (Serfaty, 2003, p. 143). The hostility that the stranger generates hardly needs to be explained, since any outsider always represents a threat to the established rules and social order of the host group. The stranger, standing on the threshold, has to convince that he or she is ready to adhere to the rules that govern the house and make efforts to show his or her credentials, levelling out anything that might make a difference and appearing as little intrusive as possible. The host's response is not always a given; he may be forbidden to enter the house.

Everything in the constitution of these spaces, “their fittings (boundaries, benches, constructions, steps, lighting), the various decorations (sculptures, fountains, vegetation), the markings (bollards, slopes) as well as the signage, must induce and encourage this metamorphosis” (Eliane, 2016, p. 14). In particular, the many reception devices (mirrors, carpets, doormats, flowers, etc.), filtering devices (codes and methods of securing and controlling access), deposit devices (letterboxes) and symbolic markings (signs, names, information) aim to achieve this.

1.3.1.2. The staircase

Technically, stairs are characterized by the gradient H/W ,” the slope, the width of the step L in relation to the human foot and the height H ” (Moles & Rohmer, 1998); but that is not all for a staircase which can offer users more than just the link between two levels; these technical characteristics as Jean Cousin explained (In the past, the staircase was not in a box and could be appreciated, judged before taking it. “In the past, the staircase was not boxed and could be appreciated and judged before entering it. It provided, through the variety of its forms, its geometry, its varied spaces, an incredible wealth of sensations of which we are now deprived”

(Jean Cousin, 1982), why not highlight this verticality? The change of scenes on the way up is an experience not to be passed up in silence, a view of the outside (openings) informs at every moment on the level of the lift to the ground; although these openings allow natural lighting which reinforces the character of security in the stairwell.

Going up or down a staircase is rich in sensations; according to Jean Cousin, there are different typologies of staircases, each of which provides a different sensation; although a staircase that is too narrow and/or with a slope is a dynamic axis favoring man's front axis and inciting movement, this steep slope can hinder our sense of security since the horizontal plane is that of the normal step adapted to man's nature, so the experience of going up this type of staircase is not a pleasant one for everyone. Whereas “going down is much easier and allows a more general view of the whole scene (there is almost always an affective participation” (Jean Cousin, 1982). There are also intervals between the flights, which are called landings. These are real moments of rest. Materially, they are horizontal planes which, made of the same material as the steps, ensure visual continuity between the two flights, so that, emotionally, the person always feels that he or she is in the same space and that the staircase (the compulsion to climb) is not yet over. Alternatively, a landing made of a different material can represent a stop to resume after a few moments.

1.3.1.3. Access to the building

It is not just a matter of moving inside (the way of entering and passing the door perpetuates cultural rituals). The case of collective housing offers a double transition from the exterior space to the interior space, admittedly not to the same degree, but it remains a transition all the same. A particular structure must be considered to mark this transition; steps, stoops, canopies, eaves, porches, gates, etc. It is a phase of identification which begins with the identification of a distinct element of the building as a whole. Also, “moving from the outside to the inside of the building involves a change of atmosphere; therefore, a sudden change from a space that is too bright, for example, to another that is much less bright will be a shock to the person. The materials will play a major role in attenuating and softening this difference” (Zeghichi, 2014, p. 152).

1.3.1.4. The entrance hall

It is the focus of attention; it is the place par excellence for practices that are frowned upon, considered deviant and problematic. However, they have been the object of multiple attentions for several years, particularly on the part of social landlords.

Thus, according to practices, the intervention on the entrance halls of towers and bars is part of a more important work on a residential complex, or the rehabilitation of the tower, of the bar, consists precisely and solely in the rehabilitation of the hall. The recommendations and realizations go into the smallest details: covering materials, lighting, security system, decoration (mirror, green plants, place of mailboxes...). “Nothing is left to chance in this undertaking (in which the architects are not left out) of securing and formal and social rehabilitation, insofar as the hall acts as a showcase for the residential complex and its inhabitants”. (Flamand, p. 5).

1.3.2. In-between Space Studies in Arab-Muslim Culture

Each culture builds in its own way, “borrowing from the past, developing a distinctive style, and then passing on to a new era those achievements that have proven most worthy” (Elaraby, 1978, p. 138).

The way of life in Islamic culture is both spiritual and physical. One of the main reasons is that Islamic culture derives its quality from two sources: the Holy Qur'an - which Muslims believe to be the literal word of God; and the Sunna, a set of traditions and practices realized and implemented by the Prophet Muhammad. “The result is a strong interaction between believers on the one hand, and between believers and their physical environment on the other”. (Elaraby, 1978, p. 138).

The Muslim notion of space privileges an In-between space between interior and exterior spaces: "between inside and outside". The culmination of the art of Muslim architects is not the design of volumes, but rather the way in which space is not closed off. The wall becomes an autonomous and privileged space, whose characteristics are decisive both from the outside and the inside.

The configuration of the Prophet's (Qur'an) house inspired the privatization of residences around an enclosed inner courtyard. “The typology of nomadic enclosed space that existed in the desert before Islam evolved with Islam from semi-private enclosed tribal space to private enclosed family space” (Ghorayeb, 2014, p. 71). It is true that this architectural typology is the most widespread in Islamic cities, but there are other typologies that resemble it especially from the point of view of the organization and structuring of public and private spaces and the relationship of one with the other.

Lewcock 1986, following a study of the city of Sana'a, the capital and largest city of Yemen, describes the residences which are buildings, the majority of which are five levels high and

which can reach nine levels. Despite this typology of apartment buildings and the extroverted architecture, unlike the majority of traditional introverted Islamic Arab residences, these residences are structured and organized in such a way as to preserve the privacy of the internal spaces. “The city has developed vertically because of the inundations To compensate for this loss of private social space, the residences in each neighborhood are connected by narrow roads around an empty common space for socializing” (Ghorayeb, 2014, p. 89). (see Figure 2.1.)



Figure 2. 1. Plans and Sections of a residence in Sana'a / Yemen

Source : GHORAYEB, Paul,2014

Sana'a City is one of the few Arab cities that has a public open space, but this space is not public, it is simply used by the residents of the adjacent residences forming a large private common courtyard. This common social space called "Al Bustan" is used as a vegetable garden, a playground for children and a place of socialization for the residences of the residential block that encloses it. According to Y. Elsheshtawy (2004), these private spaces constitute 1/5 of the city's surface area.

Traditional Islamic houses resemble those of Roman cities but with a distinct difference in the creation of a private entrance and the complete isolation of the interior from the exterior, although accessibility was usually through private dead-end alleys. (see Figure 2.2.)

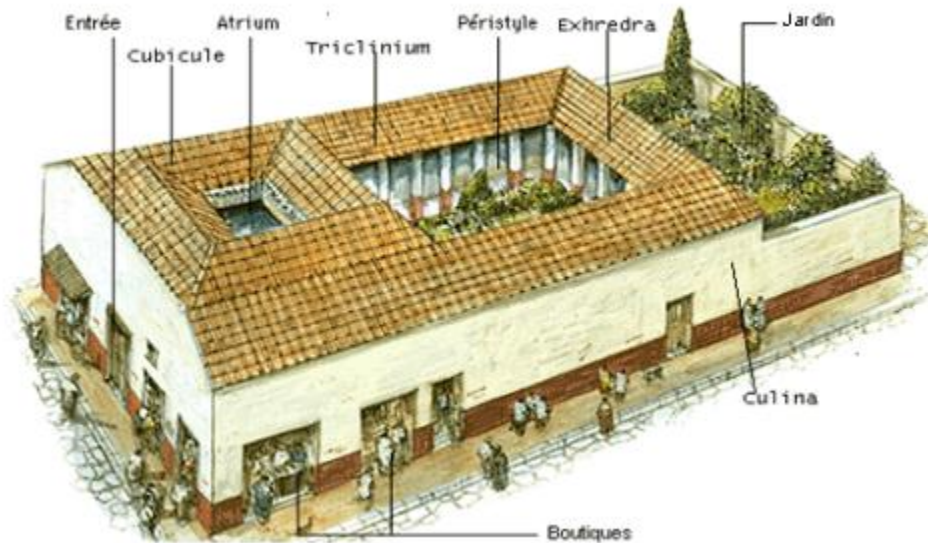


Figure 2. 2. Domus - Scheme of a roman housing Pompey – Italy

Source : <https://www.crystalinks.com/romebuildings.html>

To reach the entrance courtyard, one passes through a series of In-between spaces following a transition gradual transition from public to private interior spaces. (see Figure 2.3)

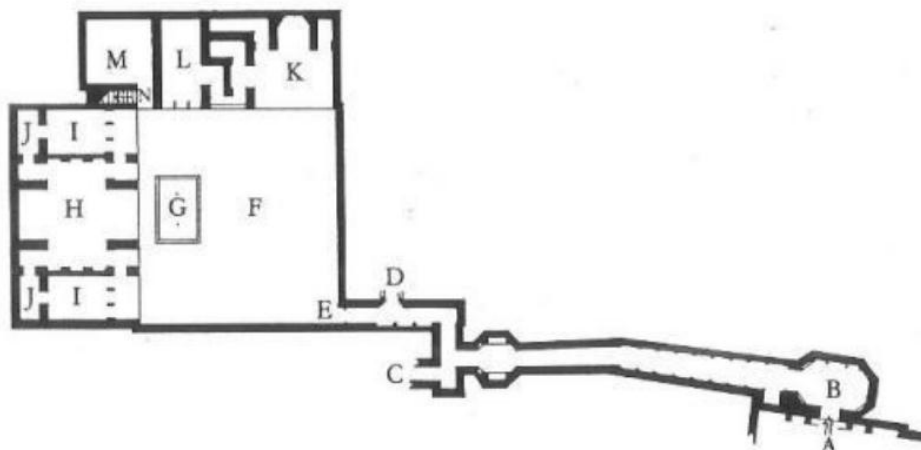


Figure 2. 3. Organization Example of indirect entrance in islamic Housing

Source : <https://www.worldresearchlibrary.org/>

One can cross several traffic areas:

- The first space is the 'Driba' which is the first entrance or corridor.
- The second is the "Skifa" a second entrance or corridor in which the door is placed perpendicular to a wall to prevent visual contact with the interior.

Depending on the type of roads, a residence may have one or more "Skifa" and in the first one there may be benches for the reception of visitors or vendors (Ghorayeb, 2014, p. 93). (see Figure 2.4.)

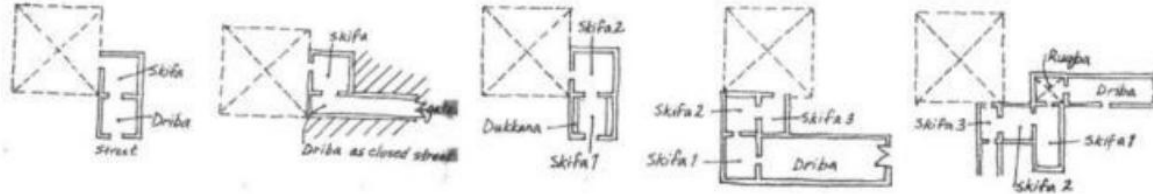


Figure 2. 4. Models of entry and in-Between spaces

Source :GHORAYEB, 2014

The researcher Basim Hakim through a quantitative analysis of a district of the old city of Tunis had the following proportions: “18% used by the adopted entrance system and 24% used as private interior courtyard of the total surface of the block” (Basim, 2009). (see Figure 2.5)

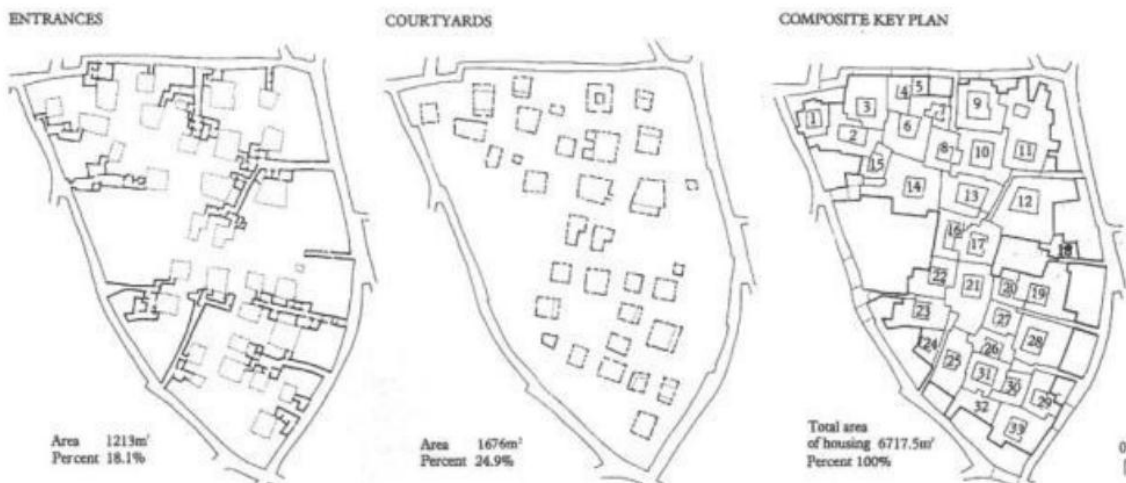


Figure 2. 5. Percentage of Entrance System and Courtyard / Tunisia

Source : Basim 2009

The isolation of the residences and their private interior spaces has forced the creation of private interior spaces (courtyards) “to compensate for common public space or even the use of the roofs of the residences as private extensions of the residences” (Ghorayeb, 2014, p. 94).

Traditional Islamic Arab cities are characterized by the transition from public to private space through a categorization of its spaces (Ghorayeb, 2014, p. 100) :

- Private spaces: are protected from unwanted intrusion, either physical or visual. Strangers are isolated in spaces outside the city.
- Semi-public or semi-private spaces: are characterized by their selective socialization.
- Public spaces: are under private control and management.

1.3.2.1. Extensions of the interior space

A transformation is carried out through arrangements that allow the external space to be architected into the internal world of the Muslim space. The succession of different markings constitutes the essence of the Muslim space which draws its strength from the tensions maintained between the successive filters.

▪ Al-fina :

Courtyards in the Arab world come in a variety of shapes and sizes and serve a variety of functions they allow traffic to flow to various parts of the house they serve as a place for family gatherings (Abdulac, 1982, p. 4).

Research was carried out in 1996 by Nooradine Hoshair in which he examines the 'al-fina' interspace as an urban design at the level of cities in the Middle East, this research explores how the 'al-fina' has organized the Islamic city and what benefits are obtained by its application. The study was conducted in Cairo and the data was collected from observations of 10 streets in four areas.

What is 'al-fina'?

Al-fina" is an Arabic word taken from ancient Islamic literature, [...] it means spaciousness and habitability, it was used in ancient Islamic cities to define two spaces: the inner courtyard and the courtyard in front of or around the buildings, both had many applications in the expression of threshold, living, transition and reflection, in the ancient literature, “the In-between space of al-fina was considered as an area bordered by the street and the building, but in its conception and use, its influences extended from the inner space of the buildings adjacent to the street to the edge of the passage in the street, the territory thus has various functions, private, public or both” (Hoshair, 1998, p. 67).

The courtyard is the most essential element, which was the core of all Arab-Muslim houses Muslims adopted the concept of the courtyard because “it met their religious and social needs, particularly the degree of privacy required” (El-Shorbagy, 2010, p. 2).

▪ **Skifa**

The notion of the threshold in Arab-Muslim culture constitutes an important articulation in the spatial organization of this society. This threshold, an omnipresent characteristic in the urbanism of the medinas, represents the guarantor of intimacy in the latter; “it is materialized by a virtual, invisible but obvious border which ensures a flexible, even subtle transition between two contiguous spaces of different qualities, leaving each one with its own character: such as (public-private; outside-in; light-dark etc....)” (Bouznada & Zerouala, 2014, p. 54).

In the previous study, the researchers attempt to observe in the mode of organization of traditional cities, a mode of transition which in fact confirms a spatial hierarchy going from public to private space in a flexible, non-brutal and harmonious way. These different transitions are reflected in the ancient city by the passage :

- from public to private,
- from the square to the street,
- from the street to the alley
- from the alley to the dead end.
- and finally, from semi-public to semi-private: from the dead end to the house.

They found that this hierarchy is materialized by a succession of thresholds and sequences translated by different social and spatial practices marked by different types of users (Bouznada & Zerouala, 2014, p. 54).

1.4. The Origin Of Discomfort At The In-Between Space Level

The totality of the problems encountered by the residents can be summarized as follows

- Ambiguity of the status of the premises.
- Constraints on their constitution, development and management.
- Imprecision of their limits.
- Lack of knowledge of their functions.

1.5. The Research And Practitioner's Writings On Housing

The vagueness of the representation of In-between spaces, the heterogeneity of uses, the multiplicity of conceptions is naturally found in the work of researchers and practitioners of

housing. In these works, which are based on very different perspectives, the notion of In-between space is the subject of studies (Eliane, 2016, p. 10),

- Either centrally:
 - ❖ **Philippe Bonnin**, 2000 Pour une topologie sociale.
 - ❖ **Christian Moley**, 2006, Les abords du chez soi En quête d'espaces intermédiaires.
 - ❖ **Amélie Flamand**, 2008, Thèse : L'Invention des espaces intermédiaires dans l'habitat.
 - ❖ **VALERIE LEBOIS, 2010** Doctorate Thesis : Les Ressources Des Espaces Intermédiaires : Analyse Socio-Spatiale Dans L'habitat Collectif Contemporain Parisien.
 - ❖ **Valérie Lebois**, 2014 Enjeux des espaces intermédiaires dans l'habitat collectif contemporain.
- Or in a secondary way:
 - ❖ **Haumont, Morel**, 2005, La société des voisins Partager un habitat collectif
 - ❖ **Bonetti Michel**, 1994, Habiter : Le bricolage imaginaire de l'espace
 - ❖ **Serfaty-Garzon**, 2003. Chez soi : Les territoires de l'intimité

The researcher Eliane finds that these works adopt very different perspectives and approaches.

- the socio-architectural approach (Moley)
- In-between spaces as a category of public action (Flamand),
- a territory of confrontation between housing actors (Lebois),
- the anthropology of thresholds and passages (Bonnin).

- The socio-architectural approach

This approach is proposed by Moley in his book 'Les abords du chez-soi, en quête d'espaces intermédiaires (2006)'. His work is presented as a chronological development in four periods, from the mid-19th century to the present day.

- The first period explores the ideological origins of conceptions of these spaces, particularly in discourses concerning the workers' city, Fourierist utopias, Le Play's theories and the hygienist movement.
- The second period runs from the beginning of the 20th century until the inter-war period. Theorizations in the social sciences intersected with the discourses of architect-urbanists.

This encounter made people aware of the importance of the notions of community, neighborhood, and the different spatial and social scales of the territories in which individuals live. In particular, the garden city, which was highly idealized in the previous period, was reconsidered. Urban planners will rethink the spaces between housing and the street and their links.

- The third period, the post-war period, was marked by the reconstruction of the country with the impact of the great ideological movements of Christian and communist humanism. The aim was to encourage the establishment of networks of sociability allowing people to live together, urbanity, conviviality and solidarity. However, from the 1960s onwards, these doctrines came up against the reality of mass housing production, the search for comfort and personal fulfilment. This search, which is confined to the confines of the home, means that In-between spaces are only thought of in relation to housing. Moreover, architects and urban planners must take into account contradictory requirements, the desire of the inhabitant to be recognized in his or her singularity, which is opposed to the reality of this mass production.

- Finally, the last stage, from the 1970s onwards, saw the development of increasingly important state interventions (urban policy, fight against poor housing, security policies). In a context of economic crisis and funding restrictions at all levels, management and security logics push to reduce these spaces and to fence these residences.

In this historical approach, this researcher tries to articulate urbanistic doctrines, architectural practices and social science conceptualizations. Three ideas, interesting for our purpose, are found throughout his work.

- ❖ The first highlights This concept of transition "originates in the home, both temporally (root evocation) and spatially. The front space on the street expresses the property and enables for a garden, a substitute for the countryside that exposes to the regulating gaze of others while simultaneously providing intimacy to the habitat in the background ".(Moley, 2006, p. 23).
- ❖ The second stresses the in-between space's major singularity, its dialectic character between the two poles of openness and closure: openness to light, air, nature, sociability, conviviality, and cohesiveness, to the outer environment, but also closure to numerous annoyances (noise, pollution), protective measures against intrusions and break-ins, the

browse for intimacy and security, and the enclosure of oneself, which can stretch that would exclude others.

- ❖ The third introduces these orientations to the household as settings that generate two key concerns, "the question of the "entre-soi" within a housing complex or a single structure and the question of its interface with the public space". (Moley, 2006, p. 181). These are critical difficulties in cohabitation, whether among inhabitants of the same housing unit or between residents and strangers. At this juncture, these areas give rise to confrontations between the various actors. As a result, building owners seek to reduce or even eliminate shared parts by multiplying individual entry points to residences. Strangers are prevented from entering using gates, fences. among other measures. This has the effect of differentiating areas clearly and unambiguously. The architects, on the other hand, intend to gradually articulate these spaces, from the street to the threshold of the house, by focusing on the transit between spaces of various proportions (city, neighborhood, residence, building, dwelling).

This historical review revealed how architects, urban planners, and other housing experts have attempted to meet competing needs in the creation of these intermediary spaces (Eliane, 2016, p. 11):

- security: regulating fences, being able to close without "locking up" or creating the impression of imprisonment
 - related to living together: making social ties without excluding or parking some; or excluding others;
 - identity: to present a pleasing picture of oneself and one's dwelling unit without masking reality or damaging street aesthetics.
- In-between spaces as a category of public action

Flamand's (2008) approach is socio-political in the sense that it demonstrates that in-between spaces, in certain of their components, "are partially a matter for public action". (Eliane, 2016, p. 11).

In reality, they raise concerns about the public/private divide on the one hand, and the manner in which we coexist on the other.

In-between spaces, according to this scholar, are a useful indicator of how society understands the link between both the individual and the collective, "the personal and the social, the private sphere and the public realm. Realities with a historical context" (Ariès & Duby, 1999), Their

definitions and the forms they take are subject to the fluctuations that affect global society: family life, sexuality, health, morality, etc. The distinction between these different orders thus assigns to the public domain the management of populations and territories, a management justified by the collective interest and aimed at the common good. The private sphere is associated with the domestic, the personal, and even the affective; here particular interests reign, with each person aiming to satisfy his or her own needs. This opposition, in its political, social and spatial registers, has necessitated the production of frontier places, In-between spaces. This has the effect, and this may seem paradoxical, that the categories of the intimate, the private, the collective and the semi-public, the In-between space acquire.

The status of categories of public activity and political participation in France for example. The most revealing example was the passage of the so-called Sarkozy bill on internal security on March 18, 2003. It introduces new offenses: "threatening and hostile" gatherings in common spaces or on apartment building roofs, in as much as they intentionally obstruct access, free movement of people, or the correct operation of security and safety systems. This regulation clearly demonstrates the broadening of the concept of public space to previously regarded private domain regions. On one level, it can be claimed that all dwelling areas are becoming a public concern; we are becoming conscious of these communities' great reliance on the field.

In terms of living together, these intermediary spaces prompt us to consider how social bonds (whether forced or voluntary) are formed (and also break down). These areas, which serve as both a framework and a support for the social tie, are both a factor that promotes social contact and an impediment that leads to misunderstandings, disputes, and the relationship's collapse. The challenge of managing living together for different and a priori distinct people and groups confronts us. As a result, the concepts of public service mission, general interest mission, and respect for public order are constantly mentioned in the legislation and in the speech of elected officials.

In our present urban model, "the important question of the contact with the other in its different forms - interpersonal ties of greater or lesser closeness, larger networks of sociability, relations between social groupings - is posed". (Eliane, 2016, p. 12).

This perspective is extremely close to that of Besse, for whom these spaces challenge the "living next door" and the "living together".(Besse, 2013, p. 47). In reality, they manage relationships with others by organizing encounter modalities, distances, and avoidance techniques; they are

also the framework. How may distance and closeness be controlled concurrently? A new paradox.

Each individual living next door lives in his or her own home, apart from that of his or her fellow humans. We are immersed in the practices and imagination of enclosure, in the various expressions of separation and distancing, of closure to the other or even exclusion. Living together, on the other hand, shows a geographical togetherness that extends beyond confined home borders. “This stimulates conviviality and solidarity, which are not incompatible with rejection or exclusion mechanisms, but these processes are displayed on a larger scale. This encompasses other people's homes as well as public areas in general” (Eliane, 2016, p. 12).

- Confronting logics of actors

According to V. Lebois (2010, 2014), “these areas serve as a stage for the many characters engaged in a housing unit, whether they be groups (especially the occupants) or institutions (landlords, building owners, architects, syndics, bodies representing the public space such as the road authorities, the fire brigade, the police, etc.)”. (Eliane, 2016, p. 12) Power dynamics are played out at this point, and compromise formulae are established. His surveys of developers and tenants enabled him to report on the logic of design and its consequences for daily living in housing groups. The ambiguity of the status that characterizes these areas between private and public is investigated, as are the margins of manoeuvre left to each of the participants. Examining how architects, project owners, managers, and residents interpret this indeterminacy, she hypothesizes that, in contrast to housing or public space, the absence of clear and identified rules makes them places of transaction and open exchange, conducive to the process of co-production of space.

The interpretations vary depending on the degree of knowledge, abilities, social resources, and interests of the many participants. These venues also mobilize quite different stakes (benefits against hazards). To begin with, there is a distinct divide between those who perceive the relative indeterminacy of common areas as a field of possibilities and others who see it as a source of chaos. The majority of architects fall into the first category, viewing these areas as a creative place for contemplating the aspects of habitat insertion and compensating for the difficulties of congested city living. They oppose clients who demand total control over these locations. The clients' desire to govern the In-between spaces is translated into their programming requirements.

The question of safety has become important to the design and administration of common living areas, as is widely recognized. The proliferation of these security devices aims to reinforce and limit access systems, circulation visibility, and the absence of equipment, allowing for the option of settling down (such as benches). The owners, in their goal to minimize expenses and maximize yield, plainly favor the useable surface area; consequently, the shared portions must be reduced. As for the landlords, the focus of their attention involves upkeep, the durability of the building as well as the quest for security in order to provide inhabitants a "quiet enjoyment of the premises".

It is evident that the objective is to limit the significance of these places to their most basic function and to make it difficult, if not impossible, for them to be seized and so used for collective life.

These areas are therefore reduced to a set of architectural and budgetary limitations that must be met by sponsors, project owners, and landlords. Finally, the architecture of these areas is intended to keep confrontations and aberrant behavior at bay.

In the majority of cases, individuals in charge of construction have a genuine grasp over these areas, as well as a true tutelage of the inhabitants by the management.

1.6. Appropriation's Criteria

Three sets of criteria have a significant impact on the way these places are appropriated.

- The first is concerned with the design of these places; we are in the constructed environment.
- The second is determined by the concrete management methods and the numerous restrictions set to control cohabitation.
- The third is heavily influenced by the composition of the local people. The greater or lesser social closeness of these residents makes cohabitation easier or more difficult.

Belonging to social groupings, socio-professional categories, age groups, socio-familial status, ideological conceptions, length of time in residence, ethnocultural background, and so on can all be sources of tension as well as unity.

1.7. The Required Qualities Of These Spaces

V. Lebois' questionnaire also captures the residents' expectations. The following words reflect the intended attributes of these spaces:

- a refuge of serenity,
- presence of nature,

- breathing,
- brightness,
- human size of the habitat,
- quality of finishes.

All of these allusions attempt to compensate for, or even cancel out, the aggressions and annoyances common in public areas. The residents also demand on the existence of a comforting caretaker and a degree of uniformity in terms of the occupants' attitudes and lifestyles. This study reveals a variety of representations in which these locations are invested, including references to nature, a need for security and calm, a want for the same, and a desire for social connection.

Gehl (1987) presented a method for organizing the built environment. Subdividing residences and their outside areas into small groups, he claims, provides for a better awareness of the environment in which the residents interact as well as more defined units. Controlling the geographical limits allotted to persons eliminates appropriation issues and allows for better prioritization of transitional areas between public and private locations. (see Figure 2.6.)

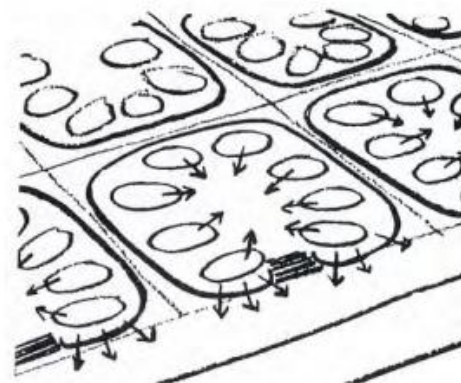


Fig. 11 : Organisation hiérarchique de la zone résidentielle (Gehl, 1987 : 62)

Figure 2. 6. Hierarchy organization of the residential area

Source : Gehl 1987

In addition, partitioning into smaller groups can improve human relations. « Several examples demonstrate that the residents in these small units are more quickly and more effectively able to organize themselves for group activities and to solve mutual problems. » (Gehl, 1987, p. 63) . In fact, « the more residents are outdoors, the more often they meet – and the more greetings are exchanged and conversations develop.» (Gehl, 1987, p. 55).

Whatever their duration, a first contact between individuals will be initiated. These spaces can be staircases, passageways, balconies, terraces or a courtyard. However, Olivegren (Antipas,

1982) shows a certain reluctance to use corridors, stairs and lifts in multi-levels buildings. He sees them as places that can hinder social relations.

« Everywhere that people move about and are engaged in activities, they do so on horizontal planes. It is difficult to move upward and downward, difficult to converse upward and downward, and difficult to look up and down. » (Gehl, 1987, p. 66) These areas are dynamic in character and are usually spaces connecting two floor levels.

Human relationships are therefore difficult to maintain. However, Alexander (1977) proposes different methods to overcome this type of social blockage. He suggests that “a staircase can be used as a stage, linking it to the space being served so that they can participate together in the action. People can use the staircase as a seat, momentarily withdrawing from the pace of life. This can encourage the kind of face-to-face contact developed earlier” (Alexander et al., 1977). Furthermore, Alexander (1977) argues that the staircase should be outside. The fact that the staircase is closed considerably reduces the connection between the upper levels to be reached, but can also be socially detrimental.

Finally, the modulation of the environment is achieved through the use of wall systems. "The notion of a wall is inherent to the idea of appropriating space. Man conquers space only by dividing it, organizing it and bringing it back to himself, by materializing its subdivisions." (Moles & Rohmer, 1998, p. 62) .

For Chermayeff and Alexander, “the wall must be used to counter two main "invaders", namely traffic and noise” (Chermayeff & ALEXANDER, 1972), This makes it possible to control the areas of privacy and socialization (see Figure 2.7.). For his part, Moles (1998) speaks of the "Wall" rather as a combination of different kinds of walls. These walls are seen as "barriers, modulators, and similar devices, permanent or temporary, which must be able to screen living creatures, light, and sound; to separate the desirable from the undesirable. Appropriate means of separation operate in the manner of a junction.

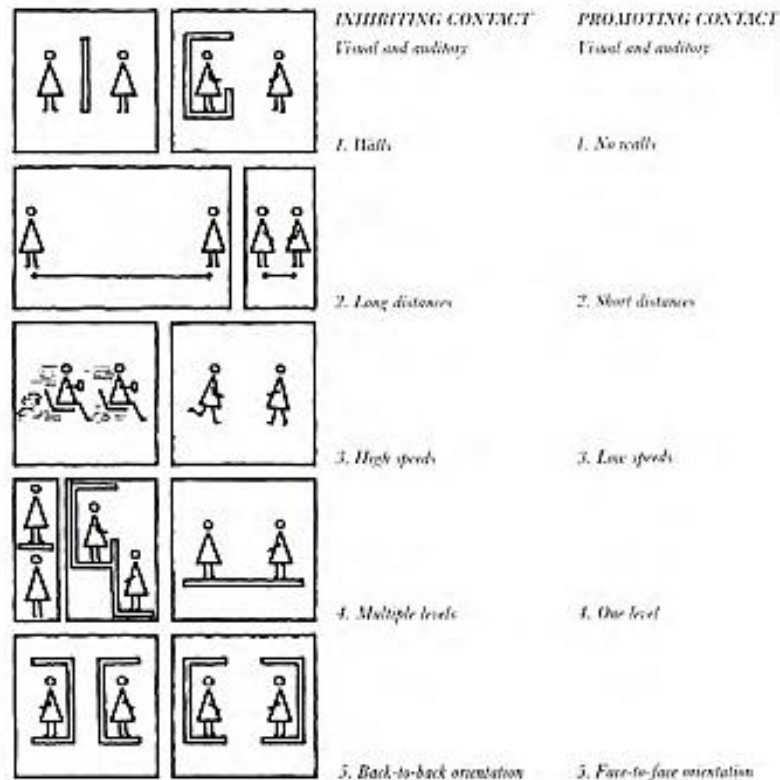


Figure 2. 7. methods that promote or prevent visual and auditory contact

Source : Gehl 1987

Gehl (1987) classified five categories of wall use. From these variations in design, “it is possible to better manage the types of spaces and give them different qualities, social or intimate, as well as promoting or blocking the surrounding view and sound” (Pigeon, 2013, p. 21).

One of the issues that motivates Catherine Furet to develop quality in-between spaces is to show that “living with others is a “plus”, and not just a “constraint” while waiting to find something better (the individual house...)” (Failleben, 2007). Working on the arrangement of dwellings between them means, for her, “constituting [...] a fair scale of neighborhood, a community dimension”. (Furet, 2000, p. 57). Seeking to enhance the “collective” dimension of urban living is in fact to allow the inhabitants to experience the primary urbanity of being-together. It is from this concern for urbanity that Catherine Furet seeks to think spatially about her buildings: “to this notion of possible community corresponds a spatiality”. (Furet, 2000, p. 58).

What is this spatiality? Good natural lighting on the landings, not too many dwellings per stairwell in order to get to know one's neighbors, the presence of common residential premises, courtyards and gardens designed for shared use and regulation, gradations of exposure/intimacy

in the open-air spaces to allow everyone to feel at home, according to their situation, mood and desires, crossing halls, etc.

2. The methodology approach

**“To grasp space, To know how to see it,
is the key of the understanding of building”**

Zevi.1957.p23

The present chapter aims to deal with the methodological framework of the research, focusing on the selected approaches and methods of analysis used in this study for a better understanding and mastery of the latter before its application to the chosen corpus. Therefore, it is first necessary to identify and explain the origins, usefulness and adaptations of each approach chosen, the typo-morphological approach, the spatial syntax was adopted as means of analysis, they are detailed and combined with the questionnaire technique and the depth-map.

2.1. Typo-Morphological Analysis

2.1.1. Definition De Of The Method

It is an approach which aims to understand urban forms through the types of buildings, their components and their distribution in the grid of the city grid. “It is concerned with the morphology of geographers, social morphology and the mental map”. (Pinson, 1998).

Typo-morphology is the combination of urban morphology and architectural typology. On a macro scale, MORPHOLOGY is the study of urban form in its historical development, based on the component elements, in particular the site of implantation, the city plan, the layout of the roads and the different parts of the city.

While at the micro level TYPOLOGY is the study of building types, in particular types of dwellings, it is a new concept that was introduced in the twentieth century after the failure of the modern movement, etymologically meaning the science of type, from which it takes its name.

Typo-morphological analyzes reveal the space and physical structure of the city. They are typological and morphological because they describe the urban form (morphology) on the basis of classifications of buildings and open spaces by type (typology). We will first establish a morphological analysis which concludes with a typology.

The study of the relationship between architecture (typology) and the city (morphology) is advanced as a new manner of understanding urban history. This approach takes concrete form

through the study of the evolution of the urban form, its structures and the typologies of its buildings. The morphological school proposes to maintain the tangible character of territorial structures as meaningful forms and to ensure that the project disciplines (Architecture, Urbanism, Regional Planning) are able to control these forms. "Typo-morphology tends to proceed by analogy and homology, in other words, it seeks what is common between beings and things, between man and his environment". (Cannigia & Malfroy, 1982, p. 4).

2.1.2. Typology And Morphology

Typology and morphology are "the science of developing types, to facilitate the analysis of a complex reality and its classification". (le Dictionnaire de l'urbanisme et de l'aménagement, 1996, p. 803). The Muratorian method is called typological, because it gives great importance to the type. Typology isolates the particular characteristics of the objects to retain only the general features in order to classify them and thus establish the paths of their evolution.

2.1.2.1. Typology

According to the Larousse 2010: From the Greek, tupos, character and logos, science. It is the study of characteristic traits in a set of data, in order to ascertain types, systems. Classification of human individuals according to morphological, medical and psychological criteria. The word typology is a 20th century neologism. Etymologically, it means the science of type. Type originally referred to "the model determining the shape of a series of objects derived from it. By extension, it has come to designate any concrete being, real or imaginary, which is representative of a class of beings...and finally a general scheme of structure." (le Dictionnaire de l'urbanisme et de l'aménagement, 1996, p. 804). The term typology is used in logic as well as in the natural and human sciences. It was created to designate the method of observation of human types. It designates, among other things, any operation of classification of buildings, objects or spaces, using the category of type. Thus, "Forms and configurations can thus, give rise to typologies in general, from various quantifications, geometric, algebraic or statistical." (Frey, 2010, p. 111).

The typological classification excludes variable elements which are considered insignificant. According to Panerai, "The notions of type and typology form one of the major, sometimes controversial, tools of urban analysis." (Panerai et al., 2009, p. 100) The objective of typology is defined by Cuisenier: "typology, or the construction of types, has no other purpose than to reason out the choice of specimens... The specimen is the model to which the type refers."(Cuisenier, 1977, p. 14).

The architectural type: "essential figure of a building which describes in a generic way its functional devices, its overall figurative expression and its setting to the ground (plot) at a moment of its course in time. The architectural type is a tool resulting from a rational construction, and decodes the structure of a built framework". Three components of the type (Belouannas, 2011, p. 2) :

- Functional container
- Overall picture
- Relationship to the site

It is also the reasoned classification of types, which simultaneously implies, through an exhaustive corpus of buildings, a work of identification of types from the following criteria .

- Dimensional
- Functional
- Distributive
- Constructive
- Aesthetic.

It seeks to decode what is specific to a city, to a built environment (Belouannas, 2011, p. 1):

- Micro analysis
- Urban specificity enquiry
- Internal referents.

2.1.2.2. Morphology

According to the Larousse 2010: morphology comes from the Greek: morphê, form and logos, science. It is the study of the shape and external structure of living beings. In linguistics, it is the part of grammar that studies the shape of words and the variation of their inflections.

The study of the urban form in its historical development from the elements that compose it. The aim of morphological analysis is to identify the urban form constituting the city. According to Carlo Aymonino: "the urban form is a continuous process, and if it is possible to describe or characterize it in a precise period, in order to understand it, one cannot neglect the study of the previous periods which have conditioned its development and have literally formed it...".

In other words, the urban form and the relationship between the urban structure and the urban fabric.

- **The urban structure:** "The urban structure is made up of several systems which are architectural and urban instruments at successive levels that can be combined according

to a rule of play on a geometric support dividing the urban space". (Duplay, 1985). It is constituted by all the singular elements characterizing the city:

- Main structuring axes,
 - Major facilities and monuments,
 - The configuration of the boundaries.
- **The urban tissue:** "the urban tissue is constituted by a set of relationships between urban components which have constant and repetitive characteristics: architectural types, plots, streets, etc. (Borie & Deneuil, 1985, p. 2). Is the superposition or overlapping of three sets :
 - The network of streets and roads
 - Land divisions.
 - Buildings.

"The urbanized site is formed by the relationship between the urban form and the morphology of the natural site". (Borie & Deneuil, 1985, p. 2). (see Figure 2.8.)

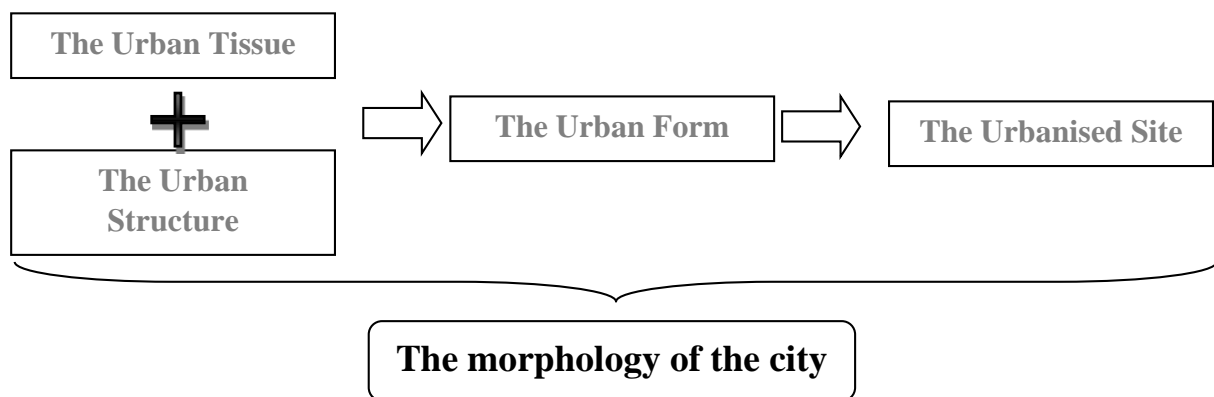


Figure 2. 8. The morphology of the city
Source : BORIE, A; DENEUIL, F, 1985.

2.1.3. Objectives Of The Approach

This method of analysis aims to achieve a number of objectives, including (Mazouz, 2020, p. 7) :

- ✓ To understand the physical and spatial structures of the built environment.
- ✓ Understand the process of formation and transformation of the structures of the built environment at the scale of buildings, urban fabrics, urban and territorial bodies.

- ✓ Know how to characterize the formal structures of an urban fabric of an urban or territorial body and identify their constituent elements and formulate the rules governing their reciprocal relationships.
- ✓ Know how to reconstruct the successive changes in an urban fabric or organization on the basis of the existing form.
- ✓ Make a critical evaluation of the form of urban fabrics and organizations.
- ✓ identify structural permanencies associated with the cultural identity of places and constraints on the conservation of built heritage and cultural and natural landscapes.
- ✓ define measures to control the transformation of the built environment and to supervise intervention projects in the urban fabric.

2.1.4. The Basis Of The Approach

This method was developed by two schools, the Italian and the French:

2.1.4.1. The Italian School

➤ Saverio Muratori

Typo-morphology was born in Rome during the sixties by the Italian architect and historian Saverio Muratori (1910; 1973), Muratori founded two major works on urban analysis of operational history where he explained his thinking and his work, we will quote the first one for Venice: "Studi per una operante storia urbana di Venezia". (see Figure 2.9.)



Figure 2. 9. Muratori Book, « Studi per una operante storia urbana di Venezia », 1959 et 1960

Source : collection de Philippe Panerai

And the second one for Rome: "Studi per una operante storia urbana di Roma", 1963, in which Muratori gives a survey of the centre of the city, where you can see Piazza Navona, the trace of Pompey's theatre, the Venetian palace and the Corso, from the top left following the hands of a clock. (see Figure 2.10.)

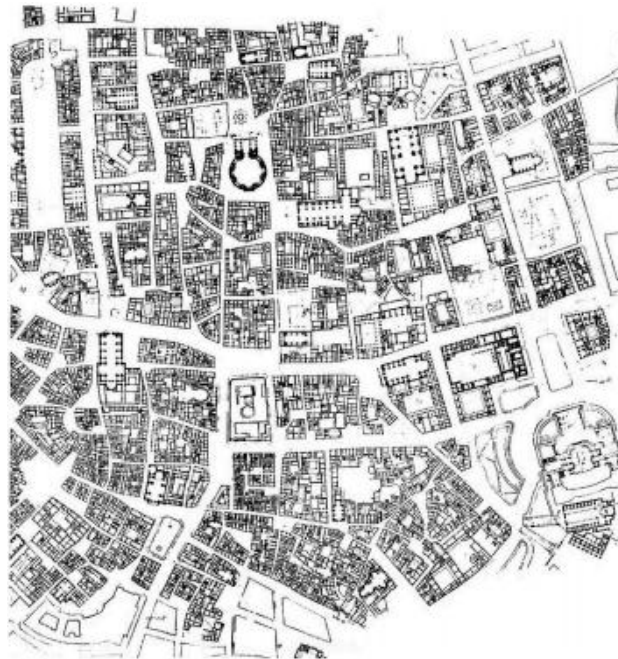


Figure 2. 10. Muratori Book , « Studi per una operante storia urbana di Roma», 1963

source : collection of Philippe Panerai

"I had to make an effort to shake off the clichés acquired as a child of modern thought, with the study of the urban fabric of Venice and Rome, I came to understand the laws of the typicality of urban forms and the cyclicity of the world of the city, like that of man, it took ten years of work on the question of territory, and I finally solved the problem of conscious science, that of the Adventure of Civilization". Muratori directs his teaching towards the double objective:

- ✓ Avoiding the rupture between the technical disciplines and the historical and theoretical disciplines.
- ✓ Replace architecture and the crisis of architecture in the urban crisis.

Four basic elements underlie Muratori's objectives (Mantziaras, 2014) :

- Type as an active concept or the gradual adaptation of the city.
- The series of scales.
- The operational history.
- The banal fabric of the city.

Muratori brings a number of crucial results (Mazouz, 2020, p. 22):

- It considers and establishes the typo-morphological analysis as a preliminary to the project.
- Typological analysis is the basis of urban analysis.
- The structure of cities cannot be understood without reference to the historical times that shaped them.
- In order to create a harmonious urban seam, it is necessary to have a thorough understanding of the urban environment and its syntax.
- The traditional city and the modern city differ in two ways, the relationship of each building to the city as a whole and the way in which each building is composed.

➤ Gianfranco Caniggia

The distributor of the approach, He is a pupil of Muratori, he published a book on the reading of a city in 1963. He is responsible for the dissemination of the method among practitioners, and has always tried to find the principles that have guided urban production throughout history. It breaks down the city into 4 different categories: building, fabric, city, region. “He has worked on the analytical concepts of the built environment at different scales: reading building constituents, determining the form, structure and various uses of buildings”. (Cömert & Hoskara, 2013, pp. 5-6).

In a lecture on the city of Florence, Caniggia considers that, in order to understand the structure of the built environment, it is necessary to operate on four levels of scale that are inseparable (see Figure 2.11):

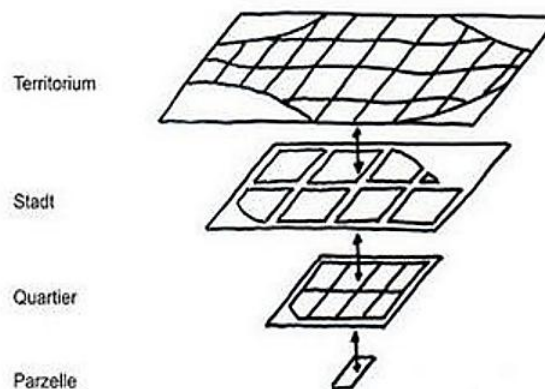


Figure 2. 11. Morphological Levels

Source : wikipedia.org/wiki/Stadtmorphologie

- 1- The building: it is considered as the basic cell (see Figure 2.12.). All the cells (houses and buildings) constitute the tissue.
- 2- The neighborhood: this is a piece of the urban organism or the city.
- 3- The city: all the tissues form the body of the city. The city is structured and served by all the veins and nerves which are materialized in the form of paths and routes.
- 4- The territory: the city is always treated in its relationship to its territory.

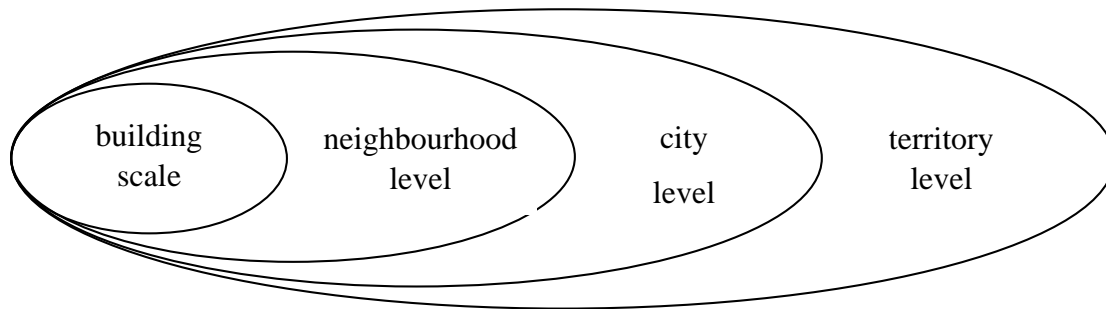


Figure 2. 12. Notions of distinction of levels of scales.

Source : Author; 2022

These scales are themselves organic totalities, they are linked together and have interdependent relationships (the building in the fabric, the fabric in the city and the city in the territory). They are inseparable from each other. On the other hand, he considers that the house, the fabric, the city and the territory can be understood in analogy with the organic world (Cannigia & Malfroy, 1982, p. 33).

Caniggia's approach is based on a structuralist reduction. Each organic totality is distinguished by three levels of structuring defined by the following components:

- Formal structure:

Through a reading of the process of formation-transformation of the house, the urban fabric and the city, we determine the logic that guides it. Then, the ruptures that affect the overall coherence are identified. Then, the ordering, exceptional and common elements are identified, as well as the major and minor articulation spaces and the structuring axes.

- Functional structure:

It is a question of reading the existing facilities according to the successive scales of the city and the fabric. The objective of this approach is to understand the structuring of urban functions and to determine their real impact. The reading of the urban functions will allow us, finally, to identify the dominant functional character.

▪ Permanent structure :

“It is the set of historical traces of the urban form. It is given, on the one hand, by the physical elements of the natural site and, on the other hand, by the current elements of the urban fabric which represent a certain temporal persistence” (Cannigia & Malfroy, 1982, p. 36). (parcel, street, built, etc.) "... They play the determining role in the control of urban form by generating, in part, its conformation structure whose growth remains motivated, to some extent, by the previous or antecedent state...." (Cannigia & Malfroy, 1982, p. 36).

Gianfranco Caniggia contributed several ideas (Cannigia & Malfroy, 1982, p. 22):

- Urban form is understood through an analysis of the mutation of types over time
- Urban analysis proceeds from the particular to the general
- Defines himself as a "typologist" and not as a "morphologist"; refutes morphological analysis.
- Emphasises the built environment at the plot level.
- Each built object must be analyzed in its frame of reference
- The city is not an object but a process that generates and then alters objects in a progressive way.
- Caniggia speaks metaphorically of the elementary cell to designate this sort of primitive (basic) unit which, successively doubled or compartmentalized, has been maintained as a spatial module in the great mass of dwellings.

➤ Aldo rossi

The most constructed theory was formulated by the Italian architect Aldo Rossi in his book "The Architecture of the City", published in 1966. The manual by Caniggia and Maffei 2000 "Architectural composition and type of building: reading the basic building", “presents the theoretical foundations, concepts and methods of this theory, which responds to a tremendous need for general knowledge of the object to be studied before the stage of interpretation”. (Benbouaziz, 2011, p. 125). He states that "It is a question of breaking down the data offered by physical space in order to reconstitute its own principles or those it expresses". (Panerai & all, 1999, p. 189).

It puts forward the following ideas:

- The built environment is the revealer of social facts. And can therefore be analyzed outside the framework of the social sciences
- Describes and analyzes the process of transformation of the city, which is linked to the history but also to the memory of the place.

- puts forward the notion of place identity. The notion of a specific place or 'locus' is one of the important themes.
- One of the important factors in the creation of a city is the presence of natural structures and elements.

Elements of the Italian school (see Figure 2.13.)

1_ Complexity control, Breaks down problems to find the solution to each problem separately in order to achieve the overall goal.

2_ Morphological reduction, It is an operation of simplification of data.

3_ The structure of human settlements in the process of their genesis.

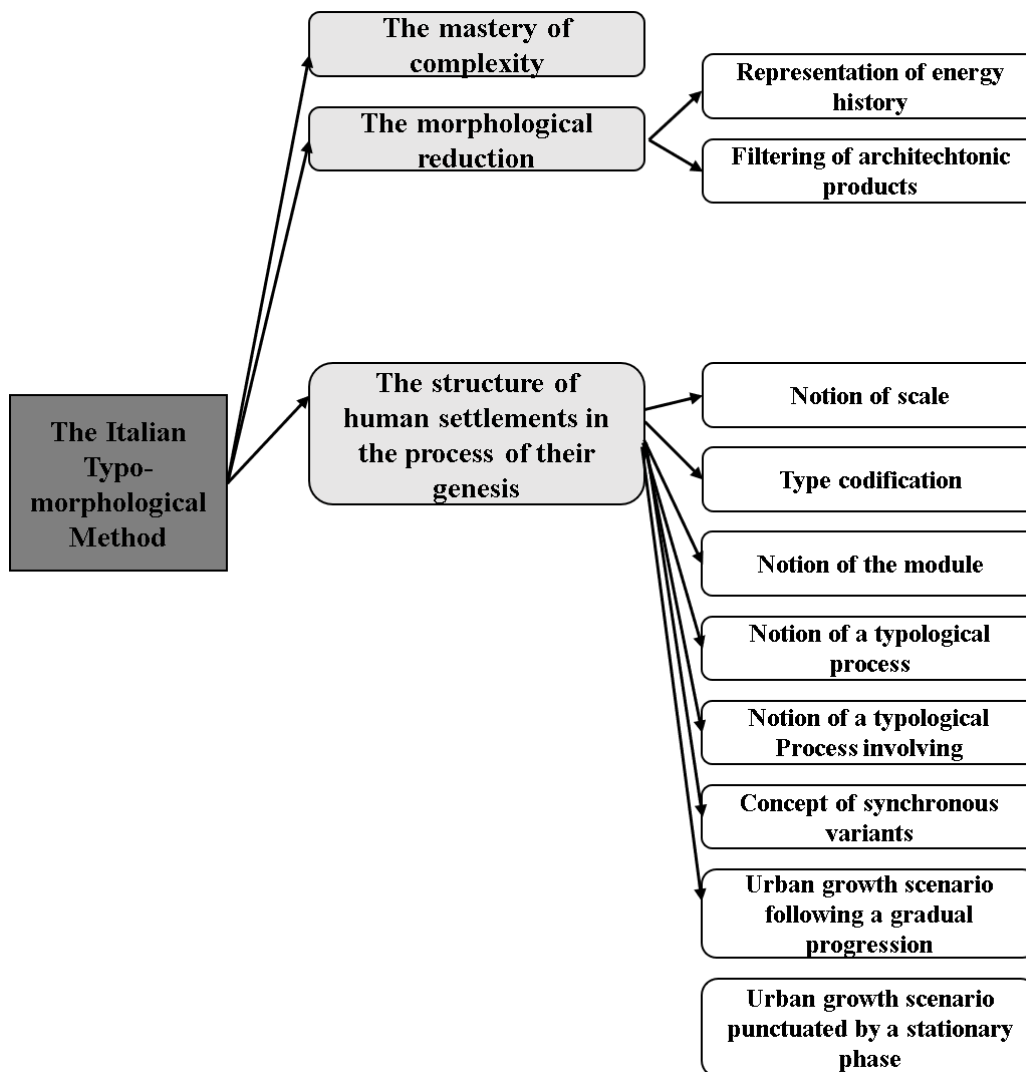


Figure 2. 13. Elements of the Italian school

Source : Author ; 2022

2.1.4.2. The French School

Typo-morphology is described as a series of components:

- **Typology of elements**

- A) Typology of built elements

- (Analysis criteria):

- 1-Relationship with the public space.
 - 2-External associative properties.
 - 3-Internal distributive property.
 - 4-Composition of the facades.

- B) Typology of non-built elements

- (Typology of streets) :

- 1- Relation of the streets in the traffic system
 - 2- Definition of space: existence and values of fences
 - 3- Intersection of streets.

- (Typologies of places)

- 1- Position in relation to streets: "away from the street, adjacent to the street, along the street, position of connections."
 - 2- relationship with the access roads.

- **Growth**

- 1-Types of growth: linear or multidirectional.
 - 2- Growth limits: material or due to internal balance.
 - 3- Boundary crossing: Change in structure or Change in barrier.
 - 4-Modes of growth: continuous or discontinuous.
 - 5-The forms of growth: densification, extension, directed, spontaneous . .

- **Articulation of the urban space**

Understanding of the city as a whole in which parts are articulated according to (see Figure 2.14.) :

- Hierarchy:

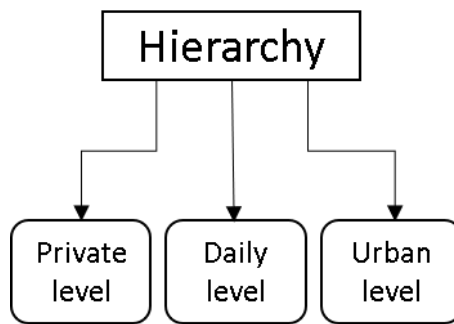


Figure 2. 14. The Hierarchy of Levels

Source : Author ; 2022

The private is determined in reference to the individual, while the daily one refers to the notion of the neighborhood, and the urban proposes an overall structure of the space and has elements that refer to the whole community

- Imbrication :

Which is founded on two key factors:

- Articulation factors: These elements allow the articulation of the different levels in the urban fabric.
- Superposition : This hierarchy that orders the urban space must be understood as an organization.

- **Referencing and legibility**

To perceive the urban landscape as a visual space on the scale of the city by taking into consideration the route, the nodes, the sector, the limits and the landmarks. Or on the scale of a route.

2.1.5. The Principles Of Typo-Morphological Lecture

It is important to recall some of the principles underlying this research, which are largely inspired by : G. CANIGGIA & Sylvain MALFROY , 1986 . and the ideas of J. CASTEX.& COLLECTIF, Reading a City-Versailles, 1980, Ph. PANERAI & Collectif, Urban Analysis, 2009.

2.1.5.1. Type and typology of built elements

The Muratorian school indicates with the general term of type, the whole of the conventions and the norms that are acquired during the constructive experience. G. Caniggia defines the type as a concept. It is considered, as being the operative information rooted in an experimental tradition. In other words, the type is: "A concept that represents a set of previous experiences anchored in the collective memory. It is therefore an abstraction accounting for a regularity, in the double sense of what is repeated and what serves as a rule..." (Cannigia & Malfroy, 1982, p. 34)

The notion of type "is only relevant if it accounts for a structure of correspondence between a spatial form and the practical and symbolic values attributed to it by the social group for which it is intended (le Dictionnaire de l'urbanisme et de l'aménagement, 1996, p. 803). Type is thus not considered as a simple category of classification, but as a form of production of space." It represents the whole of the conventions which, in a given society, constitute for example the idea of house". (Raymond, 1984).

Aldo Rossi tries to define the type as being formal invariants, and which remain in any circumstance for the architect, "a mode to face the reality". In a synchronic vision that Caniggia tries to articulate to the historical analysis, the type is an element whose relationship to the morphology is to be shown. Is a Category that has the same urbanistic and architectural characteristics.

The types are described according to the following characteristics:

- Principles of spatial organization in plan and elevation,
- openings,
- galleries/loggias,
- entrance,
- functional distribution,
- constructive system,
- insertion in the physical built and natural environment and grouping forms.

2.1.5.2. The standard

In the opinion of S. Malfroy, the standard is a specific regulation (fixing the size of buildings for example) established without involving all the components of the type. The standard is the result of often arbitrary norms. On the other hand, the type represents a very long constructive tradition, which varies from one place to another and from one time to another. According to G. Caniggia, the standard lacks the organicity of the type.

2.1.5.3. The module

It is defined as the series of architectures that follow one another, in stable and non-constraining ecological conditions.

We can therefore oppose the type to the standard and the model which is understood as an object that must be repeated as it is. Whereas the type is an object according to which each one can conceive works which would not resemble each other.

2.1.5.4. The hierarchy

Defining the hierarchy of the elements not only helps to understand the dependency between them, but also to determine which elements encompass the others. It is then possible to place the elements in the tree structure.

2.1.5.5. Referencing and legibility

The own movement of the observer who moves, it is apparent of the visual field, linked directly to the definition of the crossed spaces and the link of the spaces between them.

2.2. Spatial Syntax

Unlike pure morphology, which considers the social and cognitive ... as extrinsic parameters, spatial syntax models behavior within space by manipulating the relational and topological parameters of space. "It is based on the paradigm that considers space as a modifier of behavior, conveying a syntax that can be read through the constructed work" (Mazouz, 2020, p. 11).

Spatial syntax "is a set of theories and tools developed to analyze and model urban and architectural spaces" (DAAS, 2012, p. 32). Its project is based on the fact that the spatial morphology influences the distribution of the frequentation of spaces, and that the dynamics which result from it, condition in their turn the social interactions, the uses and the occupations which develop. Spatial syntax sheds light on the spatial translation of social relations. Since the 1970s, space syntax has created theoretical foundations and techniques for the

representation, analysis and modeling of urban and architectural spaces. Bill Hillier and Julienne Hanson published: "the social logic of space" or , and "space is the machine" these two publications bring together the basic concepts of this theory. These works, which constitute the bible of space syntax, have allowed many researchers, especially those from University College London (UCL) (Alan Penn, Ruth Conroy Dalton, Alasdair Turner, Alain Chiaradia, Tim Stonor, Dr. Laura Vaughan...) to develop and expand the field of use of space syntax.

This theory was originally developed in the mid-1970s, and "has been used by architects to examine the influence of the spatial layout of buildings and cities on the economic, social and environmental outcomes of human movement and social interaction". (Dawson, 2002, p. 465) . Its purpose is "to understand the influence of architectural design on existing social problems in many housing estates that were being built in the UK » (Oliveira, 2016, p. 101). Thus, publications that focus on examining the transformation of domestic space in relation to the family structure predominate in the field of spatial syntax research emphasizing space as the primary arena of socio-cultural events.

“The built environment is both a product of society and an influence on society” (Major, 2017). Spatial syntax aims to study and understand this relationship. It has developed a set of techniques for the simple representation of architectural and urban space.

Spatial syntax is “a research framework capable of generating a qualitative analysis of spatial formations and urban systems, ranging from the interior of a room to the city and its larger landscapes”. (Dursun, 2007) ; and (Nourian, Rezvani, & Sariyild, 2013)

It is both a concept and a methodology used in urban settings and in morphological and architectural research to analyze the spatial configuration within active social systems in addition to other economic and environmental phenomena.

2.2.1. Basics Of Spatial Syntax

How to describe the space? How to analyze the urban fabric in an objective way? How to predict movement and use from a spatial structure? How to evaluate the design of a space? How to measure the connection of spaces? How to investigate the relation between society and space? It is from these concerns that spatial syntax was born.

It is “an approach that studies the relationship between the spatial configuration and the behavior, practices and social patterns of users, by analyzing the different visual and topological relationships (boundary and neighborhood) that exist between different spaces” (Hillier&

Peponis, 1987). This movement came as a response to the lack of understanding between spatial relations and social life.

In terms of syntax, spatial configuration means relations between spaces that take into account other relations, and thus in fact relations between all the various spaces in a system. “Spatial syntax, in effect, takes certain common measures of relationality in graphs, and theorizes them first in terms of their potential to embody or convey social ideas, and then transforms them into measures and representations of spatial structure by linking them to geometric representations of space”, Its objective is to understand the built environment and its social meaning based on the concept of bounded space.

Spatial syntax is a method of analysis that questions the forms of different constructed objects themselves before resorting to their social reasons and impacts.

This theory is based on two axial principles (Hillier, 1987):

1. Develop descriptive methods that are sufficiently precise to identify similarities and differences in a rigorous manner.
2. To evaluate the degree of autonomy of his objects of study as unknowns.

The morphologist cannot indeed favor, a priori, a conception that would claim that his objects of study are completely determined by external forces or that these are totally absent.

This method of analysis treats space as a bipolar system comprising :

- Primary cells which are the constructions {buildings, houses, etc....}.
- The world outside these cells or the road network which represents the urban open spaces. These are defined as the part of the urban space not occupied by buildings, such as squares, streets, setback areas in front of buildings, green spaces, riverbanks, etc.

All these closed and open spaces constitute a whole and continuous system. The relationships between them create a system of open space. A syntactic analysis not only seeks to describe the different urban forms, but also seeks to show how these differences are produced and how they embody, in their forms and structures, social meanings. “This method thus establishes its description of the overall structure of space in such a way that the structure of closed and open spaces can be characterized by two kinds of social relations” (DAAS, 2012, p. 34) :

- Those between inhabitants of the human settlement or neighborhood also called, by the spatial syntax, "local relation".

- And those between inhabitants and strangers also called, by the spatial syntax, "global relation".

The spatial syntax is based on two postulates (see Figure 2.15.):

1. Space is not a background of human activity, “but it is an intrinsic aspect of it; one of its components” (Hillier & Vaughan, *The city as one thing*, 2007). In space, people:
 - Move along linear or straight paths (a).
 - Interact in convex spaces (b).
 - See changing visual fields as they move (c).

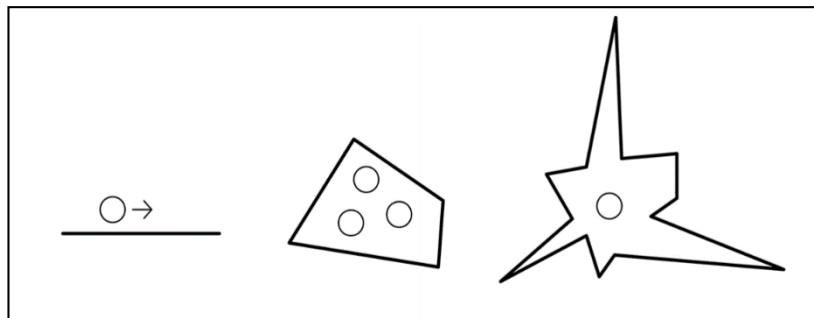


Figure 2. 15. The relationship between space and activity

Source : Hillier et al, 2007, p91

2. Space is understood in relation to human use "space is what we use" (Hillier & Peponis, 1987).

This set of techniques allows first of all “to obtain a graphical representation of the spatial network in the form of a "justified graph"”; (Dawson C. , 2002); (Bafna, 2003) ; (Al-Sayed, Turner, Hillier, Iida, & Penn, 2014). This graph is based on the concept of nodes, each of which represents a space (rooms, courtyard, etc.), and links between nodes, which represent connections between spaces (doors, openings, etc.). The "justified graph" visualizes the accessibility of each node (its depth) and the circulation network in which it is embedded. The "justified graph" can be constructed from an axial map or a convex map. The two maps allow us to understand the distribution of spaces and the circulation between them.

2.2.2. The Purpose Of Space Syntax

- Discover social customs, behaviors and norms. (Mazouz, 2020, p. 10).
- Examines the direct influence of accessibility, movement, visibility, on human behavior, communications and resulting interactions (Daas, 2012, p. 30).

- It attempts to explain human behavior and social activities from the perspective of spatial configuration (Hillier & Hanson, 1997).
- Availability within buildings and within neighborhoods or cities can be explored in the same way (Hillier & Vaughan, 2007).
- While it can be concluded that space affects the sense of community, it can also be predicted how the shape of the space will affect the frequency of interaction (level of inhabitants). “This can be achieved by creating a common infrastructure in public spaces, friendly and accessible streets, and by making informed choices in the positioning of doors and windows” (Talen, 1999) .

2.2.3. What Is The Spatial Configuration?

In the spaces of the city there are many human behaviors that occur, having their spatial form of which there is an expected relationship between these spaces and its use, it lies in the relationship between configuration of people and configuration of space. The configuration as defined in Hillier's book space is that the machine is "a set of interdependent relationships in which each is determined by its relationship to all the others" (Hillier, 1996, p. 24). Arranging spaces in such a way influences how we use them depending on how we relate these spaces to each other (Hillier, 1996). For example, figures A and B show two different types of spatial configuration, although they appear similar in adjacency and number of cells, they are completely different in the underlying topology. (see Figure 2.16.)

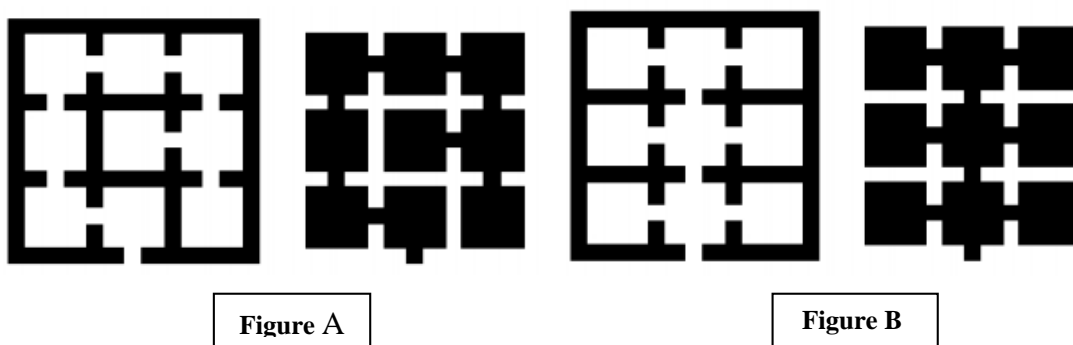


Figure 2. 16. The spatial configuration
Source : Bill Hillier 1996

2.2.4. Space Syntax Terminology

Spatial Syntax is a method of describing and analyzing the relationships between spaces in urban areas and buildings. In Spatial Syntax, spaces are understood as voids (streets, squares, rooms, fields, etc.) between walls, fences and other obstacles or obstructions that restrict (pedestrian) traffic and/or visual field.

Space can be described in three geometric ideas (Benedikt, 1979) (see Figure 2.17.):

- Axial space: linearly when people move in it,
- Convex space: (in which each point can see itself) when they interact within it and no line between two of its points crosses the perimeter.
- Isovist space: which, from any point in space, can be seen as a variable form of visual field often bristling.

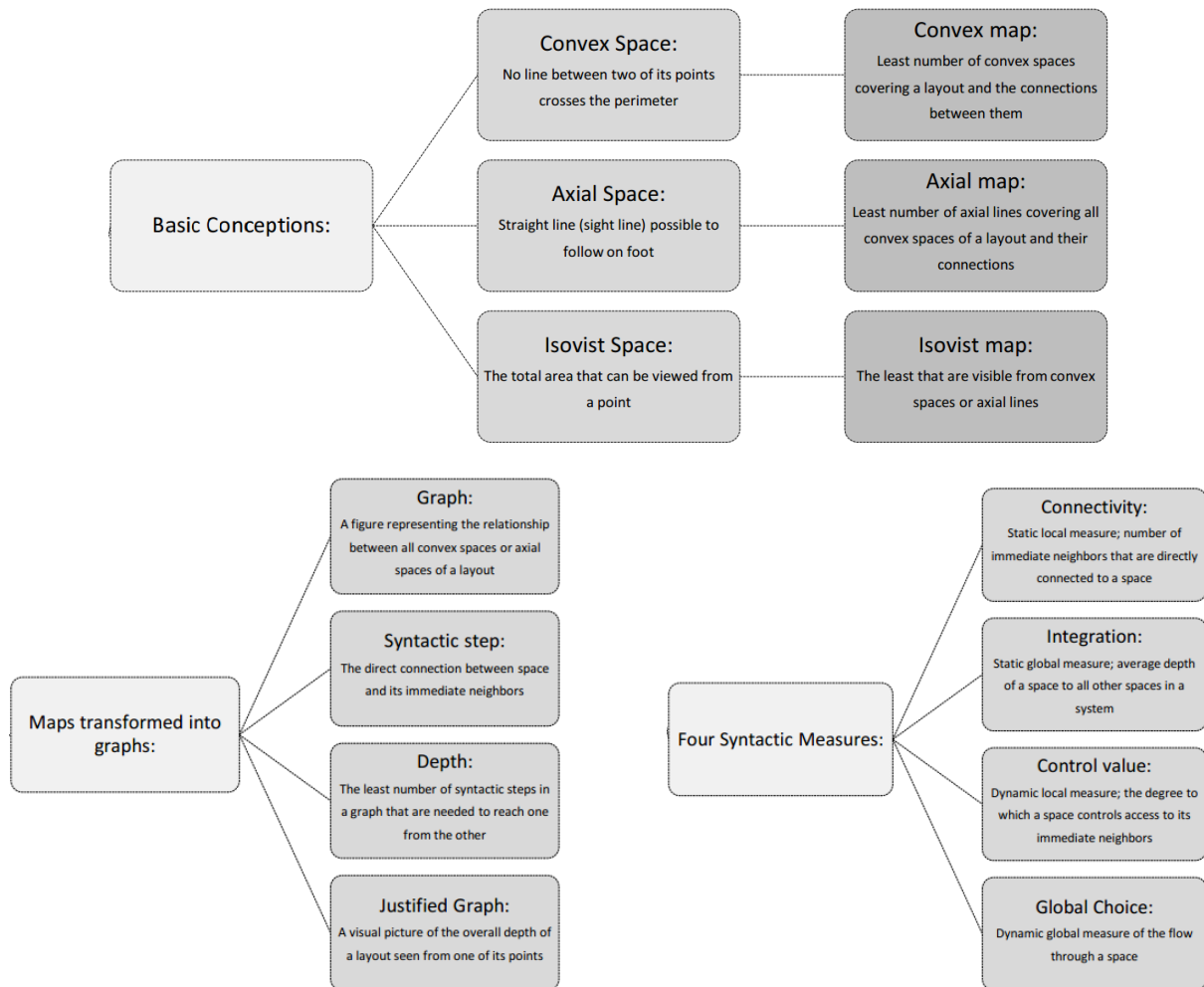


Figure 2. 17. Diagram of the terminology of the spatial syntax.

Source : (Klarqvist, 1993)

2.2.5. Basic Concepts Of Spatial Syntax

2.2.5.1. Urban System According To The Spatial Syntax

In the spatial syntax, the analysis of any urban space must respond to a series of postulates which are (Daas, 2012, p. 36) (see Figure 2.18.):

Each part of the system selected for study must be composed of at least :

X: a cluster of primary buildings (homes, facilities, stores...).

Y : an encircling space (the external part of the system).

X : the secondary borders (gardens, courtyard borders...).

y : The free and public space of the system or the road network (streets, squares).

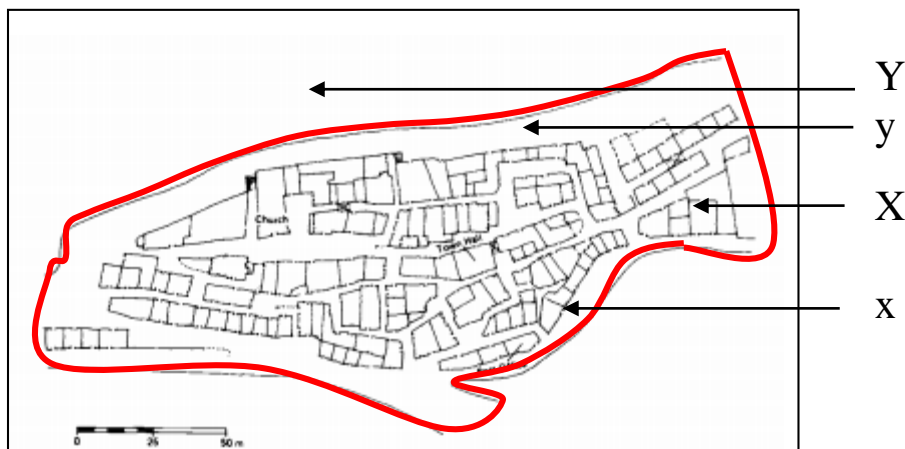


Figure 2.18. The system structure of any urban space

Source : (Hillier , 1984, p90)

Not to be overlooked are the spaces between the closed and open areas, either X-y or x-y. (see Figure 2.19.)



Figure 2.19. The structure of the open spaces of a French village

Source : (Hillier, 1984, p91)

- Any urban system can be assimilated to an ordered structure, composed of X-x-y-Y, it can be considered as a 'bipolar' system, with X a local pole and Y another global one. These two poles of the system correspond to a main sociological distinction concerning the users of this system. X is the part dedicated to the inhabitants while Y for the foreigners. This explains the existence of two different relationships between the inhabitants of the system and between the inhabitants and foreigners, which have a crucial impact on the urban system.
- The road network called y must also be considered through the two notions : axiality and convexity.
- Each convex or axial space in the system will have some description of syntactic relationships with respect to X, x, y and Y . It can be described and evaluated quantitatively in terms of degree of symmetry/asymmetry, degree of integration and finally degree of distribution. The more symmetry the description reveals (again with respect to X and Y), the more there will be a tendency towards integration of social categories (between inhabitants and foreigners), on the contrary if the description results in asymmetry, then there is a tendency towards segregation of social categories. The more the spaces at the level of the system are well distributed (again with respect to X and Y), the more there will be a tendency towards the diffusion of spatial control, while being non-distributed a tendency towards a very ordered unitary control.

2.2.5.2. Axiality

We can take it as the factor that measures the length of the street (followed by a line), and the axiality of the network refers to the trajectory element. It is the tracing of the longest and least numerous lines that cover the system.

- **Axial Map**

It figures the support lines of the movements, a support of visibility or displacement and sometimes both or superimpose themselves to give a remarkable experience on the space. The axial lines are lines of maximum visibility that connect the spaces and stop as soon as the direction changes. (see Figure 2.20.)

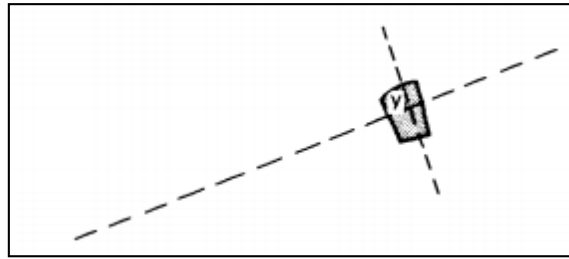


Figure 2. 20. Axial Lines

Source : (Hillier , 1984, p91)

It is a spatial representation that shows the few longest straight lines for the entire road network of a city, taking into account the limit of visibility and the maximum distance one can walk. (see Figure 2.21.)



Figure 2.21. The axial map of a French village

Source (Hillier , 1984, p91)

▪ **Graphical representation of the axial map:**

It is represented by a graph where “lines are assimilated to connections and intersections of lines to nodes” (Hillier & Hanson, 1984). Its initial conception is a reference to the activity of human movement in space. Axiality is present in the movement of man within space. It arises from the interaction between the eye and the movement. Once the system of space is represented it can be analyzed as a system of syntactic relations, which means analyzing them in terms of the fundamental properties of symmetry/asymmetry and distribution/non-distribution. To show how this is done, we must first transcribe the system of axial spaces as a graph. (see Figure 2.22.)

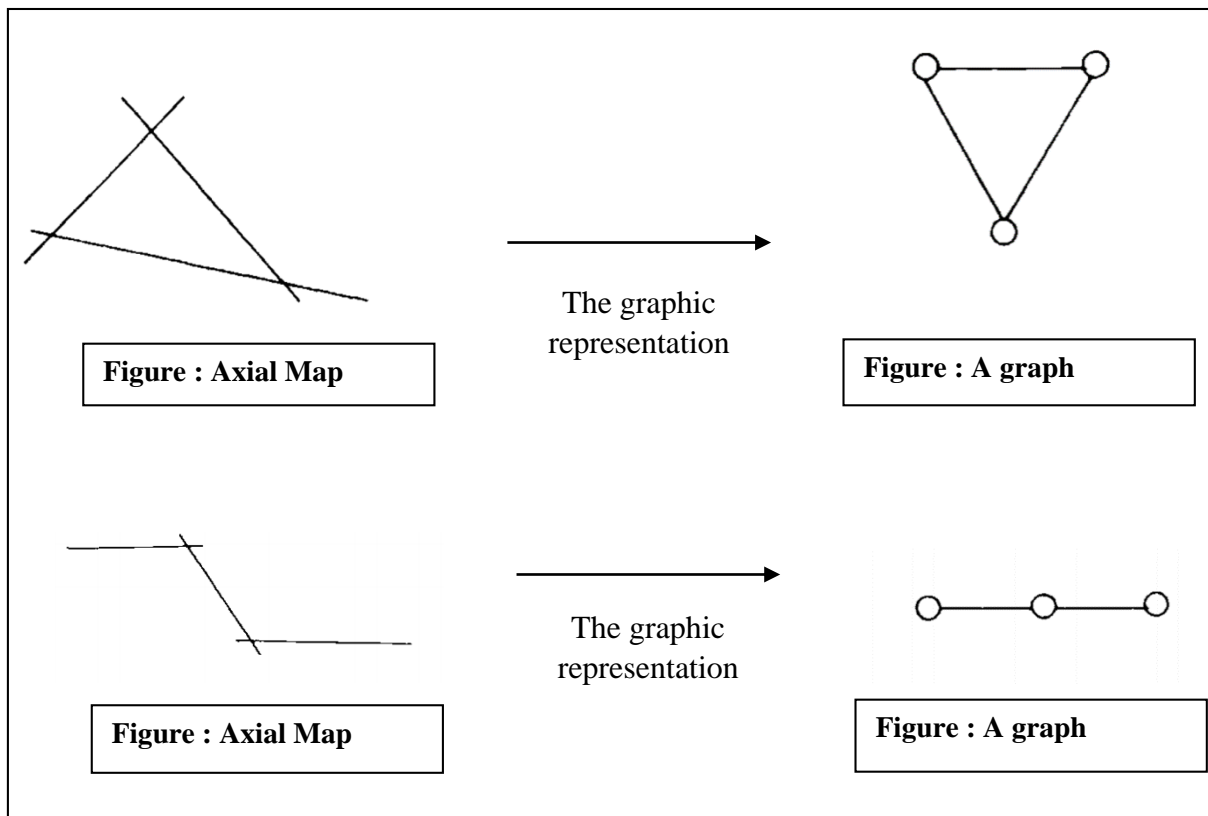


Figure 2.22. The graphic representation of the axial maps

Source (Hillier , 1984, p93-94)

This graphic representation is based on the small circles that define the intersections between the axial lines and represent their relationships.

▪ **Numerical analysis of the axial map**

The purpose of an axial analysis is to measure:

- The relationship of straight lines that are tangent to the corners of buildings.
- The relationship between these lines and the angles they form with each other.
- The relationship between these lines and the angles they form with the buildings.
- Define the limits of the field of visibility of an observer in the area considered.

To carry out this analysis it is essential to :

- make maps at a scale of 1:250.
- mention the entrances of the buildings.

It should be noted that this digital section for the analysis of an urban space is computer assisted. The most used software is the Depth map.

2.2.5.3. Convexity

The mathematical definition of convexity states that an object is convex if for any pair of points (A,B) of this object, the segment AB which joins them is entirely contained in the object. (see Figure 2.23.and figure 2.24.)

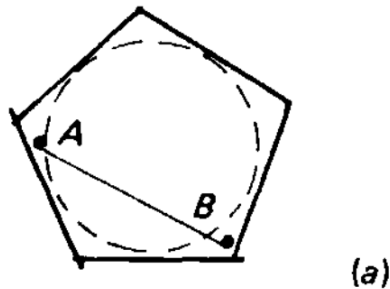


Figure 2.23. Convex space, no line drawn between two points in the space leaves the space.

Source (Hillier , 1984, p98)

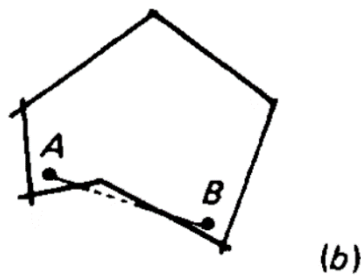


Figure 2.24. Concave space, a line drawn from A to B goes out of the space.

Source (Hillier , 1984, p98)

Convexity, as defined by spatial syntax, is the spatial property that reflects the factor measuring the width of the street or spaces within it. In a convex space, each person can perceive all other people and through all angles of view. Therefore, all the boundaries of the space are visible, this refers to a total inter-visibility.

- **Convex map**

This is a one-dimensional representation of the spatial model. It is based on the limit of visibility and the maximum linear path taken by a pedestrian. It is as much assimilated to the morpho-topological approach of space, since it is based on "the observation that the spatial perception is above all of topological nature" (Piaget, 2006, p. 14).

The axial map is also one of the means used to analyze urban form. It applies the above-mentioned characteristics to the large scale of the city. "This map forms the basis of the

computer modeling technique from which one can quantitatively estimate the movement potential, distribution of activities, etc. in large spatial networks, such as cities” (Piaget, 2006, p. 14). (see Figure 2.25.)

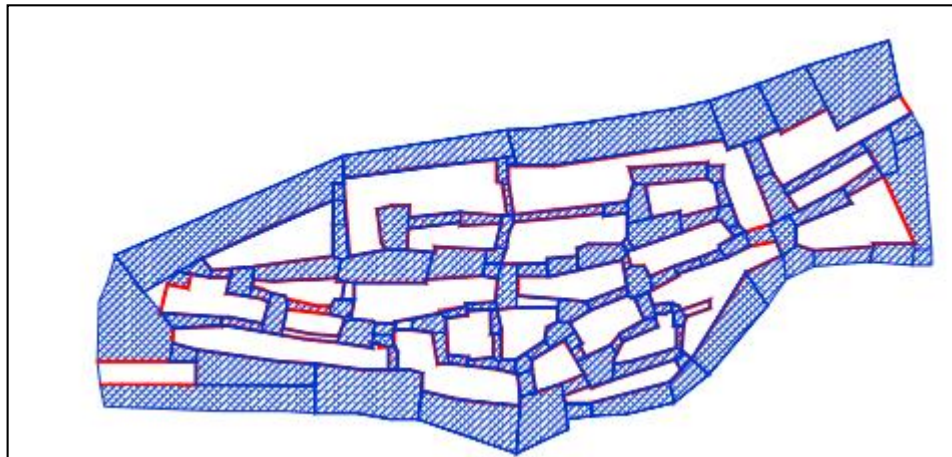


Figure 2. 2. the convex map of the French village

Source : Bill Hillier, 1984, p. 92

2.2.5.4. Isovist

All human activity is rooted in space (see Figure 2.26.): “individuals move in straight lines, interact in convex spaces, and recognize their environment through visual fields called isovists” (Karimi, 2012)

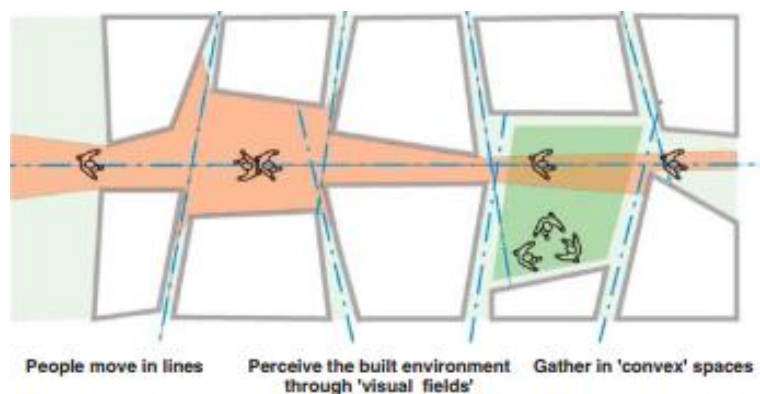


Figure 2.26. The most basic attributes of space used to create space syntax models.

Source : Karimi 2012.

An isovist is “the total area belonging to a given environment; which can be seen from a well indicated generating point” (a vantage point) (Klarqvist, 1999). In pursuing the characteristics of isovists, we find that it is useful in describing visibility and defining spaces based on their visual and socio-spatial qualities.

a. Definition

The concept of isovist was introduced by Benedikt; An isovist is a polygon associated with a viewpoint that incorporates any segment connecting each of its points to the same viewpoint. This topological property facilitates the analysis of the isovist by reducing it to the analysis of its contour lines (Klarqvist, 1999). According to Leduc "An isovist is a 2D horizontal slice of pedestrian's surrounding space." (Leduc et al., 2011).

Let $E \subseteq \mathbb{R}^2$ be an environment and $p \in E$ a point in that environment. The isovist $V_E(p)$ is defined by:

$$V_E(p) = \{q \in E \mid [pq] \cap E = [pq]\}.$$

In discipline, "visibility is described by a field of view which implies all the properties of the isovist; indeed, visibility is all the better as the visual field is large, which is directly proportional to the surface and the perimeter" (Aksas et al., 2021). On the other hand, the higher the occlusivity, the more visual barriers there are in the field of view, which can reduce the visibility of objects behind or in occlusion. Thus, "the more the perceived visual field resembles a circle in shape (shows the absence of visual barriers in space), the greater the compactness" (Turner, 2007) .

b. The origin of the term

Many researchers from various academic fields had long been interested in the origins of the isovist as a means of representing what is visible from a single specified location in space. Benedikt is probably the most influential in bringing isovists to the attention of architects and built environment researchers through his work on the application of isovist analysis to buildings, using a range of isovists rather than a single isovist, and considering that isovist attributes can be architecturally significant.

The concept of isovist was created by Benedikt (1979). Isovist is "the set of all points visible from a given vantage point in space and with respect to an environment" (Benedikt, 1979). The environment referred to here is that defined by Gibson: "the visible environment is defined as arrangements or surrounding surfaces that give structure to the light scattered by the surfaces"(Gibson, 1966). An isovist corresponds to the space of visibility of an observer in an architectural or urban space.it is the polygon that contains the entire visible area of a particular location. It corresponds to the pattern of movement of people. (see Figure 2.27.)

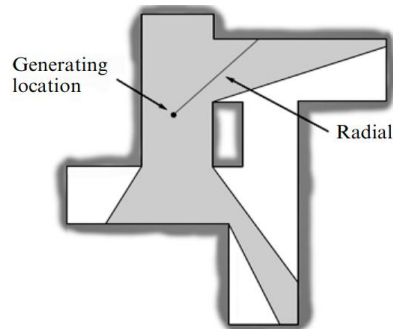


Figure 2.27. An isovist polygon
source: Alan Penn 2001.

An isovist field is “a set of isovists in a given environment (architectural or urban)” (Daas, 2012, p. 73). An Isovist map illustrates all areas visible from convex spaces or axial lines. (see Figure 2.28.)



Figure 2. 28. An isovist map.
source : wikipédia

The beginning was by considering the volume visible from a location, then simplifying this representation by taking a horizontal slice through the "isovist polyhedron". “The isovist of a point is the totality of the points that can be seen from this point; the condition of visibility between two points being that the segment of straight line that connects them does not intercept any of the sides of the figure, obstacles included” (Daas, 2012, p. 25). (see Figure 2.29.)

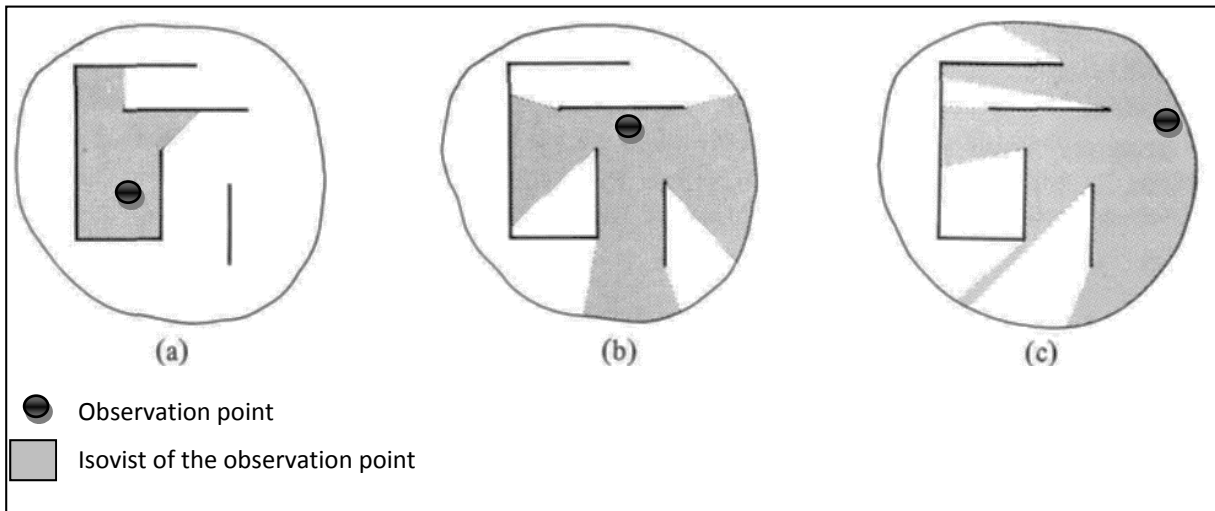


Figure 2.29. Isovists of different generator point locations

Source : M.L.Benedikt, 1979

This set forms a connected surface. From this elementary definition, Benedikt proposes two types of spatial treatments.

- A first type of treatment consists in computing the properties (area, perimeter, compactness, occlusivity, etc.) of the isovist of points distributed according to a regular mesh.
- A second type of treatment consists in searching for particular sets of isovists, which correspond to specific configurations, such as minimum paths.

Later, Turner et al. adopted this approach, which is based on an algebraic analysis that consisted entirely of creating a matrix of coordinates covering the entire area of the configuration, and then producing a graph of the inter-visibility of these points with each other to develop a numerical model that can then be the subject of the same applications provided by Benedikt. Thus, isovists and isovist fields are methods for morphological analysis of architectural and urban spaces. They are mainly used in two-dimensional (2D) spaces. “Building on Benedikt's idea, spatial syntax has provided a measure that defines isovists of integration in an environment (Penn & Turner, 1999); This concept has been defined as visibility graph analysis (VGA)” (Turner et al., 2001).

The usual isovists are “two-dimensional and extend 360° around an observation point” (Montello, 2007) With an angle of 360° we speak of a complete isovist.

c. Isovist measurements :

Benedikt in 1979 has been able to define 6 main measures of the isovist (Benedikt, 1979) ; he demonstrated that each point is a unique isovist. From the polygons of isovist several quantitative descriptors can be derived; (see Figure 2.30.)

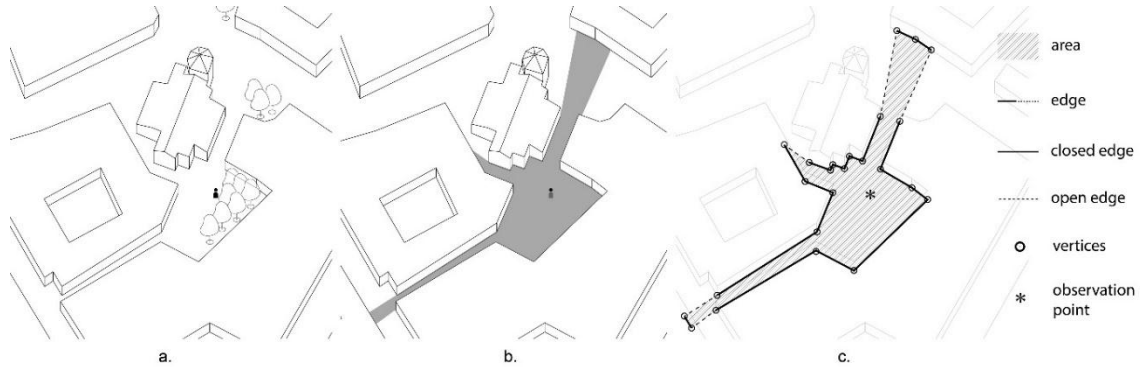


Figure 2. 30. Isovist Measurements

Source : M.L.Benedikt, 1979

which are intended to reflect physical properties of the corresponding space such as:

- Area or Sphere (Area A): It measures how much surface can be seen from a point x.
- The perimeter (the real surface perimeter P): It measures how much real environmental space can be seen from a point x.

$$P_v = \frac{k}{n} \sum_{i=1}^n E_i \quad E_i = \sqrt{(X_i - X_{i-1})^2 + (Y_i - Y_{i-1})^2}$$

Where:

'E_i' provides 'edge' length between radial ends,

'X_i and Y_i' are the coordinates of the nearest radial intersection,

'n' the total number of radials sampled,

and 'k' the number of samples in one 360-degree cycle.

- Occlusivity Q : Which provides an indication of the degree of spikiness or shredding or dispersion of the isovist, It measures the length of the radial occlusion boundary |R_x|, indicating the depth to which the environmental surfaces partially overlap, as seen from point x.

$$O_v = \frac{k}{nP_v} \sum_{i=1}^n |E_{i_occ}^2 \cdot L_i|$$

Where

‘**Li**’ provides radial length,

‘**Ei_occ**’ is the fraction of occluded edge detected,

’**Pv**’ the perimeter value,

’**n**’ the total number of radials sampled.

and ‘**k**’ the number of samples in one 360-degree cycle.

- Clustering : Clustering: or convexity which is a measure that is used to qualify the degree of compactness and convexity of the space, discusses how much the shape of the isovists resembles a circle. It is measured by :

- ✓ The variance of the radials M2 : it measures the dispersion of the perimeter with respect to x.
- ✓ The skewness of the radials (M3): measures the asymmetry of the perimeter dispersion with respect to x

$$C_v = \frac{4\pi A_v}{P_v^2}$$

C_v = compactness

A_v = area (area of all space visible from a location)

P_v = perimeter (length of the edge of all space visible from a location)

Equation : Formule de la compacité. Source: (Snopková et al., 2022)

Where

‘**Li**’ is radial length,

‘**Qv**’ the average radial length from V;

and ‘**n**’ the total number of radials sampled.

- Circularity N : it measures the duality of compactness/complexity

$$Circularity = \frac{isovist\ perimeter^2}{(4 \times \pi \times isovist\ area)}$$

Other quantifiable measures of isovists have been the subject of research by several academics, and have been developed in the near future. (Benziouche, 2014) :

- The disagreement which describes the degree of dispersion of the perimeter relative to x and the asymmetry of such dispersion and the skewness which is a good indicator of the asymmetry of
- The drift which is a concept defined by the shape of the isovists, and describes the vector that the origin of the isovists with its surface center the perimeter of an isovist polygon.
- Jaggedness a measure that was developed by the research of research of Wiener and Franz, it is not defined quality in case of existence of in the space. Jaggedness or Irregularity of the groupings is the square length of perimeter divided by surface.
- The dispersion which is a measure developed by Wiener and Franz, it is the difference between the values of the mean standard deviation and the radial lengths of the isovists. This measure can take a positive or negative value.

Isovists are used to describe local geometric properties of spaces from different vantage points by presenting all possible viewing directions. It is a polygonal representation of a two-dimensional 2D part by a potential field of view; it is usually built to the size of the eye and parallel to the floor plane. (see Figure 2.31.)

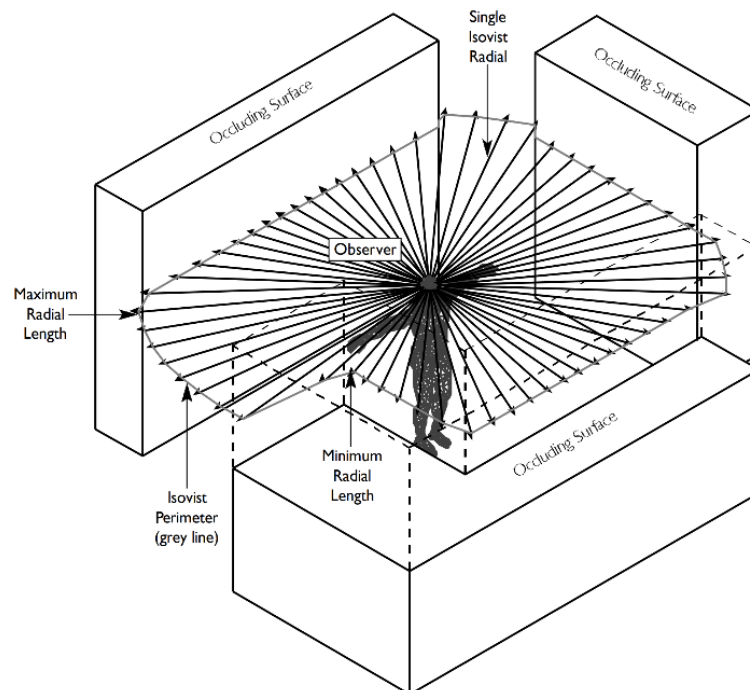


Figure 2.31. Representation of a classical isovist and its primary attributes

source: Conroy, 2001

Turner, considers that isovists are “an intuitive way of attraction to rethink the spatial environment, because they describe the space to us from the point of view of the individuals, as they perceive it, interact with it, and move through it. Isovists have a particular relevance to architectural analysis” (Turner et al., 2001)

d. Determination of spatio-visual qualities of isovist properties:

We have the capacity to identify the visual and socio-spatial qualities of the studied space from an isovist analysis; because it is interested in the qualities of (Wiener & Franz, 2005) :

- Spaciousness ; using a calculation method called "neighborhood size", based on the area of the isovist with the basic measure "the sector" which is the number of 1.5m X 1.5m places that are located with at least inside 50% of the isovist.

The neighborhood of a vertex is the set of vertices immediately connected by an edge. Expressed in terms of graphical notation, the neighborhood N_i of a location v_i is the set of vertices directly visible :

$$N_i = \{v_j : e_{ij} \in E\}$$

- Openness; relative to the number of vistas in the adjacent rooms and the physical closure rates. The aperture here is the length of open result of occlusion edges, it is calculated as follows: the aperture is the ratio between the length of open edges to the length of closed edges.

$$\mathbf{L'ouverture} = \mathbf{L} \text{ (bordures ouvertes)} / \mathbf{L} \text{ bordures fermées}$$

- Complexity ; the method of calculation of this quality takes into consideration the number of edges as well as the number of segments. the number of vertices or segments composing the regular isovist, vertex density, and grouping again the compactness, or jaggedness "irregularity" of isovist, relying on the jaggedness and compactness verifies its complexity.

- Order, tested on two main factors :

- ✓ Symmetry (calculated along n symmetrical axes).
- ✓ The redundancy calculated according to the equation

$$\mathbf{Redondance} = \mathbf{n} \text{ segments} / \mathbf{n} \text{ segments} + 1$$

basic spatial quality	isovist and visibility graph based descriptor variables	calculation method
spaciousness	isovist area	neighborhood size
	free near (medium) space	n visible graph vertices at 2 (4) m distance
openness	isovist openness	$\text{length}_{\text{open edges}} / \text{length}_{\text{closed edges}}$
	jaggedness	$\text{isovist perimeter}^2 / \text{area}$
	revelation	$(\sum \text{area adjacent isovists} - \text{isovist area}) / \text{isovist area}$
complexity	number of vertices	n isovist vertices, n segments
	vertex density	n vertices / area
	roundness	$\text{isovist area} / \text{perimeter}^2$
	jaggedness	$\text{isovist perimeter}^2 / \text{area}$
	clustering coefficient	$n \text{ intervisibilities within current neighborhood} / (\text{neighborhood size} * (\text{neighborhood size} - 1))$
order	symmetry	n symmetry axes
	redundancy	$n_{\text{segments}} / n_{\text{unique segments}} + 1$

Table 2. 1. Properties and calculation equations of the isovist

Source : (Mazouz, 2009).

Isovist fields have a wide range of applications. You can either make a 180-degree or 360-degree isovist field selection. “The first illustrates what you see when you enter an environment, while the second shows what you can see when you return to where you are sitting” (Akkelies, 2021). (see Figure 2.32.)

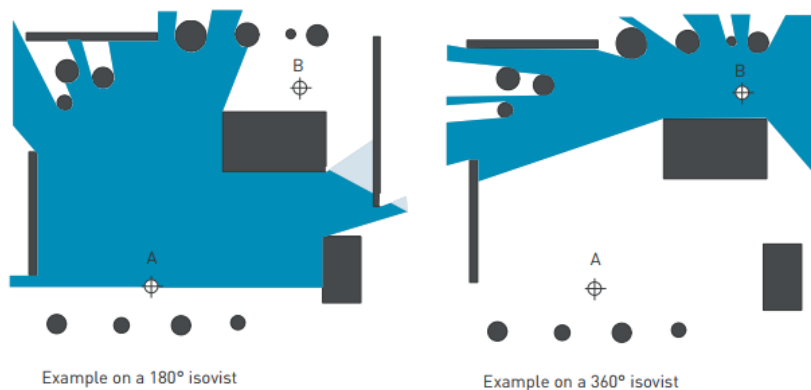


Figure 2. 32. Examples of the isovist at 120° and 360°.

Source : Akkelies Van Nes ,2021.

2.2.6. Basic Configuration Notions Syntactic

Space syntax has identified a group of basic configurational notions:

- The Concept Of Connectivity :

Connectivity is the syntactic property that allows for the connections that a space can have with other spaces in its environment, where axial lines are assimilated to connections and their intersections to nodes. It is studied by means of the axial map. It should be noted that the axial map can be obtained by highlighting all the axial lines that cover the agglomeration's open space, the number of connections of a space with its neighbors. Local measure.

- The Concept Of Permeability:

A property subordinated to the direct relationship between two spaces (direct accessibility).
(see Figure 2.33.)

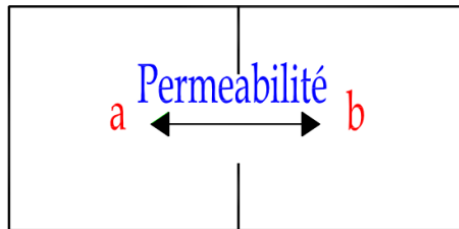


Figure 2.33. A cell divided into two spaces linked by an opening
Source : Bill Hillier et al., 1987 et Hanson, 1998

- The Concept Of Depth:

A property of the "space syntax" that dictates the number of steps (spaces) to go from one space to another: "it is a powerful property that shows the existence or not of a strong social control". (Mazouz & al., 2000) , It is when you have to pass through one space to reach another. (see Figure 2.34 .)

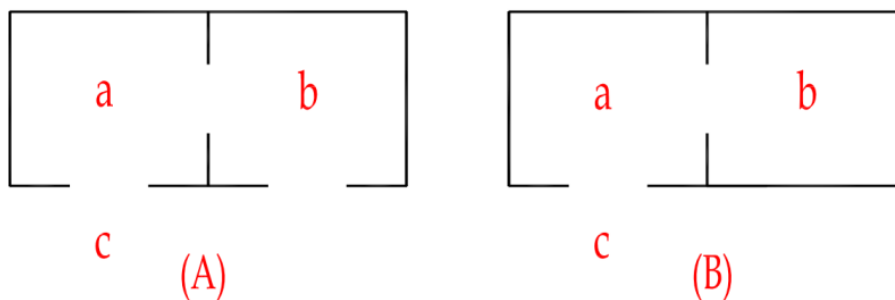


Figure 2.34. The depth.
Source : Bill Hillier et al., 1987 et Hanson, 1998

Figures (A) and (B) illustrate that there are two possible relationships of spaces (a) and (b) with the outside or space (c) (see Figure 2.35.) :

- In figure (A), the two spaces (a) and (b) are directly connected to (c).
- In figure (B), only space (a) is connected to the outside (c), so it is necessary to pass through space (a) to get to space (b) from space (c).

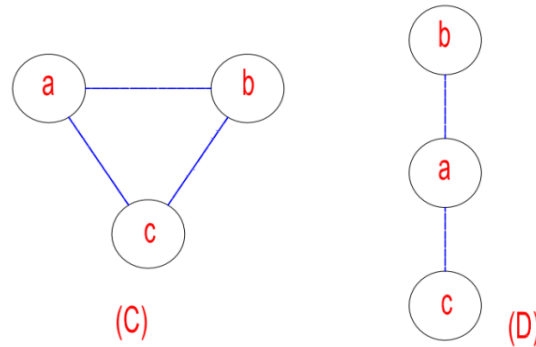


Figure 2.35. The graphical representation of the spatial configuration of figures (C) and (D)

Source : Bill Hillier et al, 1987 et Hanson, 1998

The graphical representation shows how many spaces you have to pass through to get to each space from a chosen root.

- The Concept Of Integration :

Among the various indices proposed by spatial syntax is “integration, which is a structural measure, akin to an accessibility index. It allows to estimate the distribution of the natural movement” (Jiang & Claramunt, 2002).

In order to introduce the notion of integration, we must first return to the notion of depth. The depth of an axial line is defined by the number of lines that are a given number of steps away from this axial line. Integration is the fact of being part of a whole, a group, a system, a country...etc.

Hillier defined it: "Integration is a static global measure. It describes the average depth of a space to all other spaces in the system. The spaces of a system can be ranked from the most integrated to the most segregated". (Klarqvist, 1999, p. 11)

This means that we are now capable of demonstrating each space in a numerical way, and then quantifying its relationship to the others.

Bill Hillier explained this notion by a study established on the town of Barnsbury in North London. (see Figure 2.36.)

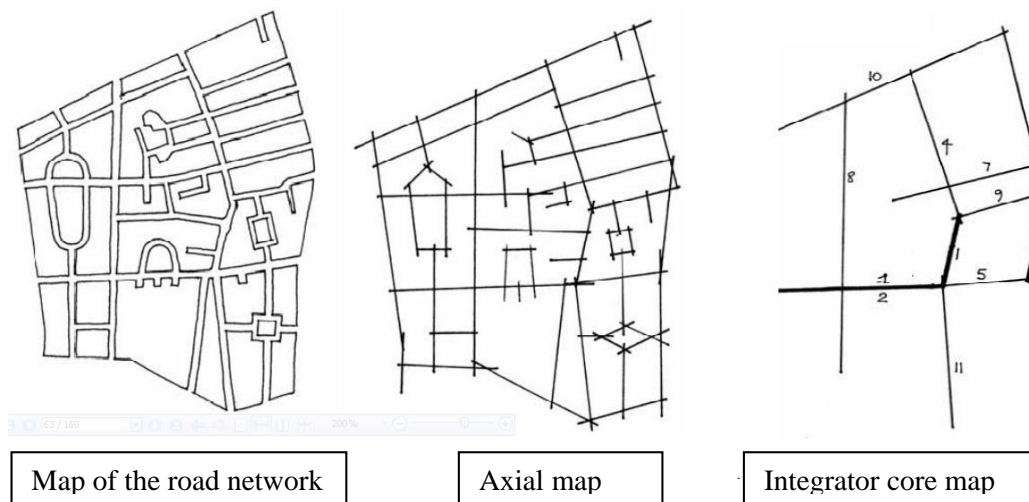


Figure 2.36. The integrating core in the city of Barnsby (London).

Source : Ralph HENSON et Stephen ESSEX, 2003, p. 257

The "integrated" routes are those that :

- have fewer turns.
- are "shallower" .
- are the most accessible in the spatial system.
- are generally located where the most important buildings and uses are located: e.g., shops.
- The Notion of Intelligibility:

It is a property presented by Bill Hillier by an example in his book "space is a machine". More precisely it is the way of perception of spaces. The 2 following plans show this notion graphically. (see Figure 2.37.)

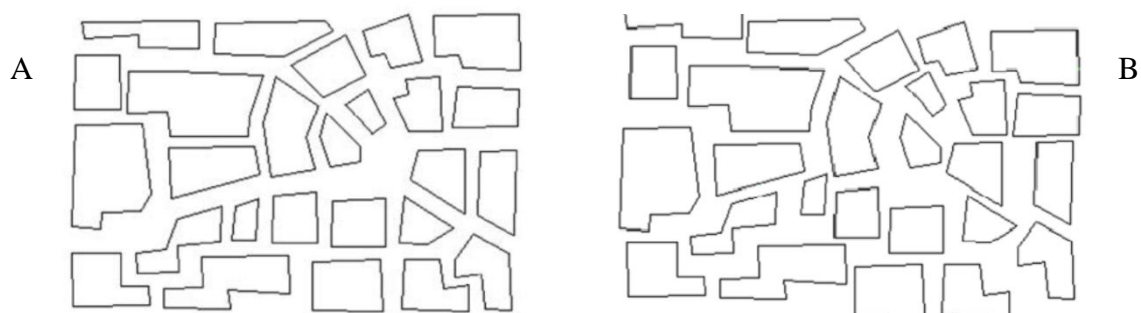


Figure 2.37. plan A and Plan B

Source : Bill Hillier 1996.p95

In Plan A the built-up area is arranged along lanes with a certain degree of irregularity but with a more or less urban layout (system) and therefore more "intelligible".

In Plan B the built spaces are not in the same location, they are slightly displaced from Plan A to create a less urban and less intelligible system.

The moving observer will perceive the difference in intelligibility that resides in the field of view, which changes continuously in both cases. (see Figure 2.38 and 2.39)

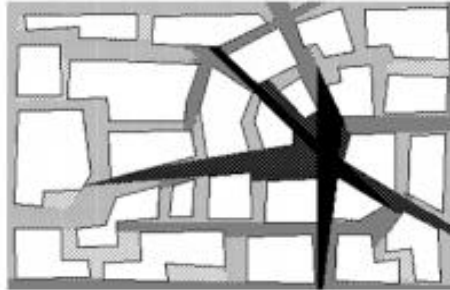


Figure 2.38. A more intelligible layout

Source : Bill Hillier 1996.p95

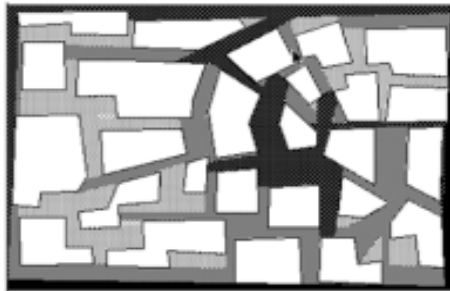


Figure 2.39. A less intelligible layout

Source : Bill Hillier 1996.p95

For Plan A, the intersecting spaces will be represented by a dark color, these parts have a strong integration with respect to the other spaces. Plan B does not have a strong center of integration, so this layout is less integrated than the 1st one and the depth from one space to another is greater. “The intelligibility is a property that can be better seen through the axial analysis, than through the convexity because the axial lines are more global and the visibility is maximum while the convex elements only highlight the immediate neighborhood”. (Daas, 2012, p. 61).

- The Concepts Of Accessibility And Visibility :

In order to understand the relationship between space and human activity, it is necessary to take into consideration the relational aspects of space. In this case we distinguish two types of relationships:

- physical accessibility: any inaccessible space is logically unusable.
- visibility: invisible space is therefore inaccessible and unusable; this is visual accessibility.

These two relations ensure that the space has relations with the global spatial environment. With

the spatial configuration one can manage the possibilities of movement, sight and social interaction in the space. It facilitates or not the production of certain behaviors.

2.3. Depth Map

DepthMap is “the main computer program utilized by Spatial Syntax which has other analysis software used for various purposes including: Axman, Spatialist, Axwoman, OmniVista, Isovist Analyst, Confeego, AJAX and OverView” (Daas, 2012, p. 73).

Is a multi-platform tool for performing a set of spatial network analyzes designed to understand social processes within the built environment. Specifically, a tool for topological analysis by juxtaposing analyzed graphs. It operates at a variety of scales, from buildings to small towns to entire cities or states. At each scale, the goal of the software is to produce a map of open space elements, connect them via a relationship (e.g., inter-visibility or overlap), and then perform a graphical analysis of the resulting network.

The most widespread tool for modeling spatial syntax has been developed from two thoughts. The first can be traced back to the research of (Benedikt, 1979) with the use of isovariant analysis, the second is the result of the spatial syntax developed by Hillier and Hanson, (1984), created by Alasdair Turner at 'University College London', is an application used in the analysis of the visibility of architectural and urban systems. Axial maps can be entered into the program and analyzed according to the principles of spatial syntax. UCL DepthMap can perform many types of analysis such as:

- Original visibility analysis
- Generation and analysis of axial maps.
- Segment analysis.

The analysis in DepthMap examines the shortest path between a node and a series of other nodes in a system. The shortest path can be defined in several ways (Daas, 2012, p. 73):

- Angular: The shortest path is the one that minimizes the angle between a person and their destination.
- Segmental: The shortest path is the one that uses the minimum number of streets to get to the desired destination.
- Topological: the shortest path is the one that uses the least number of turns.
- Metric: the shortest path is the one that is physically the shortest.

2.3.1. The Purpose Of DepthMap

The purpose of the analysis is to derive variables that may have social or experiential meaning.

2.3.2. The Use Of DepthMap

DepthMap uses as a base software a vector plan made on AutoCAD software (AutoCAD is a two- and three-dimensional graphic modeling software). In order to offer the possibility of carrying out various analyzes, the plans used were made in different layers. However, DepthMap offers the possibility to proceed with analyzes taking into account or not certain layers. Once the plan is imported into DepthMap, a grid is applied to it. The size of the grid can be varied in order to obtain a finer analysis, but this increases the time required by the software to perform the various analyzes. “It is very important to specify that DepthMap analyzes the location points and not the grid squares. Although the grid has a set of squares to facilitate the perception of the points, the visibility is established from the center of the different squares. Once the grid is placed on the map, the step of selecting the area to be analyzed takes place” (Bouarroudj, 2011, p. 131).

CONCLUSION

This chapter delved into the multifaceted concepts of housing, inhabiting, and in-between spaces. We explored how housing transcends mere physical space, encompassing the actions and emotions experienced within it. This relationship between human beings and their environment has been investigated by various disciplines (philosophy, geography, sociology, etc.), each offering unique perspectives but lacking a universally accepted definition.

Similarly, in-between spaces, the focus of this study, remain relatively unexplored. While not explicitly acknowledged by policy, these spaces have garnered increasing interest in architecture and urban planning, suggesting their potential to foster connection within communities.

Researchers have grappled with the question of fostering social bonds among residents who share physical proximity but lack inherent connection. Surveys conducted in social housing units aimed to analyze this phenomenon and understand how these spaces can promote interaction.

Furthermore, we explored the critical role of recreational practices in fostering community spirit. Traditionally, these activities were inherently social. However, contemporary urban design, particularly high-rise buildings, often lacks dedicated spaces for such activities. This absence contributes to a shift towards individual leisure pursuits within private dwellings, leading to a sense of isolation among residents.

The next chapter will shift gears to address these challenges. We will delve into the specific research methodologies employed in this study. This will include a detailed examination of three approaches: typo-morphology, spatial syntax, and its associated tool, DepthMap. We will explore the theoretical foundations of each approach and their specific methods of analysis, particularly focusing on isovists as the chosen technique for analyzing in-between spaces.

By employing these combined approaches, we aim to gain a deeper understanding of how in-between spaces can be designed and utilized to promote social interaction and combat isolation within communities.

CHAPTER 3

CASE STUDY

Introduction

This chapter is focused on the Batna region, and the housing projects of 800 dwellings and of 1000 dwellings in Bouzourane which present the problematical of the conflict of use experienced at the level of the internal in-between spaces in the collective housing. It is thus a projection of the matter collected in the theoretical part on field.

1. Overview Of Batna City

1.1. Geographic location

The wilaya of Batna is located on a surface of 12.038,76 Km²; in the eastern part of the country (North-East) between 4° and 7° of East longitude and 35° and 36° of North latitude; it was built in a cuvette formed by a plain of high plateaus surrounded by mountains. It currently has 21 dairas and 61 communes. (see Figure 3.1)

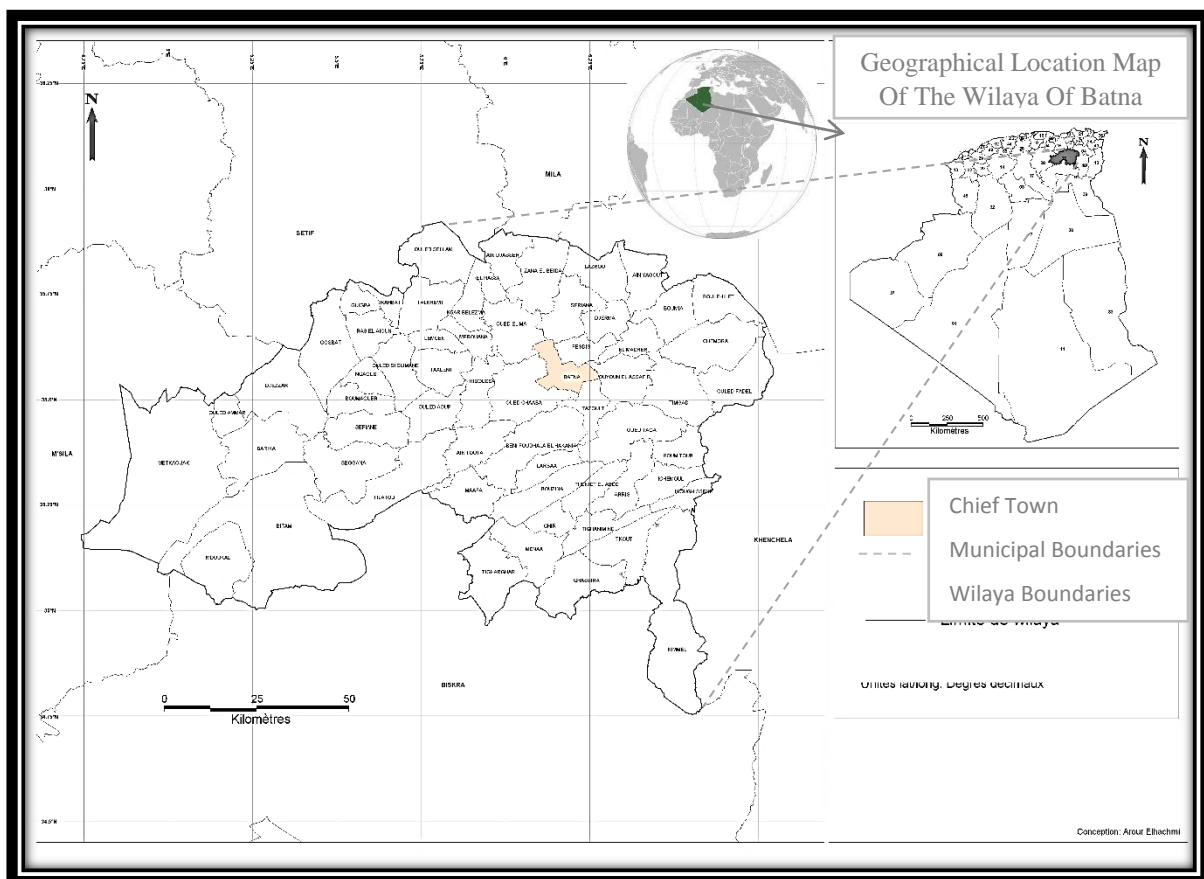


Figure 3. 1. Location of the wilaya of Batna

Source : <http://decoupageadministratifalgerie.blogspot.com>

It is bordered :

- In the North by the wilayas of Oum El Bouaghi, Mila and Sétif,
- In the East by the wilaya of Khenchela,
- In the South by the wilaya of Biskra,
- In the West by the wilaya of M'Sila.

The territory of the commune of Batna is located in the center of the wilaya of Batna. Between 6°10' longitude and 35°33' latitude North, has a total area of 85 km². It is geographically limited:

- To the North by the communes of Fesdis and Seriana,
- To the East by the municipality of Ayoun El Asafir,
- In the South East by the municipality of Tazoult
- To the south-west by the town of Oued Chaâba
- And in the West by the commune of Oued El ma.

2. The relief

The wilaya of Batna, a spacious area between the North-East and South-East of the country, is a contrasting territory with a very heterogeneous physical structure, with three distinct natural regions: An area of high plains in the north, a mountainous area in the center and south, and a western area dominated by the steppes. (see Figure 3.2. and 3.3.)

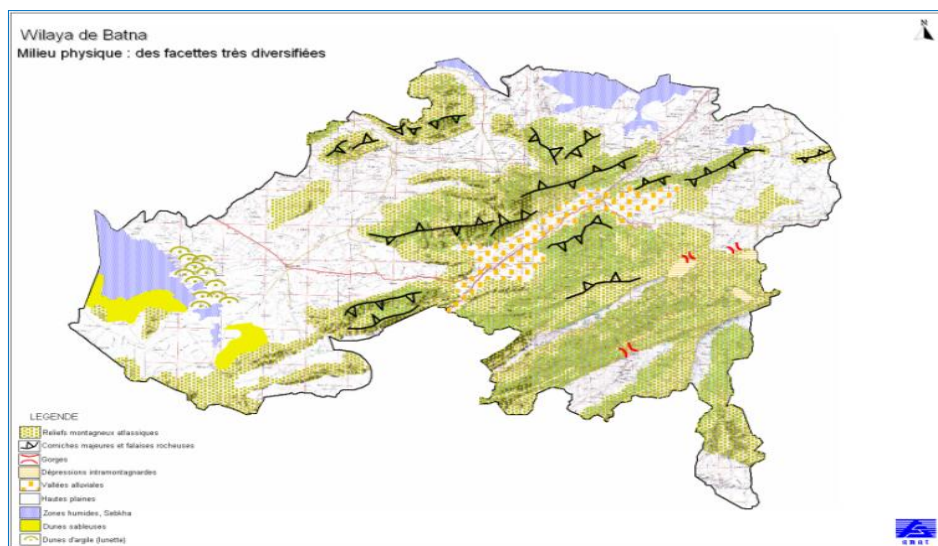


Figure 3. 2. Map of the relief of the wilaya of Batna

Source : Monograph of Batna 2020

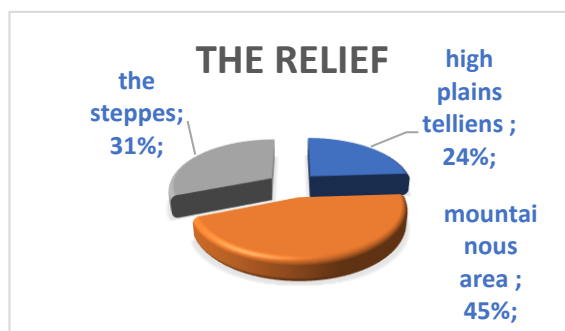


Figure 3. 3. the components of the relief of the wilaya of Batna

Source : Monograph of Batna 2020

3. The population

The population of the municipality of Batna is characterized by a rapid demographic increase; since the political, administrative and economic powers are centralized in the city, the population is estimated at the end of the year 2020 to 355,460 inhabitants with a percentage of 25.8% compared to other municipalities. (see Table 3.1.)

R.G.P.H	1966	1977	1987	1998	2008	Le taux d'accroissement			
						1966-1977	1977-1987	1987-1998	1998-2008
Batna	55751	102756	183377	243417	298877	6.44	5.15	2.67	1.88

Table 3. 1. the distribution of population according to the five R.G.P.H.

Source : ONS+ DPAT Batna

This growth considered substantial, which explains the intensity of the peri-urban dynamics and the need to have housing for the inhabitants during the five R.G.P.H. (see Table 3.2.)

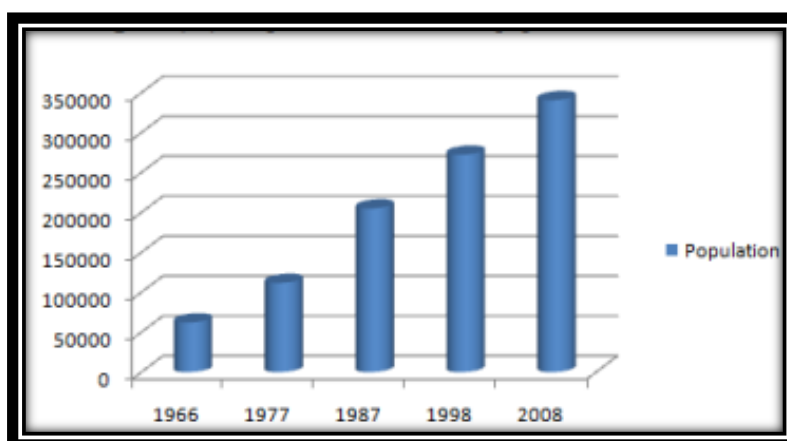


Table 3. 2. The distribution of the population 1966-2008

Source : ONS+ DPAT Batna

4. The process of evolution of the housing sector in Batna city

Algerian collective housing is a reproduction of the social housing imported from industrialized countries and particularly from France.

The official history of the city of Batna began in January 1844, when it was imperative to create a camp at mid-distance to rest and supply the future column of Sahara Biskra (Kamel, 2015, p. 39). The location was well chosen, because Batna is 1021 m above sea level (Teissier, 1865, p. 201), Given its strategic location even before the arrival of the French army when the Arab trade caravans; coming from the Sahara and heading north and those coming from the west to the east and vice versa, which had to pass through this path that represents a natural corridor south-north between the mountains that surrounds it. Moreover, the wealth of the immediate surroundings from which the place benefits (mines, wood, esparto, wheat etc.) (Kamel, 2015, p. 47) , It was suggested to establish an European city with a population of 5,000 on the Constantine-Biskra street. This site is the base of the current city of Batna.

Batna was built on the example of Timgad the Roman city with a checkerboard plan, the army engineers gave it a military architecture, where all the streets are parallel and perpendicular to each other which gives the checkerboard pattern on the aerial views. (see Figure 3.4)

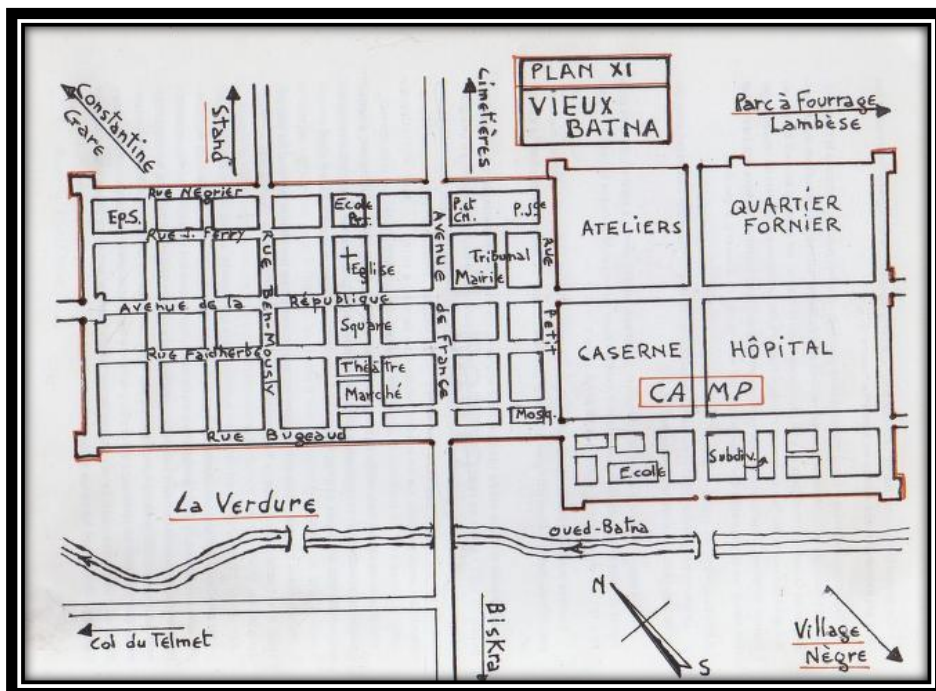


Figure 3. 4. Old map of Batna at the time of its foundation and development

Source : Philippe Thiriez En flânant dans les Aures, 1986 p 35.

4.1. The French colonial period 1945-1962, the appearance of collective housing

The collective housing in Batna appeared in 1958 during the war of liberation as part of the plan of Constantine. This led to a massive rural exodus, hence the launch of the plan with its program in terms of facilities and housing. A remarkable urbanization dynamic has given birth to new districts (Plan directeur d'aménagement et d'urbanisme, 1998) (see Figure 3.5):

- To the north: collective housing has made its appearance through the realization of buildings of the HLM type, namely:
 - The 180 dwellings along the Ben Boulaid alleys, (140+40 dwellings).
 - The Fourrière city with 100 dwellings.
- In the South:

The traditional district knew the appearance of a type of collective habitat:
- The formal habitat in the form of cities of resettlement, a planned habitat built by the settlers for the natives namely:

- The "Million" city which has 158 dwellings.
- The Chikhi city with 100 dwellings (F buildings).
- The Evolutive city with 192 dwellings.



Figure 3. 5. Batna city in 1957

Source : www.geneanet.org.

4.2. The post-colonial period 1962-1983, the spread of collective housing

The disappearance of the administration and the French army, at the time of Independence, left the city under-equipped and under-administered, facing an influx of populations eager to escape the misery and the "regrouping centers". Another fight began that requires a radical change is necessary in all sensitive sectors at the expense of the housing sector, which explains the stagnation in planning and realization of housing on the one hand, on the other hand the massive exit of settlers leaving their homes empty responded at that time to the need for housing. In addition, the city recorded a minimal extension, developed anarchically only to the traditional districts. The privately owned land was sold under private contract, causing the spread of scattered constructions outside the norms. (see Figure 3.6.)

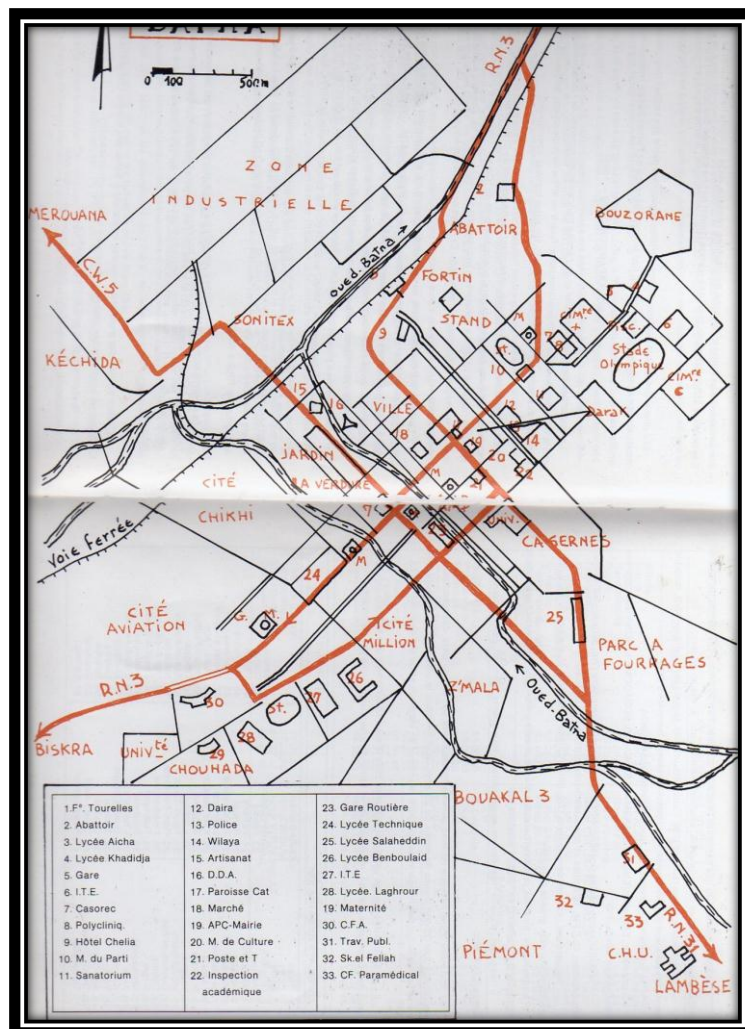


Figure 3. 6. Carte de la ville de Batna après l'indépendance

Source : Philippe Thiriez En flânant dans les Aures, 1986 p 41.

In order to deal with the problems of housing, a series of regulations and urban planning were issued, including the development of the first urban master plan PUD in 1974, approved in 1978. (see Figure 3.7)

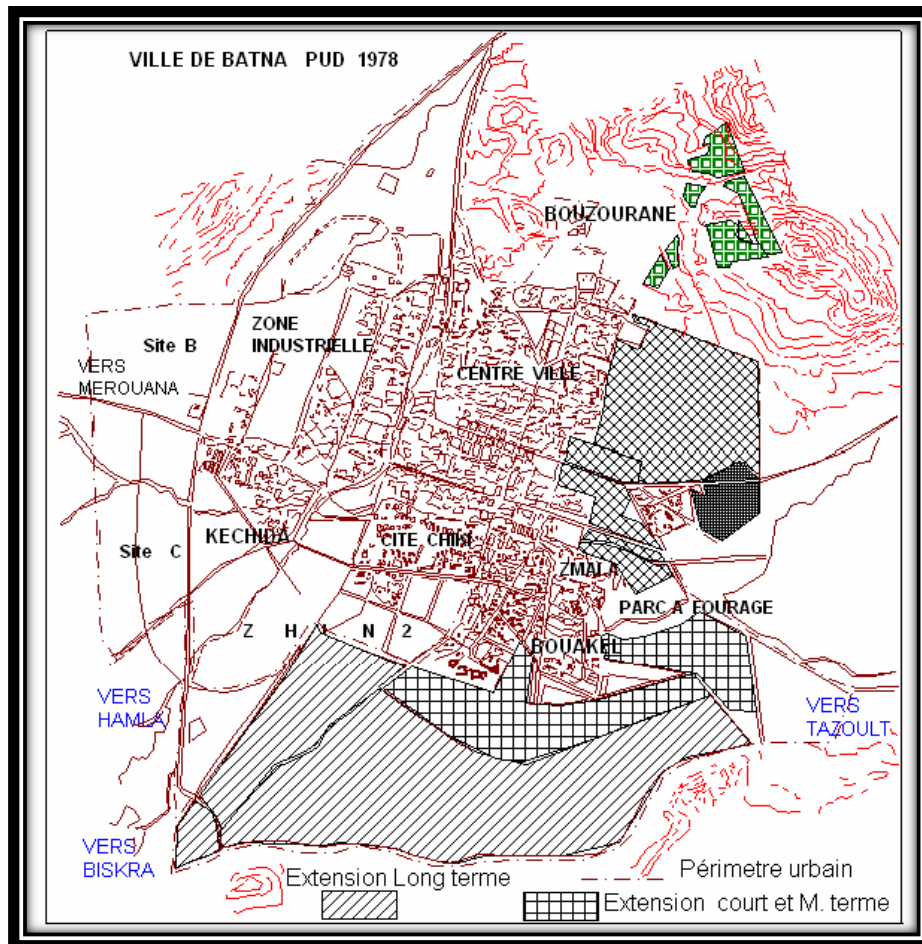


Figure 3. 7. Map of the city of Batna PUD 1974/1978

Source : PUD Batna 1998.

The PUD defines three sectors of extension that relates to the collective habitat is the sector 2 in the South and South - West of the municipality of Batna or they decided to achieve 2 new urban housing areas, ZHUN I and ZHUN II, a program of housing and equipment for the long term, as well as land still available within the agglomeration(see Figure 3.8)

ZHUN 1 :

- 1200 dwellings; 1000 dwellings.
- SONATIBA ; 220 dwellings.

ZHUN 2 :

- 164 dwellings. ; 72 dwellings. CASOREC and 32 of education.
- police ; 40 dwellings.

- 800 dwellings.
- 500 dwellings.
- 150 dwellings of industry.
- Kechida ; 340 dwellings

Other collective housing projects :

- Gruyère 220 dwellings
- Fourrière 64 dwellings CNEP and 30 dwellings of Wilaya.
- of employees 92 dwellings
- 410 dwellings (camp)
- 64 dwellings; 50 dwellings.
- 742 dwellings; 293 dwellings.

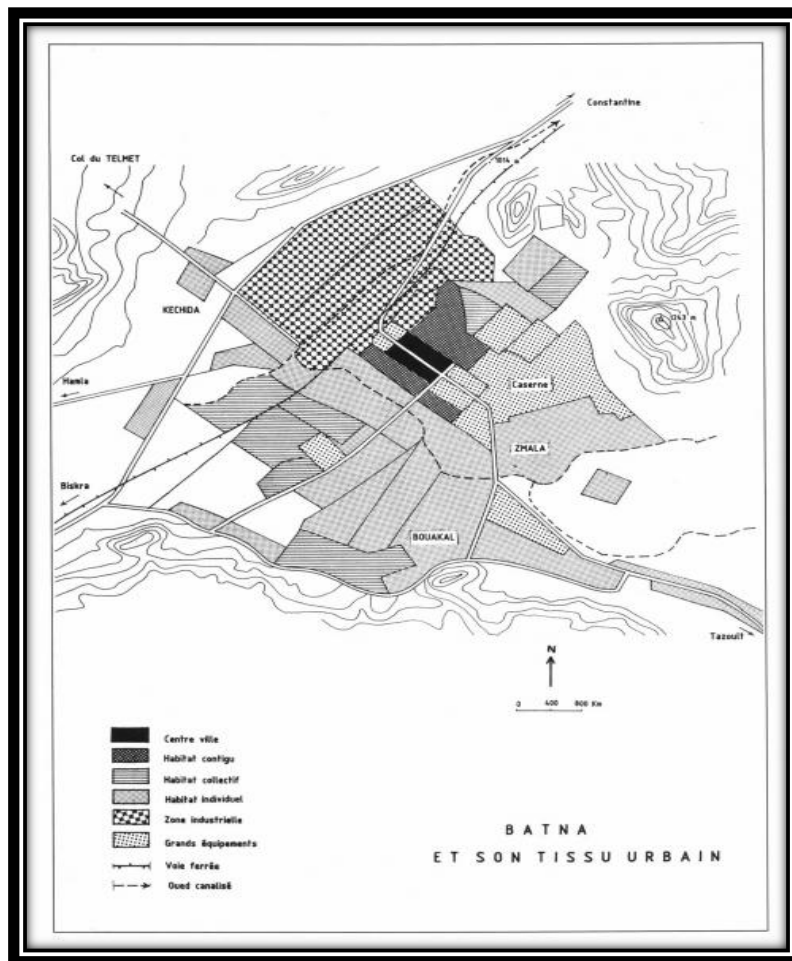


Figure 3. 8. The urban tissue of Batna 1844-1990

Source : M. Cote « Batna Encyclopédie berbère 1991

4.3. The post-colonial period 1983-1992, the continuity of collective housing

Although the city of Batna has benefited from several housing programs, as well as the creation of a new city "Hamla" providing a park of 34,117 dwellings (3) spread over forty cities, however, this remains insufficient in relation to the ever-increasing demand, while the creation of a fourth ZHUN Bouzourane in 1983 was necessary due to the rapid and continuous growth of the city. (see Figure 3.9.)

ZHUN 4 :

- 100 dwellings.
- 208 dwellings.
- 180 dwellings.

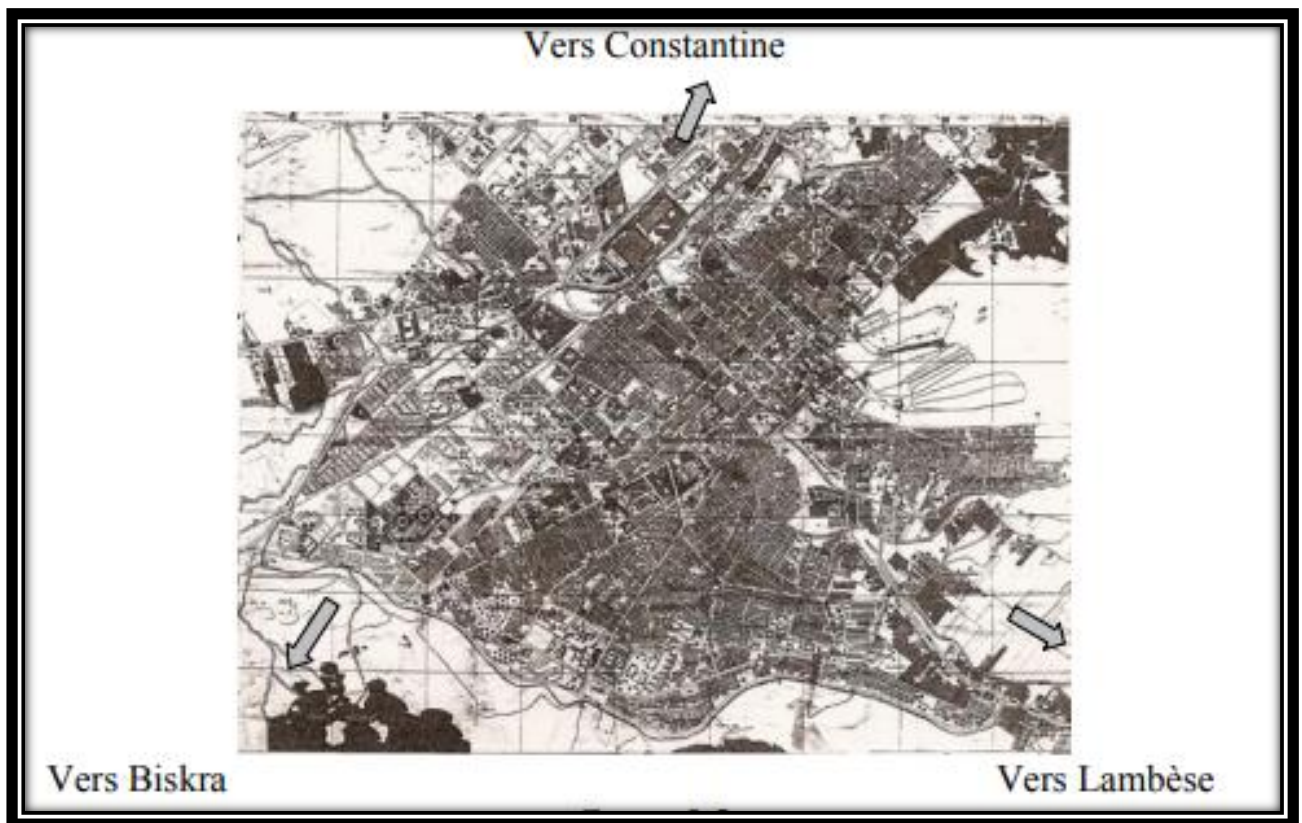


Figure 3. 9. Batna city in 1992

Source : PDAU Batna.

In Batna, different periods of growth were known where collective housing found a required place in the urban planning of the city. (see Figure 3.10)

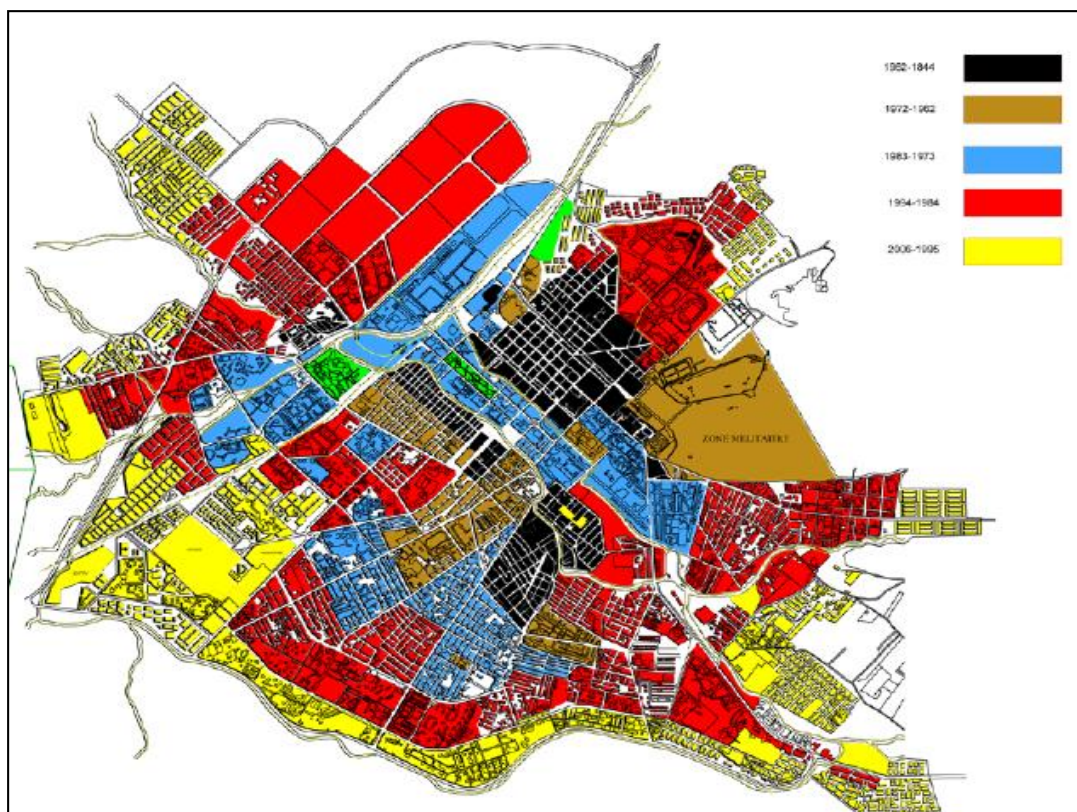


Figure 3. 10. The growth of the city of Batna 1844-1990

Source : M. Cote « Batna » Encyclopédie berbère 1991

4.4. The period from 1993 to the present

The housing sector of the wilaya of Batna, according to R.G.P.H-2008 is comprised of 224951 housing units. At the 1998 population census the housing estate was : 163399, during the period 1998-2008 the wilaya has been achieved 61552 housing. (see Table 3.3)

Communes	Population 31/12/2009	Livraisons année 2009						Parc Logts	T.O.L
		L.S.L	Astreinte	L.S.P	Rural	Aut.Const	Total		
Batna	298 893	616	33	2089	0	51	2789	70 140	4.26

Table 3. 3. Units delivered by program in 2009

Source : monographie de Batna 2009

L.S.L : Logements Sociaux Locatifs (Social Rental Housing)

L.S.P : Logements Sociaux Participatif (Participatory Social Housing)

L.V : Location-Vente (Rental-Sale)

T.O.L : Taux D'occupation Du Logement (Housing Occupancy Rate)

In 2020 the Batna housing sector received 78,457 dwellings, with an occupancy rate of 4.53, which is lower than the national target of 6 persons per dwelling. (see Table 3.4)

Communes	Population 31/12/2020	Livraisons en 2020						Parc Logts 2020	/ TOL
		LPL	LV	ASTREINTE	LSP/LPA	PROMO	Total		
Batna	355 460	267	1000	28	40	260	1595	78 457	4,53

Table 3. 4. Units delivered by program in 2020
 Source : monographe of Batna 2020

4.5. Presentation Of The Case Studies

4.5.1. The 800 Housing Neighborhood (414/800logts)

The 800 housing is part of social housing which is dedicated to the category of people whose resources do not allow them to pay a free rent and even less to acquire a housing in property, IT WAS realized in 1982 by the OPGI, is located in the south of the ZHUN II which give the aspect of big groups with monotonous forms which use few architectural variants, constituted of alignments of small buildings of 4 or 5 levels. (see Table 3.5)

Situation

It is located southwest of downtown Batna, it covers an area of 5.83 ha. The project was carried out under the five-year plan 1980-1984. (see Figure 3.11 and 3.12)

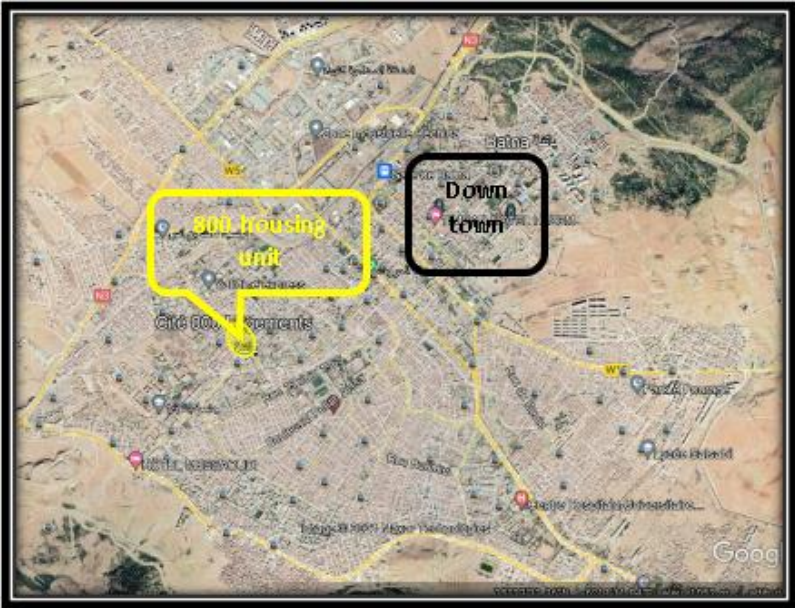


Figure 3. 11. Location of the city in relation to the city center.

Source : google earth+ treatment of the author 2020.



Figure 3. 12. 800 housing unit in Batna

Source : google earth+ treatment of the author 2020.

Project	800 housing unit
Type	Collectif Housing
program	Social
Engineering office	BE,AP in 1980- 1984
Situation	South-west of Batna
Number of dwellings	414 dwellings in 46 buildings
Level	R+4 height : 15,30 m
Surface	55868 m ²

Table 3. 5. Data sheet of the 800 housing Batna.

Source : Author 2022

4.5.2. The 1000 Housing Neighborhood / Bouzourane

Launched in 2001, the AADL project of 1000 housing units in Bouzourane has finally seen the light of day in 2008. This project is part of the million-housing promised in the program of the president of the republic. After its registration in the communal development program in 2002, the start-up could only be done in 2004. The project is implanted on a sloping ground of an informal form and a surface of 84024 m².(see Table 3.6)

Situation

Bouzourane is an ancient slum, located in the north-eastern part of the city of Batna, 2 km from downtown. This district has a residential character. (see Figure 3.13 and 3.14)

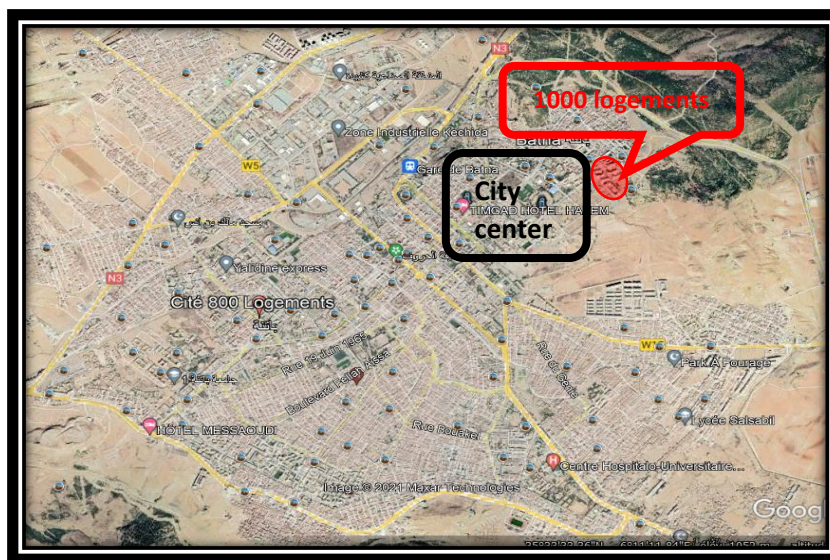


Figure 3. 13. Location of the city in relation to the city center.

Source : google earth+ traitement de l'auteur 2020.



Figure 3. 14. The 1000 housing units AADL in Bouzourane Batna.

Source : Google Earth+ traitement de l'auteur 2020.

Project	1000 dwellings Bouzourane
Type	Collectif Housing
Program	Rent-Sale
Engineering office	Boukhalfa Zennine in 2003- 2008
Company	C.S.C.E.C - China
Situation	North-east of Batna
Number of dwellings	1000 dwellings : F3= 500 with a surface of 70 m ² F4= 500 with a surface of 85 m ²
Number of concierge services	20 with a surface of 59.6 m ²
Total surface of concierge	1192.76 m ²
Numbers of buildings	32 buildings
Types of buildings	Type Angle : 1 : R+9 / 2 : R+11 Type bar : 1 : R+5 / R+7 / 2 : R+9.
Levels	R+5 : height 19 m R+7 : height 25 m R+9 : height 32m R+11 : height 37 m
Total area for commerce and services	15419.07 m ²
Total living area	77 500 m ²
Total project area	84024 m ² .

Table 3. 6. Data sheet of the 1000 housing Batna.

Source : Author 2022

Conclusion

This chapter focused on the analysis of two residential housing units in Algeria: the City of 800 Dwellings (414 dwellings analyzed) in Batna and the City of 1000 Dwellings in Bouzourane. A pre-survey conducted among residents revealed a concerning trend – dominant conflicts in how these collective housing spaces are being used.

These findings highlight the urgent need to address this issue. The degradation of living conditions due to these conflicts is likely to have a cascading effect, leading to social problems and strained relationships among residents over time.

The next chapter will delve deeper into this critical situation. We will explore the specific nature of these use conflicts identified in the pre-survey. This analysis will likely involve a more comprehensive data collection process to gain a nuanced understanding of the challenges faced

by residents. By pinpointing the root causes of these conflicts, we can begin to formulate potential solutions aimed at improving the overall living experience and fostering a stronger sense of community within these housing units.

It condenses the key takeaway from the analysis – the existence of use conflicts in the housing units. It emphasizes the urgency of the situation and the potential negative consequences if left unaddressed. The chapter then transitions smoothly by outlining the next steps – a more detailed investigation into the nature of the conflicts.

CHAPTER 4

The analytical frame

1. The survey

The investigation can often provide a useful completion to observations that are difficult to interpret without having interviewed the interested individuals. The purpose of the observation is not to answer one or more relevant and clearly formulated questions, but the questioning is indispensable because it is the starting point of scientific research since the facts do not speak for themselves. "Without questioning about the object to be known or about aspects of a phenomenon to be clarified, discovery is impossible; it is this questioning that defines and delimits the research problem (Angers, 1996, p. 8).

It is a direct technique of scientific investigation, it makes it possible to establish interrogations near individuals and to make a quantitative taking afterwards, for purpose to find mathematical connections and to make quantified comparisons (Angers, 1996, p. 146).

First of all, we established our questionnaire with the SPHINX PLUS 2 software. Recognized for its methodological added value and its analysis power, it is a survey and data analysis software that allows us to assist in each of the four main steps of a survey:

- The elaboration of the questionnaire.
- Data entry of responses.
- Quantitative data processing and qualitative data analysis.
- Writing the study report.

In the second place we chose the SPSS version 26 software to analyze the data.

1.1. The target population by survey purpose

The first step is to target the population appropriate to our research problem, the conflict of use of in-between spaces is felt in the middle of collective housing, we raise the veil on the relationship between the design of these spaces and the absence of sociability and community living. In other words, it is a question of identifying the logics that preside over social problems in in-between spaces.

1.1.1. Sampling

In this step the sample of the interviewed population is determined, two case studies are selected which are located in the city of Batna, with different characteristics: the city of "800 dwellings", and the city of November 1 named "Chnawa 1000 dwellings".

1.2.1.1 The sampling method

In our case the appropriate method is the probability sampling where each element has a similar probability to be selected, which allows to estimate a representativeness of the sample. Different methods are found in order to define a probability sample, in our case we have chosen the cluster sampling, we cut the heterogeneous population to homogeneous clusters (floors), then we take some clusters randomly (the clusters in our case are the households).

1.1.2. Sample size

The query is done only with the household heads that are equal to the number of dwellings.

1. The first case study 800 dwellings contain 46 blocks, with R+4 The stairwell serves 2 dwellings per landing, each floor has 9 dwellings (the top floor contains one dwelling and a terrace), we find that the target population is: $46 \times 9 = 414$ heads of household. For probability sampling, the sample size is determined according to the number of the population, with a population of a few hundred to a few thousand elements the sample presents 10% of the total population to be studied, or 40 units. In our first case study of 800 dwellings we distribute 104 questionnaires to avoid the loss of eliminated cases.

2. In the second case study 1st November "Chnawa", we have 1000 dwellings distributed over 32 blocks at different heights, so the sample has 100 units. We distribute 250 forms.

The 1st case study "800 dwellings":

We collected 100 forms; after entering the responses into SPSS version 26 software, we obtained 40; we consider this population number to be representative for our survey.

The 2nd case study case study November 1 "Chnawa" 1000 dwellings:

We recovered 190 forms; after entering the responses in the SPSS version 26 software, we obtained 120; the number was reduced to 100 the number is representative for our survey.

1.2. The formulation of the questionnaire

The questionnaire is elaborated according to the objective of the research, we ask questions and propose possible answers based on well-defined variables (sociability, appropriation, in-between space, collective housing). Through dimensions (Socio-Demographic, spatial, psychological), and subsequently indicators for each dimension (see appendix 1).

The form was structured in several parts:

The 1st part: Socio-Demographic information such as :

- The identification of the dwelling (Block, floor, occupation status, date of occupation ... etc.)

- Identification of the inhabitant (gender, age, family situation, education level, socio-professional category, etc.).
- Proportion of meeting.
- Knowing how to live in a community.

The 2nd part : spatial indications :

- Height
- Dimension
- Distance

The 3rd part : psychological indications :

- Human consciousness
- Perception (form, color, light, sound, materials)
- Security
- Belonging.

In January 2022, a pilot survey was launched with a small number of inhabitants of the two residential cities of 800 dwellings and 1000 dwellings; to see the degree of resonance of the questions, 126 questions were asked in Arabic and in French (at choice). We deleted, adjusted and merged several questions to have at the end 43 closed and open questions, single or multiple choice, Likert scale. The language chosen at the end was Arabic. The forms were distributed a second time at the end of February 2022, and were retrieved in early March 2022.

1.3. Analysis And Interpretation Of The Questionnaire Results

1.3.1. Case study 1 : 800 units

1.3.1.1. Socio-Demographic Indicators

Socio-Demographic criteria are segmentation or targeting criteria based on the social or demographic characteristics of individuals.

➤ Dwelling identification

- Occupancy Status

Almost 80% of the residents are homeowners, which guarantees the reliability of the ownership decisions made at the in-between space level of each building. (see Figure 4.1)

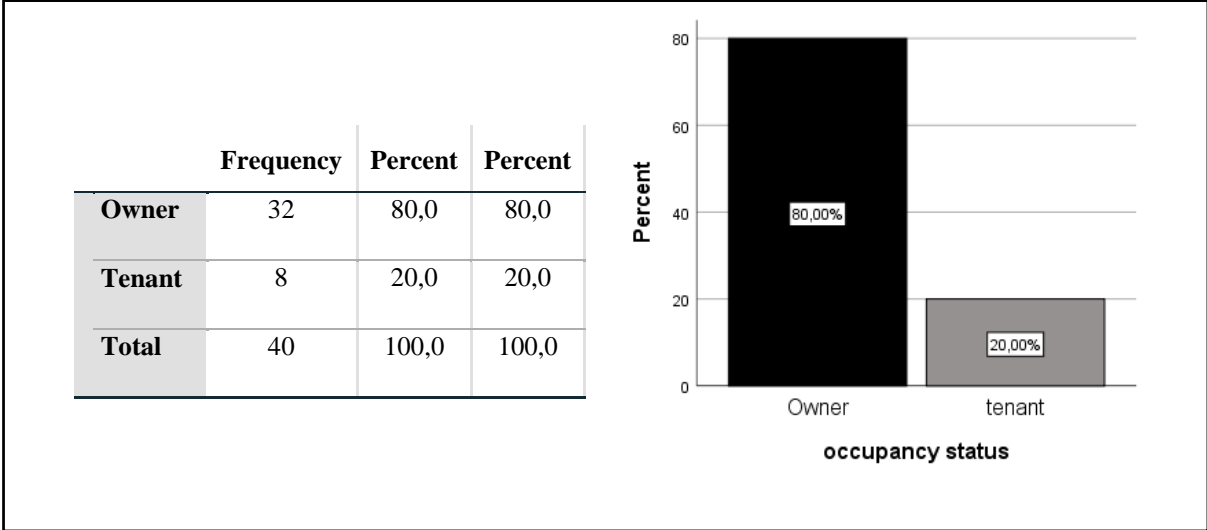


Figure 4. 1. Tenure status of respondents.

Source: Author, 2022 survey.

- Year of occupancy

The majority of the inhabitants interviewed have occupied their residences for more than 12 years, from 2010 to 2019, with a percentage of 32.5%; followed by the inhabitants who moved in during a previous period 1990-1999, that is to say 30 years of presence in this residential city which allowed them to establish strong links of neighborhoods and to get familiar with the inhabited space. (see Figure 4.2)

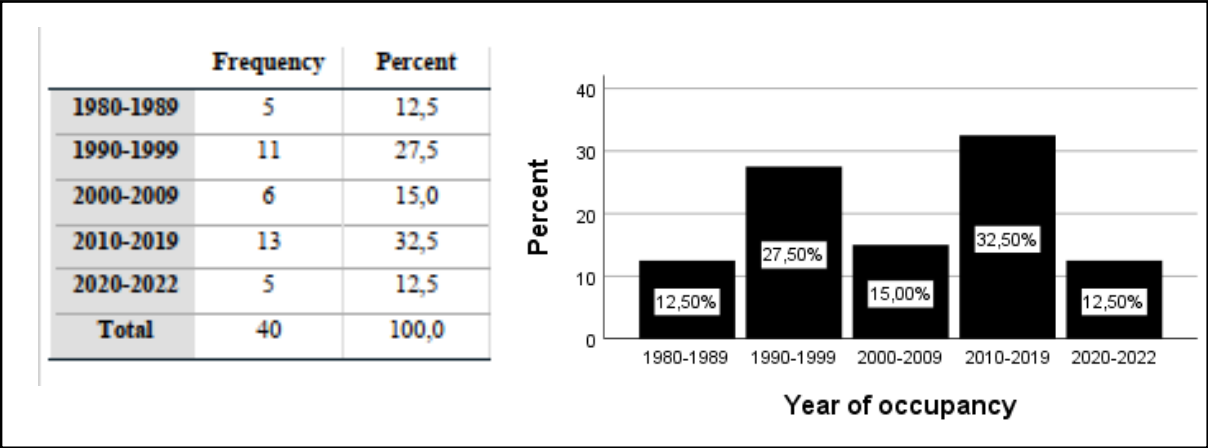


Figure 4. 2. The distribution of respondents by year of occupancy

Source: Author, 2022 survey.

- Lived floor

For the question concerning the floor occupied by the inhabitant; the answers were as follows: 27.5% for the inhabitants who live on the 3rd floor, followed by 25% for the inhabitants who live on the 2nd floor, 20% those on the ground floor and 17.5% on the 4th floor, and in last position the second floor, knowing that we distributed the same number of questionnaires for each floor. (see Figure 4.3)

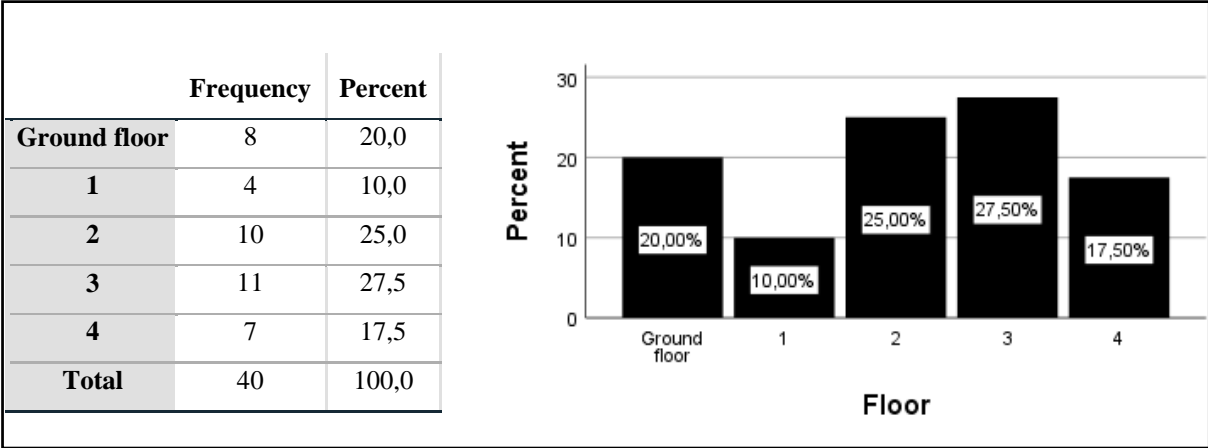


Figure 4. 3. The distribution of respondents by floor occupied

Source: Author, 2022 survey.

➤ **Inhabitant identification**

- Gender

The surveyed population is divided into two groups, men and women, and the results obtained show that 20 of the 40 inhabitants surveyed are men and 20 are women, equivalent to 50% for each. (see Figure 4.4)

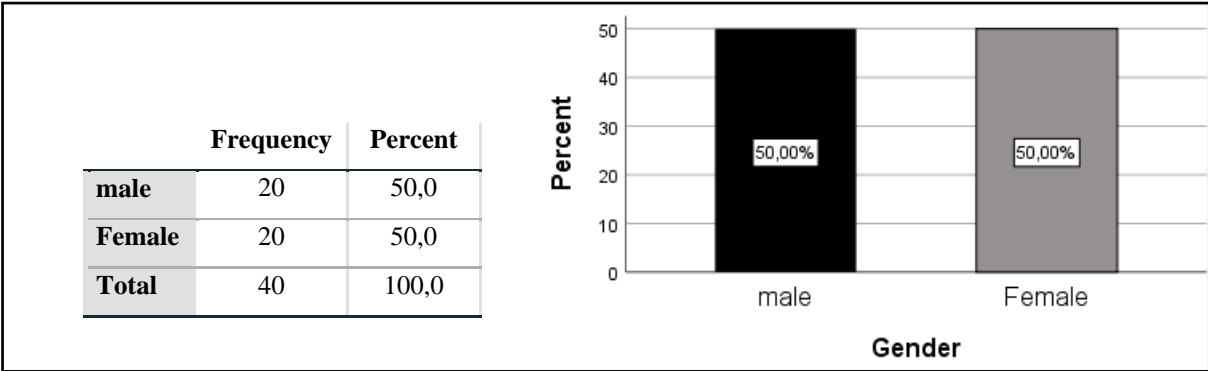


Figure 4. 4. Distribution of respondents by gender.

Source : Author, 2022 Survey.

- Age

After examining the filled out forms, the results show that the dominant age is "over 60 years old" which represents more than 37% of the total, 10 men and 5 women, we note that the population questioned is not very young and seems to have a thoughtful base on the situation in question. (see table 4.1)

		Male	Female	Total
Age	20-29	4	3	7
	30-39	2	6	8
	40-49	4	6	10
	More than 60	10	5	15
Total		20	20	40

Table 4. 1. Distribution of respondents by gender and age.

Source: Author, 2022 survey.

We observe a direct correlation between the percentage of respondents and the age range. They both rise in conjunction with each other. (see Figure 4.5)

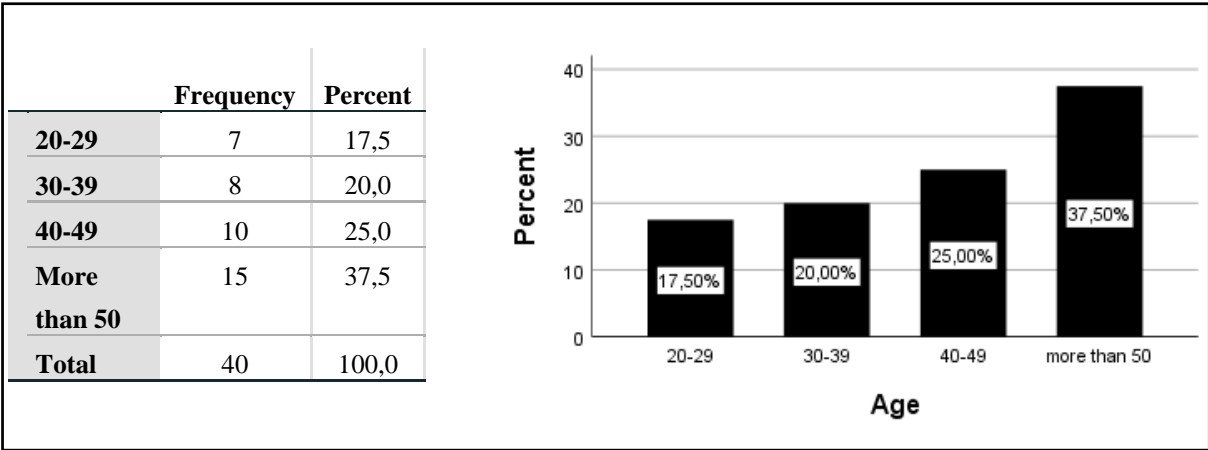


Figure 4. 5. Distribution of respondents by age.

Source: Author, 2022 survey.

- Family Situation

The distribution of respondents by marital status reveals that ¾ of the population are married with children, a percentage of 70%; followed by married without children with 7.5%. (see Figure 4. 6)

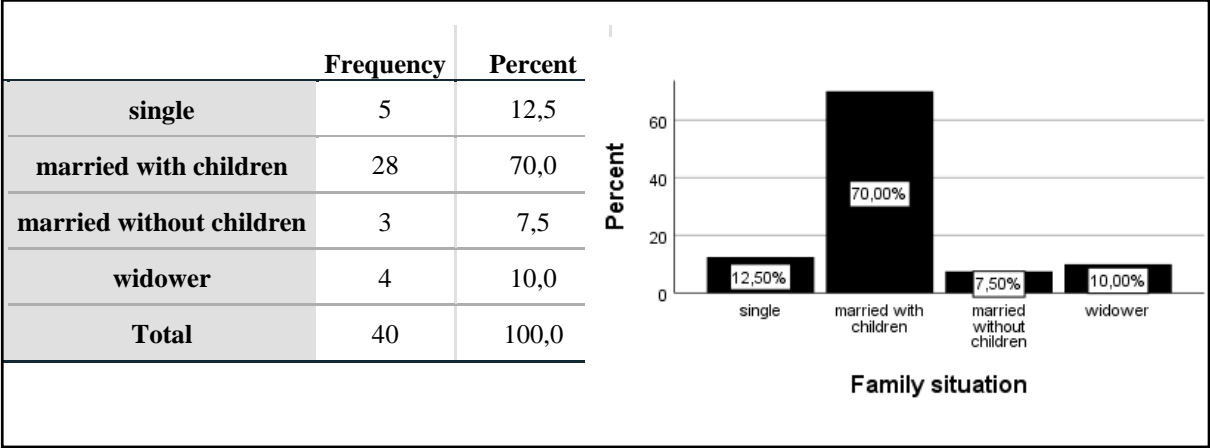


Figure 4. 6. the family situation of the respondents.

Source: Author, 2022 survey.

- Education Level

The dominant level of education concerns the university students who represent 42.5%; followed by those who have a primary level with 20%, and 17% who have a secondary level, the majority are cultivated people who a priori have a knowledge to live in peace in community in a collective building. (see Figure 4. 7)

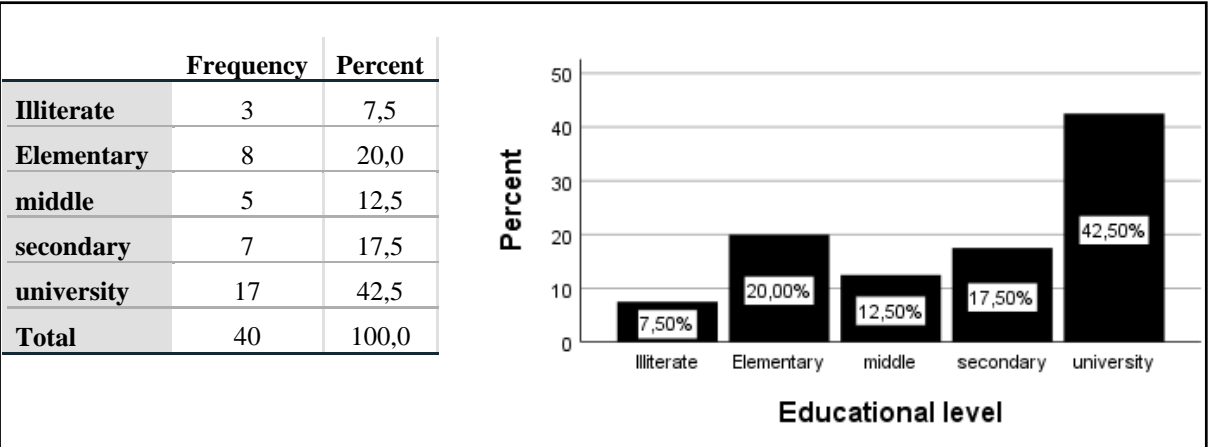


Figure 4. 7. the level of education of the respondents.

Source: Author, 2022 survey.

A division by educational level and gender demonstrates that women have higher levels of education than men, with 12 female university students compared to 5 male university students. (see table 4.2)

		Gender		Total
		male	Female	
Educational level	Illiterate	2	1	3
	Elementary	3	5	8
	middle	5	0	5
	secondary	5	2	7
	university	5	12	17
Total		20	20	40

Table 4. 2. The distribution of respondents by gender and education level.
 Source: Author, 2022 survey.

- Socio-professional category

In our sample, the dominance is to the government employees with a percentage of 32.5%, followed by the people who are retired with 27.5%; 1/3 of the population is supposed to be absent all day and not to have a great contact with the building neighbors, something that does not give them the ability to know what is really going on at the level of their internal space. (see Figure 4.8)

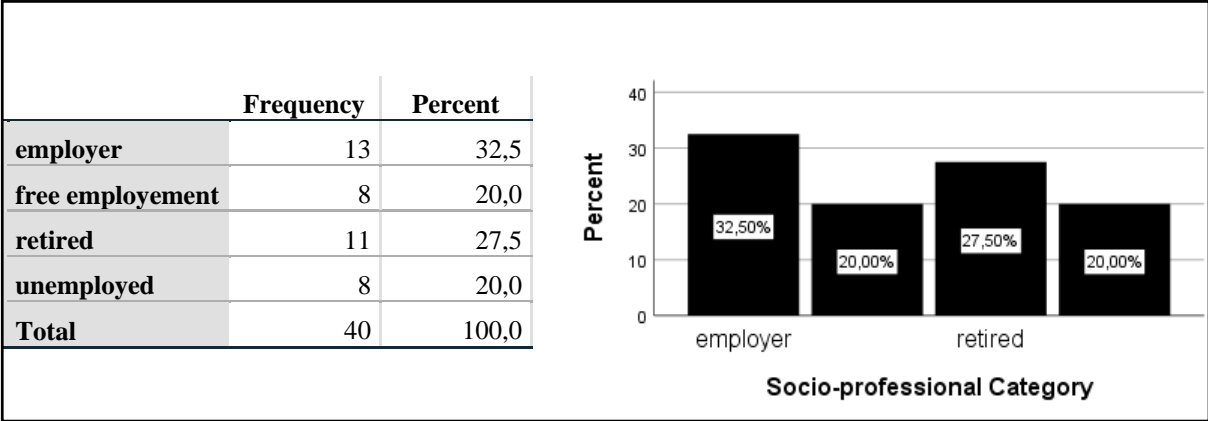


Figure 4. 8. The socio-professional category of the respondents
 Source: Author, 2022 survey.

women employees in the government present 20 %, while the women who perform free functions present 10 %, we notice that women who work dominate compared to men who present only 12.5 % of the employees and 10 % of the free functions, among 20 men we have

55 % of them who spend their time at home, against 40 % of women who stay at home. (see table 4. 3)

		Gender		Total
		male	Female	
Socio-professional Category	employer	5	8	13
	free employment	4	4	8
	retired	9	2	11
	unemployed	2	6	8
Total		20	20	40

Table 4. 3. Distribution of respondents by gender and socio-professional category
 Source: Author, 2022 survey.

➤ **Proportion of encounters**

- Presence of neighborhood relationships

For the question "Do you maintain relationships with your building neighbors? Yes or No"; 60% answered yes, and 40% answered no. The percentage of residents answering no is very high compared to neighbors who live on the same building block for years. (see Figure 4.9)

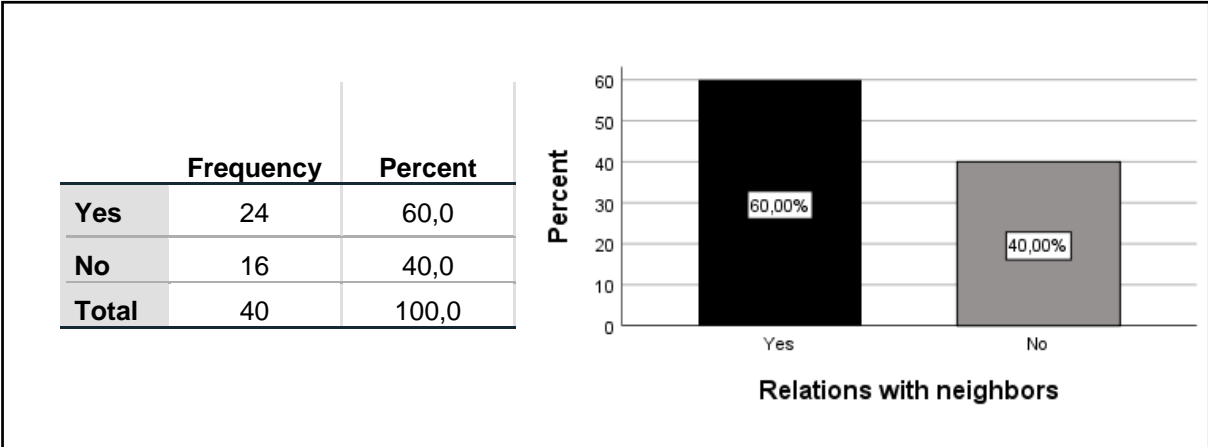


Figure 4. 9. Neighborhood relations of the respondents.
 Source: Author, 2022 survey.

- Degree of knowledge among neighbors

As for the question "Do you know your neighbors in the building: All; Most; About half; Some; Nobody", the inhabitants who know "some" dominate with a percentage of 32.5%; while only 25% answered with: all; followed by those who know most with 17. 5%, we find that the inhabitants who do not know any neighbor present a considerable percentage of 15%, and lastly it is 10% that concerns those who know about half of the neighbors of the same building,

something that explains the lack of knowledge and anonymity between residents. (see Figure 4.10)

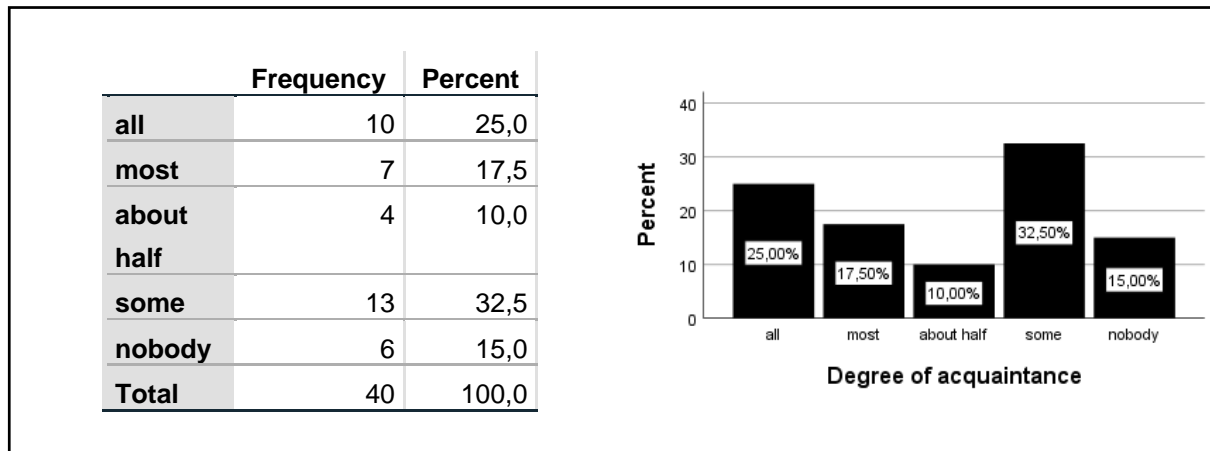


Figure 4. 10. Degree of knowledge among neighbors of the same building

Source: Author, 2022 survey.

- Occasional meetings between neighbors

Concerning the occasional meetings between neighbors in the same apartment building, the majority of respondents 47.5%, answered "once a day", this answer is logical given that half of them are civil servants or have a free function; they come and go at almost the same time. (see Figure 4.11)

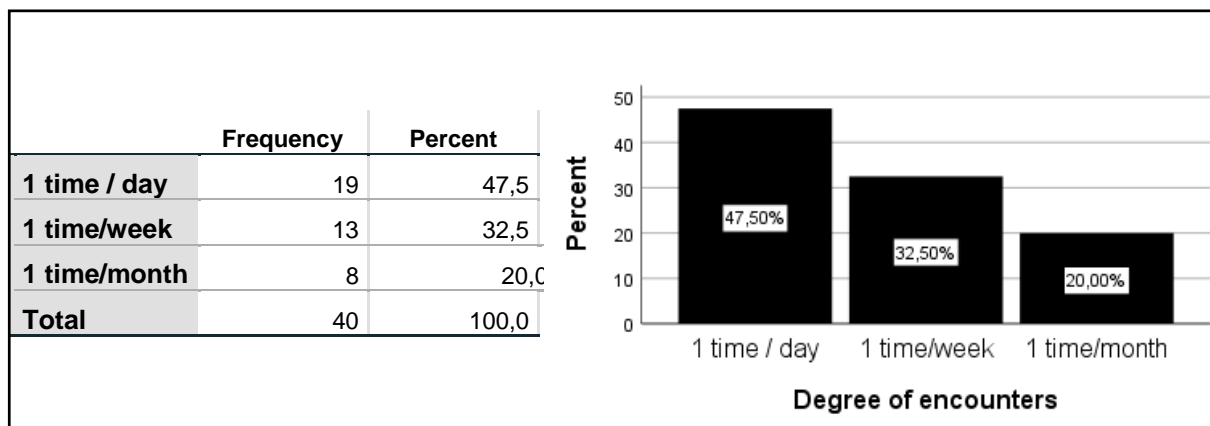


Figure 4. 11. Occasional meetings between neighbors.

Source: Author, 2022 survey.

- Neighborhood Relations

According to the results obtained for the question "Do you consider your relationship with your neighbors in the building: Strong, average or weak" we find that almost 58% of the inhabitants of the same blocks consider the relationships between them weak, although the majority have

shared the same building for more than 12 years, a sufficient length of time to create strong bonds; 27.5% consider them average; and only 15% who find them strong. (see Figure 4.12)

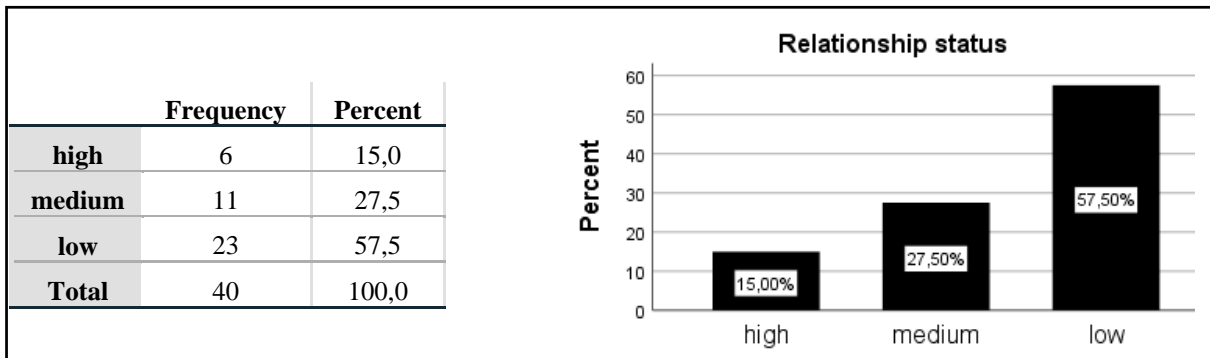


Figure 4. 12. Neighborhood relationships of respondents.

Source: Author, 2022 survey.

- Neighborhood Relationships by Floor

The answers on the question of neighborhood relations differ according to the floor inhabited, we notice that the nature of the relations depends on the floor inhabited; all the residents of GROUND FLOOR and R+1 consider their relations with neighbors weak, while this figure decreases when we go up. On the other hand, the inhabitants of the upper floors consider their relations strong and average. (see Figure 4.13)

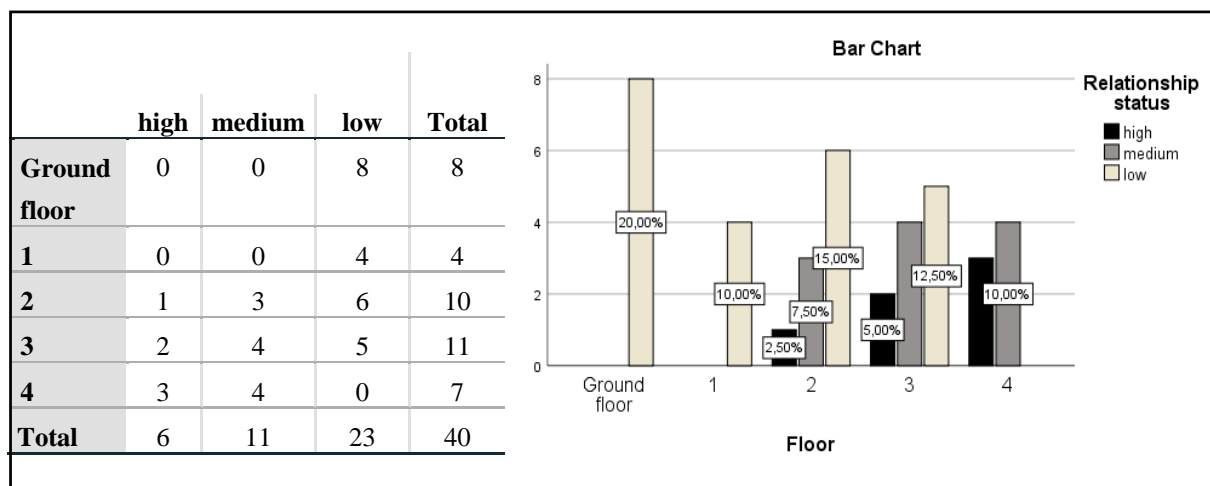


Figure 4. 13. The nature of relations between neighbors in the building according to the floor inhabited

Source: Author, 2022 survey.

- Type of Neighborhood Relationships

As for the question: "Are your relations with your neighbors: Friendly; Courteous; Conflictual; Mutual aid; Non-existent", it turns out that the majority of respondents, i.e. 57.5%, consider that their relations with the neighbors of the buildings are only courteous; while the residents who see their relations as friendly present 6%, the same percentage concerns those who do not

have relations with their neighbors, only 10% who consider their relations as Mutual aid, and 2.5% stipulate that the relations are conflictual. (see Figure 4.14)

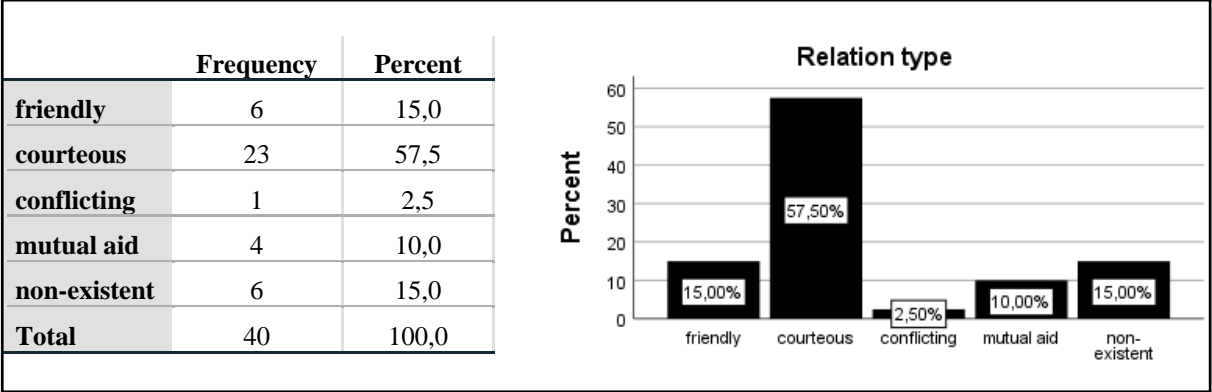


Figure 4. 14. The type of neighborhood relations in the building.

Source: Author, 2022 survey.

- Most frequented location

The results demonstrate that the neighbors meet most often at the stairs with a percentage of 50%; followed by the entrance of the building with 37.5%; while 7.5% of the neighbors meet in front of the doors of their dwellings, and 5% at the resting places of different floors. (see Figure 4.15)

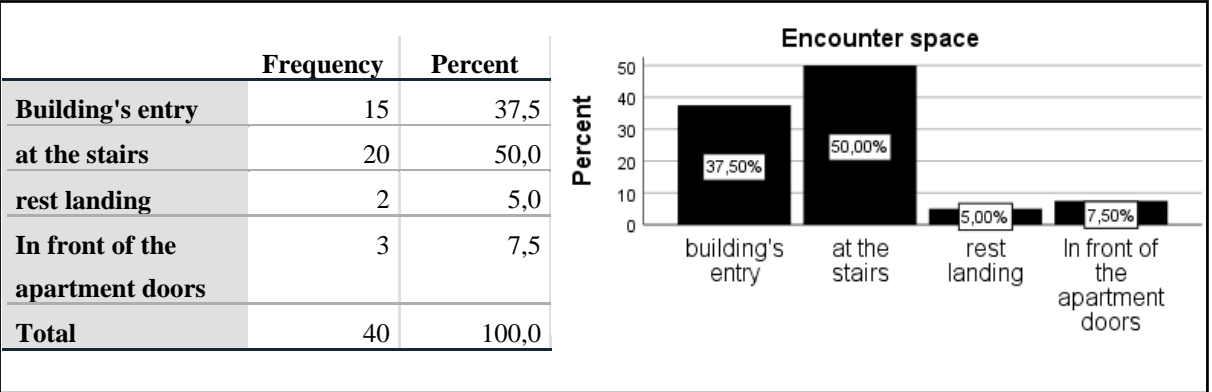


Figure 4. 15. The most frequented location by the respondents

Source: The author, 2022 survey.

- Sharing talents and interests

"Do you share your talents and interests with your building neighbor?", almost all respondents 92.5% either with not sharing talents and interests with their building neighbors and keeping a considerable distance from them. (see Figure 4. 16)

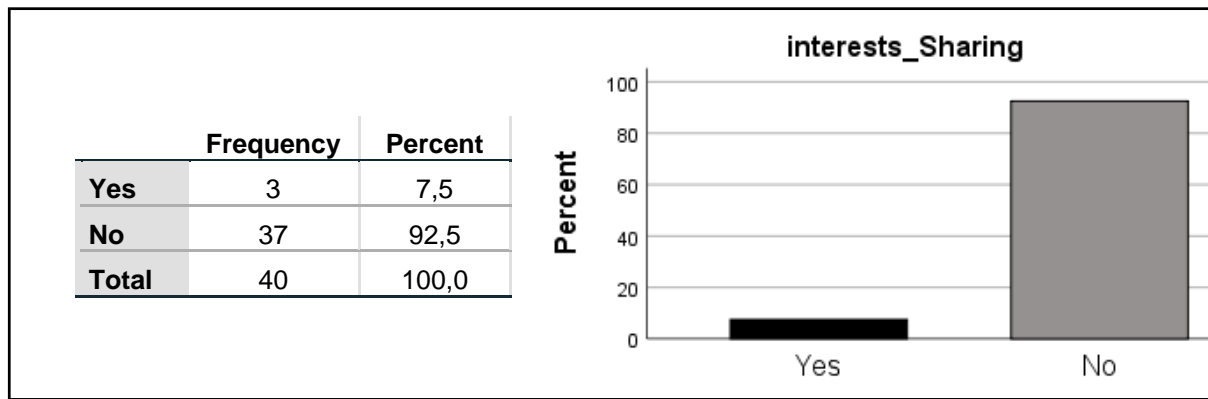


Figure 4. 16. sharing talents and interests among building neighbors

Source: Author, 2022 survey.

It is interesting to point out that among the respondents who see that they should not share their interests with their neighbors, we count 17 of 20 men and all women. We are left with 7.5% of the total inhabitants who do not see any problem in sharing a collective life in the building. (see Figure 4.17)

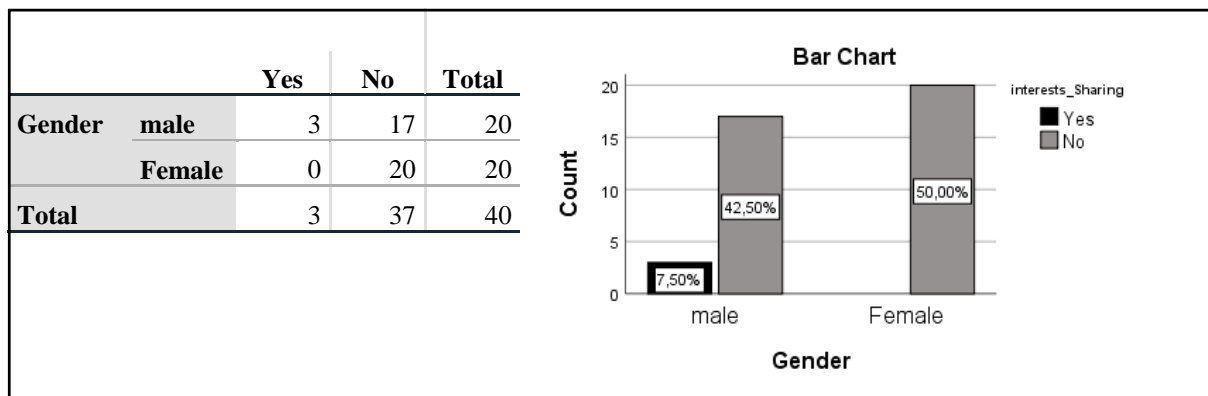


Figure 4. 17. interest sharing by gender

Source: The author, 2022 survey.

➤ Practices And Uses Of The In-Between Space

- In-between space usage

About the use of these spaces, we asked the following question: "Are the internal common areas in the building (the entrance of the building / the entrance hall / the stairs / the elevator / near the entrance of your dwelling / the terrace / the cellar) used by: neighbors of the same building; neighbors of the housing estate; strangers; vagrants; animals; cleaning ladies"; 65% confirm that these spaces are not used only by the residents of the building. While 12.5% of the users are neighbors of the city, and only 17.5% are outside the city; this explains that any kind of conflict of use comes from inside each building, more precisely from the residents of each block. (see Figure 4.18)

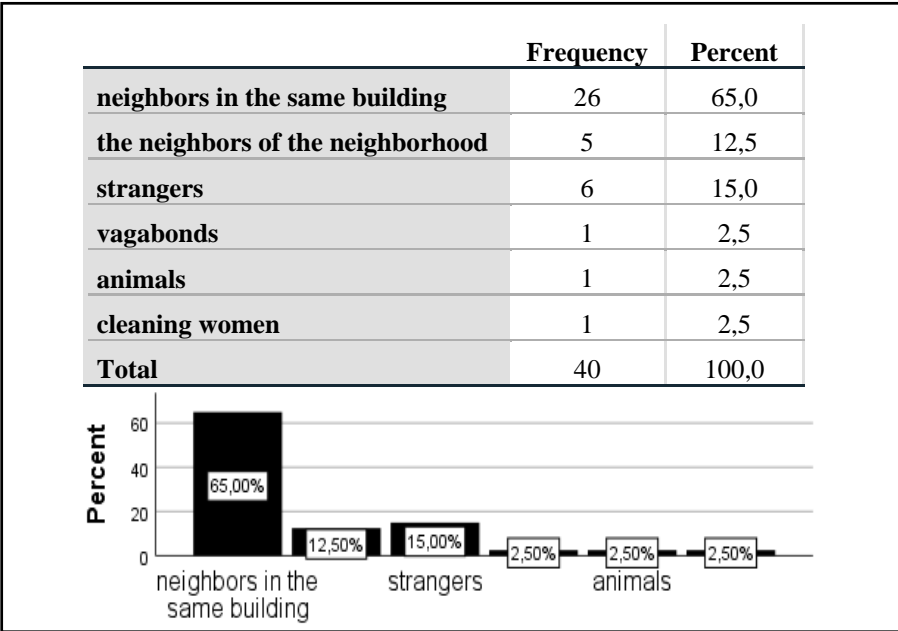


Figure 4. 18. the use of in-between space
 Source: Author, 2022 survey.

- In-between space modifications

All of the respondents did not notice any change in the in-between spaces of the buildings by their neighbors (95%). Although the photos taken confirm that there were. (see Figure 4.19)

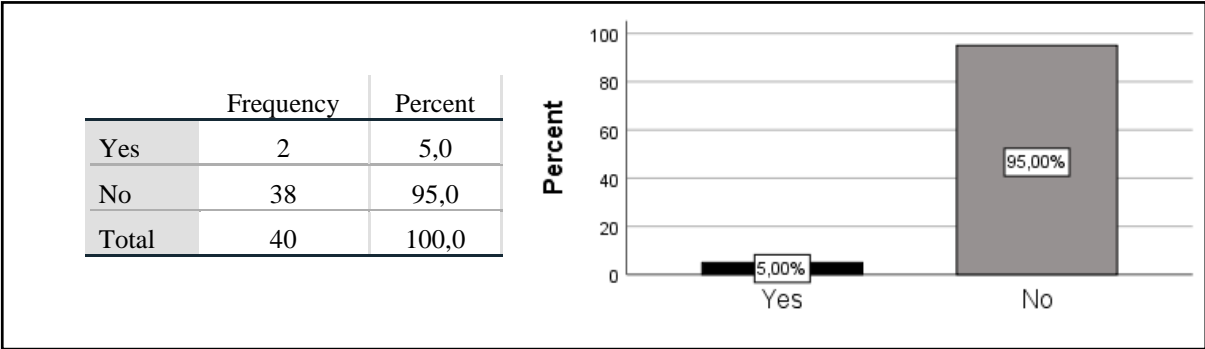


Figure 4. 19. Changing in-between spaces.
 Source: The author, 2022 survey.

- Usage practices of in-between spaces

The results of this multiple-response question indicate that the choice that states that there was no practice exercised in these spaces present was selected 22 times by residents, while funerals took second place with 22.8%; followed by Eid and wedding parties or others with a percentage of 12% and 9% in order, in last position we find the drying of linen which presents 1.8% which is generally on the top floor where there is only one dwelling and the terrace. (see table 4.4)

use		Responses		Percent of Cases
		N	Percent	
	funeral	13	22,8%	41,9%
	Aid	12	21,1%	38,7%
	Drying of laundry	1	1,8%	3,2%
	events	9	15,8%	29,0%
	none	22	38,6%	71,0%
Total		57	100,0%	183,9%

Table 4. 4. Usage practices of internal in-between spaces
Source: The author, 2022 survey.

- Storage of objects in in-between spaces

Concernant les problèmes de stockage des objets à savoir les échelles, les bidons d'eau ...etc. l'enquête a révélé que 72.5% des habitants voient que leurs voisins ne stockent pas les objets à l'extérieur des logements, 27.5% sont dérangés par ce comportement inacceptable. (see Figure 4.20)

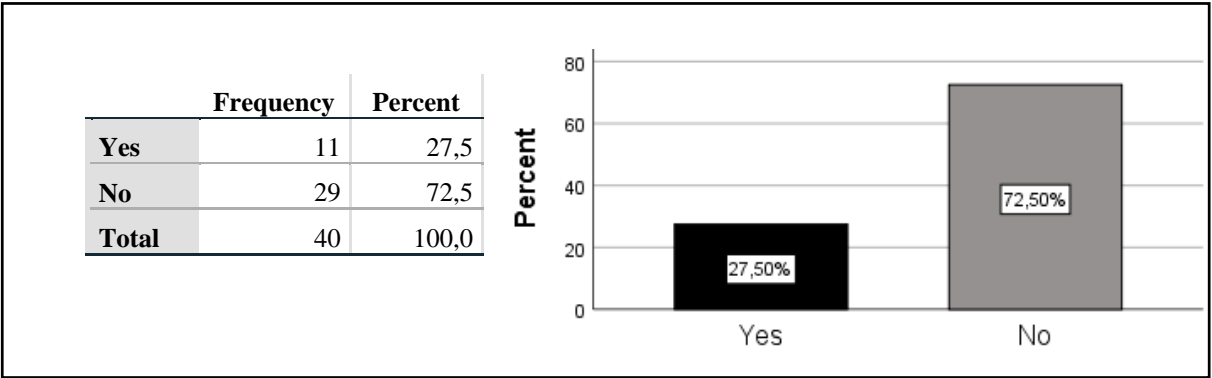


Figure 4. 20. storage of objects in in-between spaces.
Source: Author, 2022 survey.

➤ **How To Live In A Community**

- Balcony's use bothering

"What do your neighbors bother you with when using their terraces, balconies?"; the results obtained from this question show that 26 of 40 of the residents selected the throwing of cigarettes on the balconies; 22 residents state that they are bothered by the abusive use of the balconies by shaking and spreading their carpets ignoring the neighbors who live below. (see table 4.5)

		Responses		Percent of
		N	Percent	Cases
Bothering	BBQ smoke	10	9,0%	38,5%
	Clothes drying	11	9,9%	42,3%
	throw away cigarette	26	23,4%	100,0%
	loud music	22	19,8%	84,6%
	Shake and spread mats	22	19,8%	84,6%
	disturbance	20	18,0%	76,9%
Total		111	100,0%	426,9%

Table 4. Balcony

5. use

bothering for neighbours
Source: Author, 2022 survey.

- Respecting the cleanliness of in-between spaces

"Do your neighbors respect the cleanliness of the common space?", 52.5% of the residents see that the cleanliness is respected face 47.5% consider that the in-between space is dirty. (see Figure 4.21)

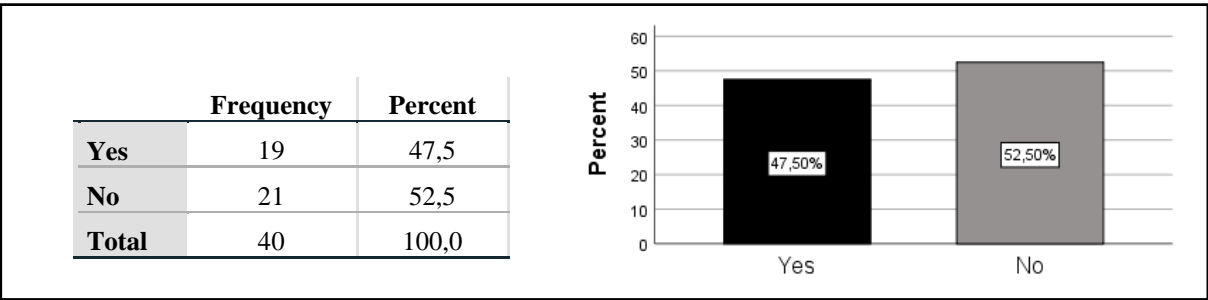


Figure 4. 21. Respect for the cleanliness of in-between spaces.
Source: Author, 2022 survey.

- Be in a situation of neighborhood disturbance

"Have you ever been in a situation of neighborhood disturbance? Yes or No"; The majority of respondents chose the answer no with a percentage of 53.85%, while 46.5% found that they had neighborhood quarrels during their residence. (see Figure 4.22)

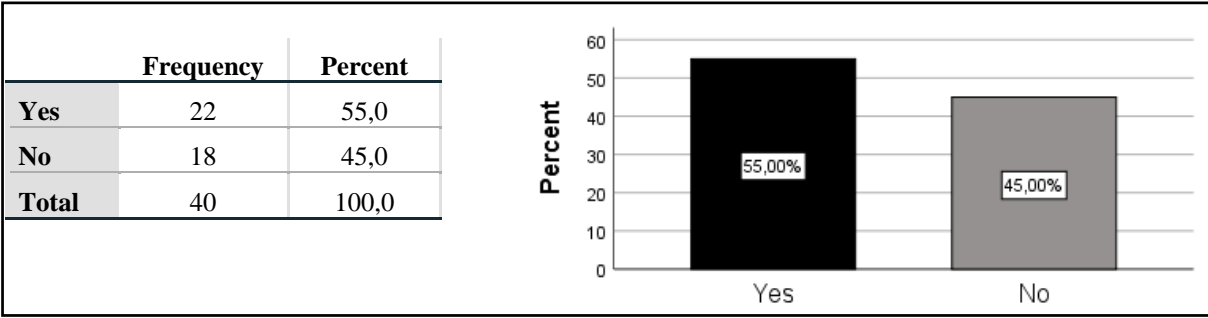


Figure 4. 22. Neighborhood’s quarrels.
 Source: Author, 2022 survey.

- The actors in a neighborhood disturbance situation by gender

From the survey we found that the majority of the inhabitants who enter into conflicts are women, 11 out of 20 women answered yes, while 8 out of 20 men prefer not to be in such situations. (see Figure 4.23)

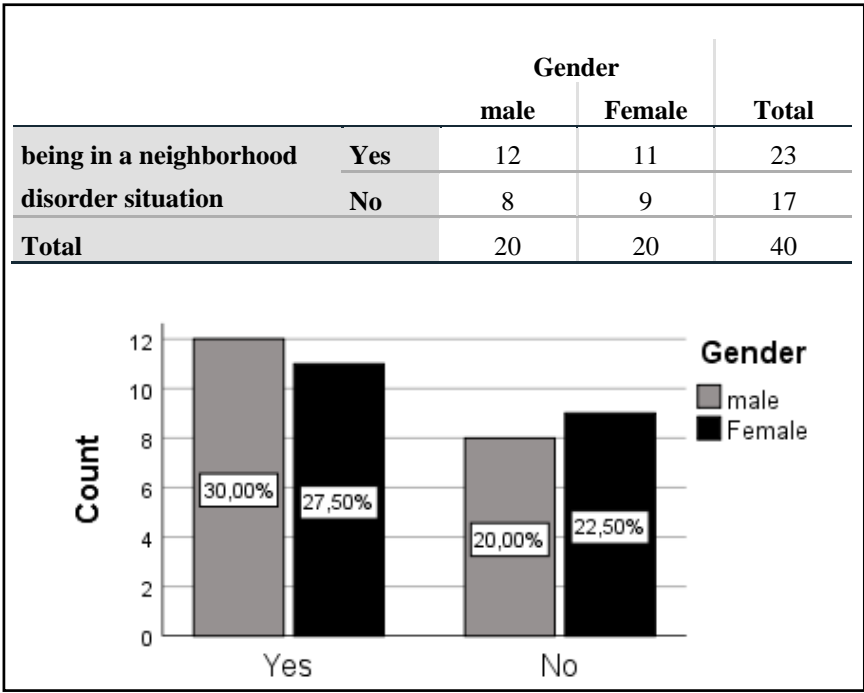


Figure 4. 23. Actors in neighborhood quarrels by gender.
 Source: Author, 2022 survey.

- Reactions to conflicts of use

The 18 residents who had problems with their neighbors reacted differently; among them 9 informed the neighbor or 50%; while almost 28% tried to find solutions by talking with the neighbors of the building; only 22% called the police. (see Figure 4.24)

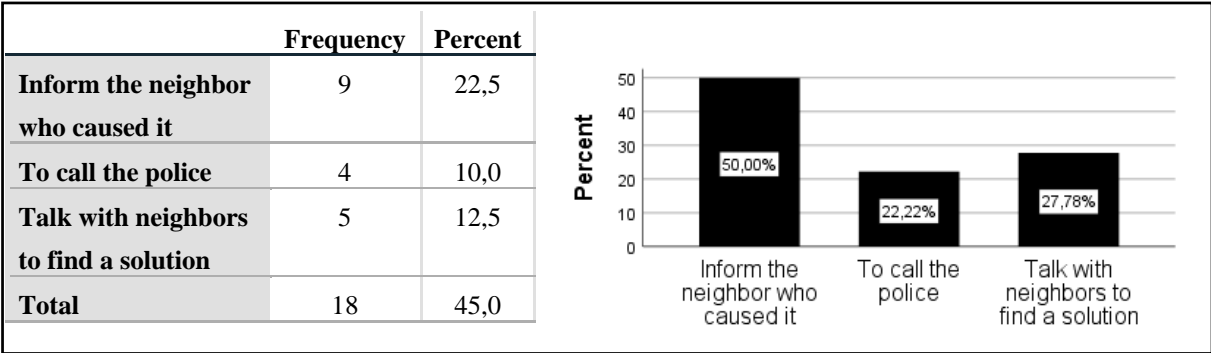


Figure 4. 24. Reactions to neighborhood quarrels.

Source: Author, 2022 survey.

- Reactions to use conflicts by gender

Among the 18 inhabitants who had conflicts of use; the great majority of the women tend to speak with the neighbor who caused the problem with a percentage of 38% instead of calling the police which presents 11% or speaking to other neighbors with 5.5% of percentage; As for the men they prefer to speak to the neighbors of the building in order to find solutions which presents 22%, only 11% call the police, and the same percentage for the respondents who informed him about the problem. (see Figure 4.25)

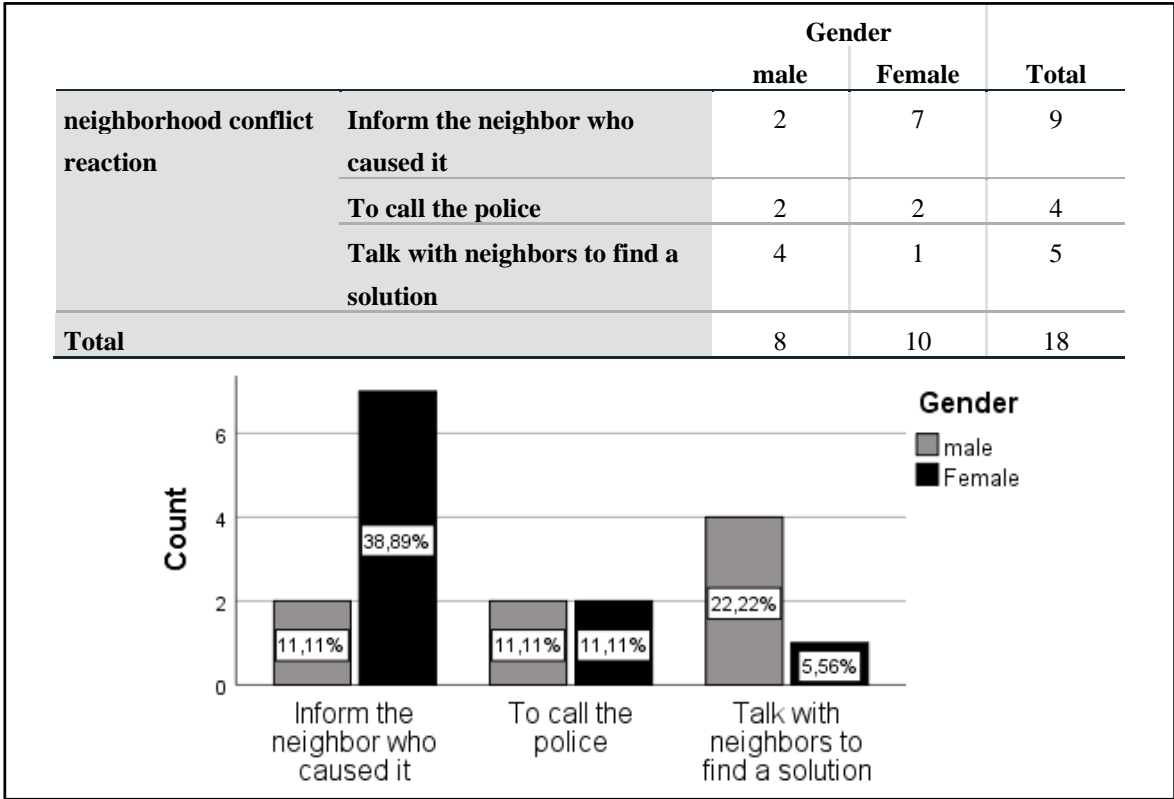


Figure 4. 25. Reactions to use conflicts by gender

Source: Author, 2022 survey.

- Entering in conflicts of use by socio-professional category

We observe that most of the respondents who entered into in-between space use conflicts are civil servants with 44.4% of the total; followed by those who have a free job and those who are unemployed with a proportion of 22.22% for each. (see Figure 4.26)



Figure 4. 26. Reactions to neighbourhood quarrels by socio-professional category
 Source: Author, 2022 survey.

- Reactions to conflicts of use according to the state of the relationship

When asked "Have you ever been in a situation of neighborhood disturbance? Yes or No"; 5% of the residents who consider their neighborhood relations to be strong answered yes, while 10% of them do not have conflicts. As for those who see their relations as average, 12.5% have entered into conflicts while 15% have answered by no; 30% of the answers of the inhabitants who have weak relations were no, while 27.5% have conflicts. (see Figure 4. 27)

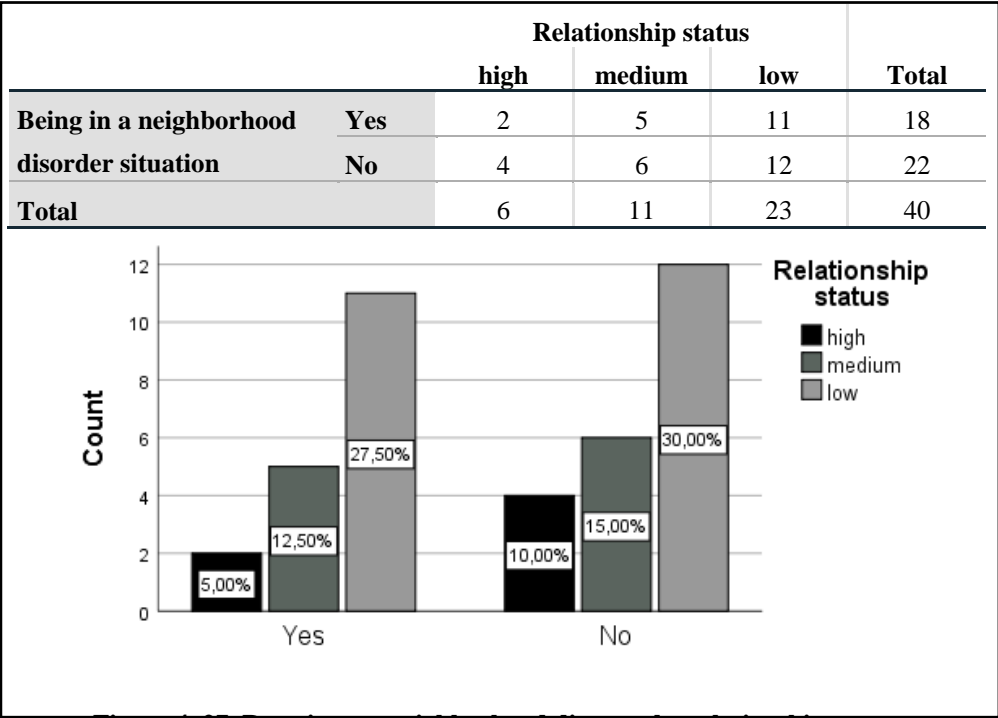


Figure 4. 27. Reactions to neighborhood disputes by relationship status

Source: Author, 2022 survey.

- Entering into a conflict of use according to the type of relationship

Questioned on the frequentation of being in a situation of neighborhood disturbance; 55% of the residents who consider their relations "courteous", entered in conflicts with the building neighbors during the period of residence; the survey reveals that 22% of the residents who do not have relations had conflicts of use; even if the residents who consider their relations friendly had disturbances with a percentage of 11%.(see Figure 4.28)

This shows us that the general impression of the relationship with the neighbor does not indicate that there were no conflicts between the neighbors of the building.

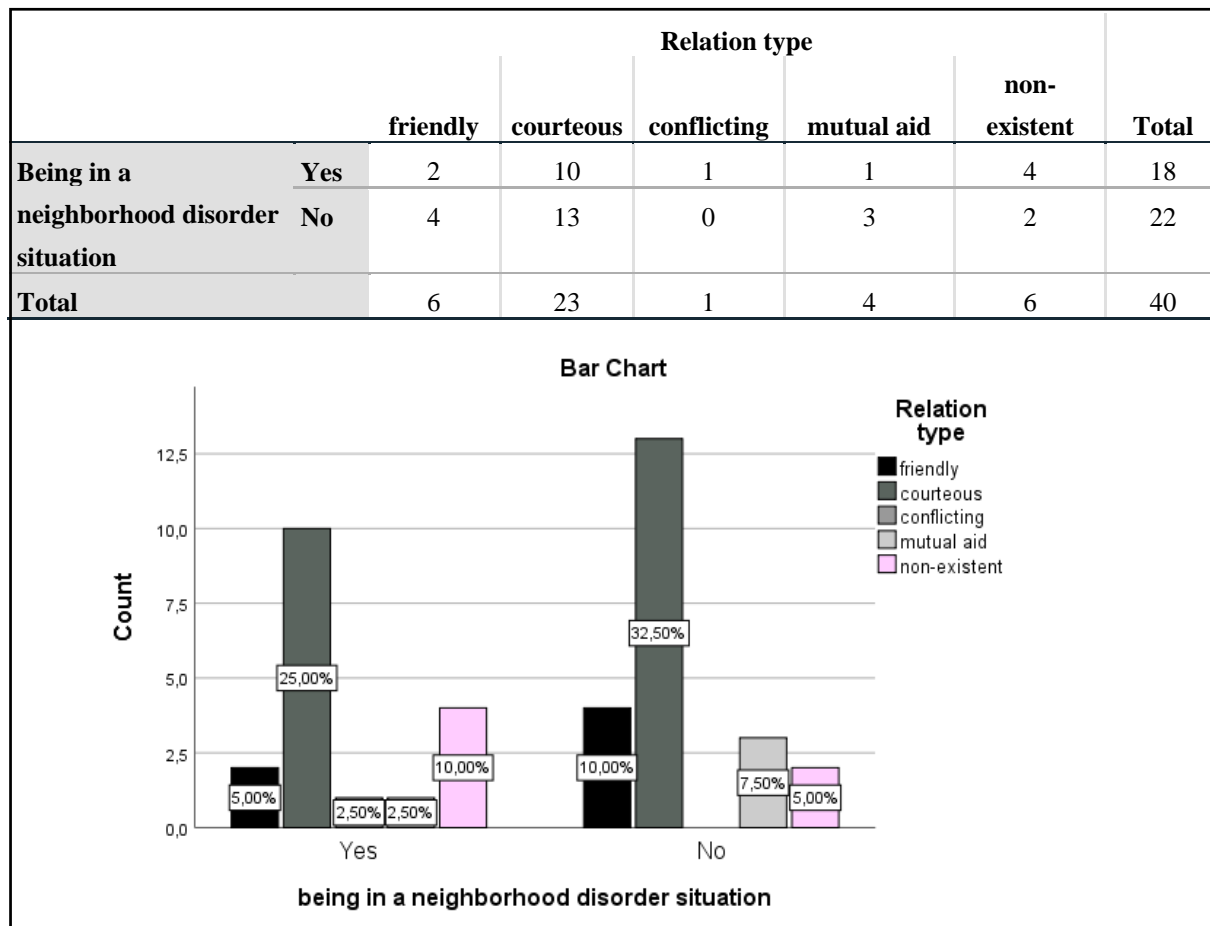


Figure 4. 28. Conflict occurrences by type of relationship between neighbors.

Source: Author, 2022 survey.

- The legality of transforming in-between spaces

Regarding the question "Do you think it is allowed to transform internal common areas into private areas? Yes or No"; 57.5% think that it is legal to appropriate these spaces individually; while 42.5% know that it is illegal to transform them. (see Figure 4. 29)

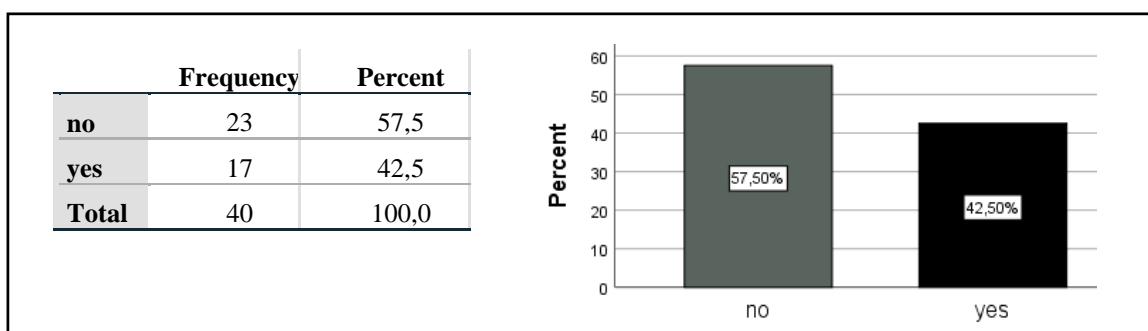


Figure 4. 29. The legality of transforming in-between spaces.

Source: Author, 2022 survey.

- The responsible for the work related to the in-between spaces

Interviewed about the person in charge of the maintenance of the building, 55% answered with "nobody", while 37.5% do not know who is in charge. This climate of neglect causes the development of asocial behaviors in their spaces; the percentage of inhabitants who know that the agency in charge of the maintenance is the OPGI is only 7.5%. (see Figure 4.30)

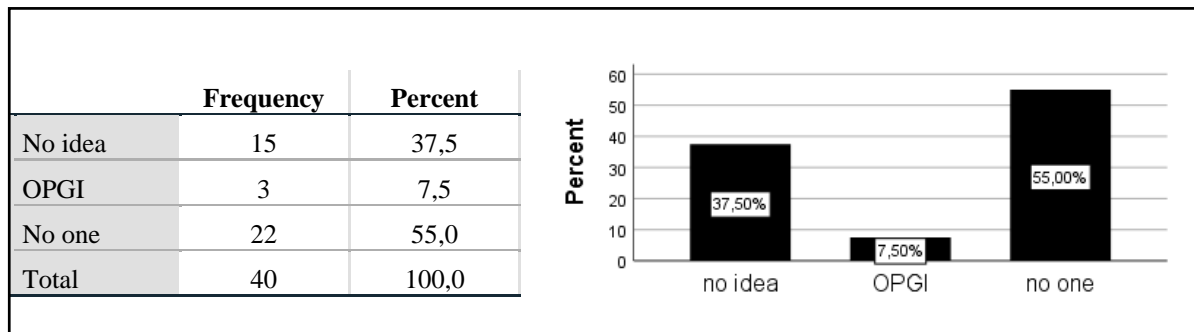


Figure 4. 30. The work manager related to in-between spaces.

Source: Author, 2022 survey.

1.3.1.2. Psychological Indications

➤ The Common Consciousness

- Participation in building maintenance

The vast majority of the residents do not participate in the interviews related to the in-between spaces with a percentage of 77.5%, which strongly indicates that they do not consider it as collective property and that it does not belong to them, while 22.5% declare that they participate individually in their spare time. (see Figure 4.31)

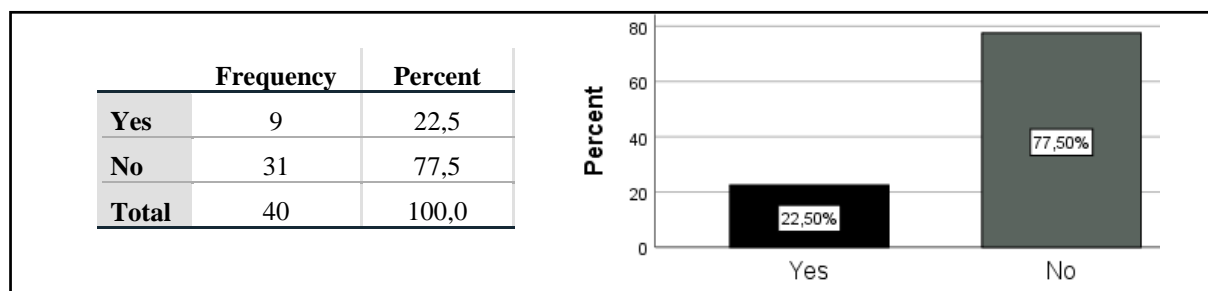


Figure 4. 31. Resident's participation in in-between space interviews.

Source: Author, 2022 survey.

- Mutual aid during the Covid lockdown:

" Have you been helped by a neighbor during the lockdown? Yes, or No?"; When asked about this question, 75% answered no, the relationship is so weak that they do not want to ask for help even in emergencies, against 25% who answered yes. (see Figure 4.32)

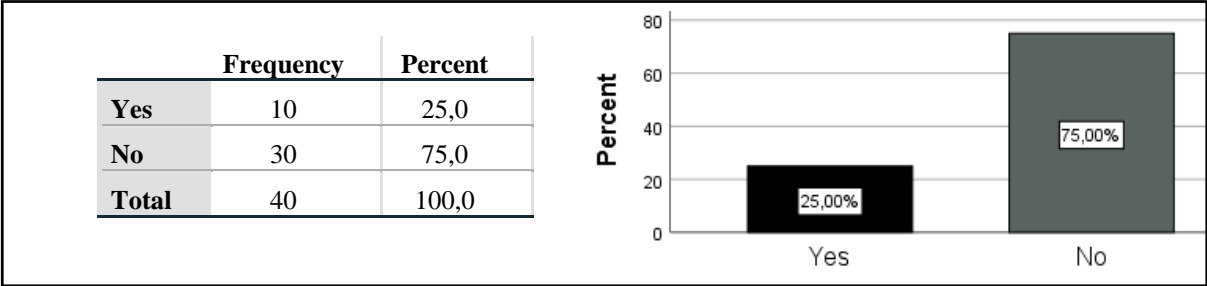


Figure 4. 32. Mutual aid between neighbours.

Source: Author, 2022 survey.

- Internal regulations of the building

As for the presence of an internal regulation that establishes the rights and obligations of the building, 92.5% of the residents stated that there were none, and it is true that we did not notice any posters on the walls, or instructions to be followed; however, 7.5% answered with yes, (see Figure 4. 33)

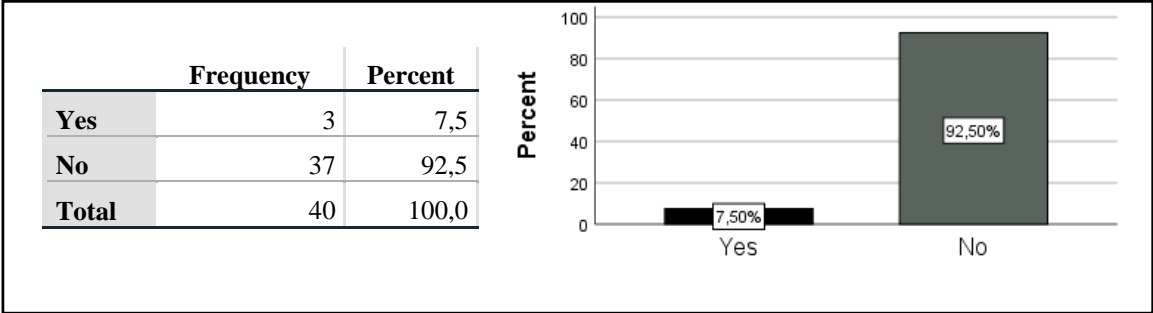


Figure 4. 33. The presence of building regulations.

Source: Author, 2022 survey.

- The rate of neighborhood quarrels

According to the results obtained from the survey, 35% of the answers were "occasionally"; 30% were "rarely"; the same percentage for those who answered "never"; and in last place the answer "quite often". This explains that neighborhood quarrels are an integral part of daily life in this city. (see Figure 4.34)

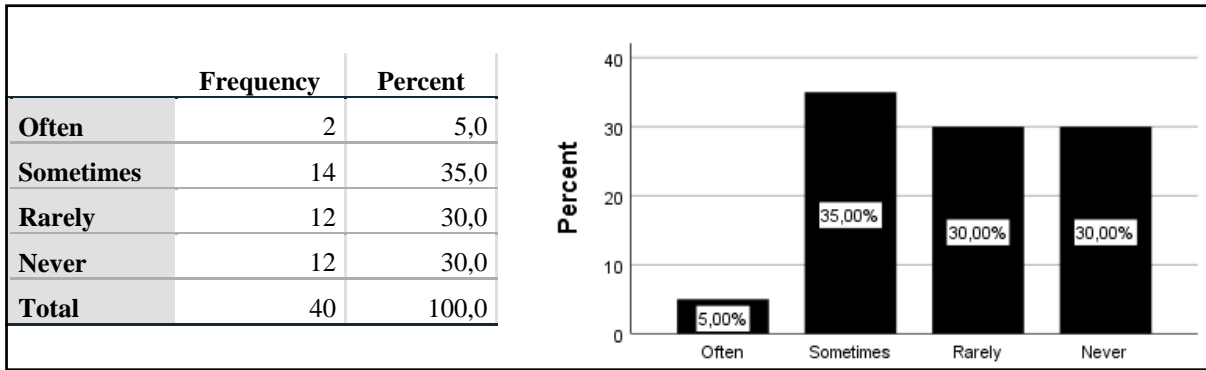


Figure 4. 34. Neighborhood quarrels in the Building.
 Source: Author, 2022 survey.

➤ **The Perception Of The In-Between Space**

- Sense of belonging

When asked about the level of sense of belonging within their blocks; 47.5% of the respondents chose "Low"; while 25% find it "extremely low"; However, 17.5% consider it strong. (see Figure 4.35)

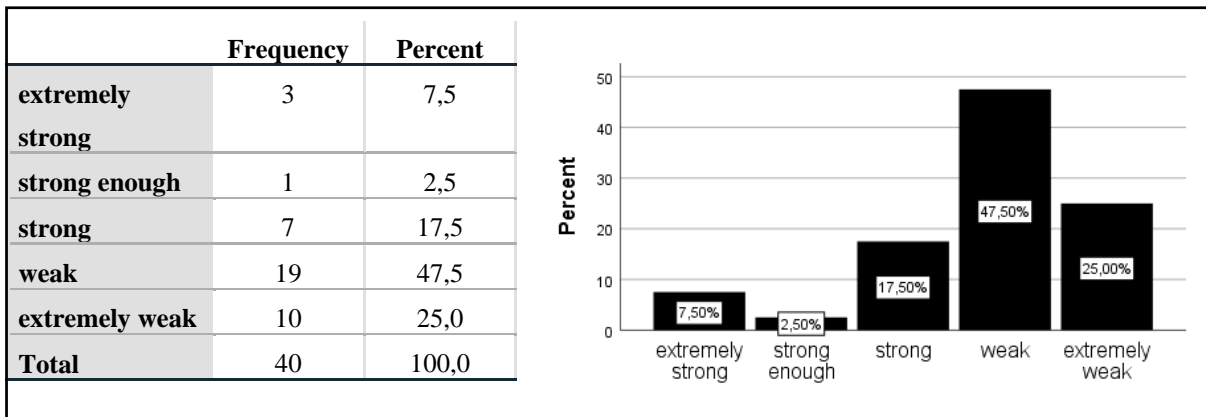


Figure 4. 35. Belonging in the building blocks.
 Source: Author, 2022 survey.

- The perception of internal in-between spaces

"What does in-between space represent? Transitional space; dark insecure space; storage space; meeting space; play space; conflict generating space"; 67.4% of the respondents present them only as a transitional space that is used to move from inside to outside or the other way around; the percentage of respondents by: "dark insecure space" represents 17.4% of the total; while those who consider these spaces as meeting spaces present 6.5%; only 2 inhabitants among 40 have considered them as a conflict generating space and 2 others consider them as a storage space; in spite of the contradictory results which show us that the majority of the conflicts between the neighbors are at the level of these spaces and in particular its use and its appropriation. (see Figure 4. 6)

representations		Responses		Percent of Cases
		N	Percent	
	transitional space	31	67,4%	100,0%
	insecure dark space	8	17,4%	25,8%
	storage space	2	4,3%	6,5%
	encounters space	3	6,5%	9,7%
	generating conflicts space	2	4,3%	6,5%
Total		46	100,0%	148,4%

Table 4. 6. The perception of internal in-between spaces

Source: Author, 2022 survey.

➤ **Belonging And Security**

- The least secure space in the building

One-half of the residents are in agreement that the space with the lowest perceived safety status is the building entrance with a percentage of 52%; followed in order by the lobby, the stairs, and in last place the sleeping landings. They start to feel safe when going upstairs. (see Figure 4. 36)

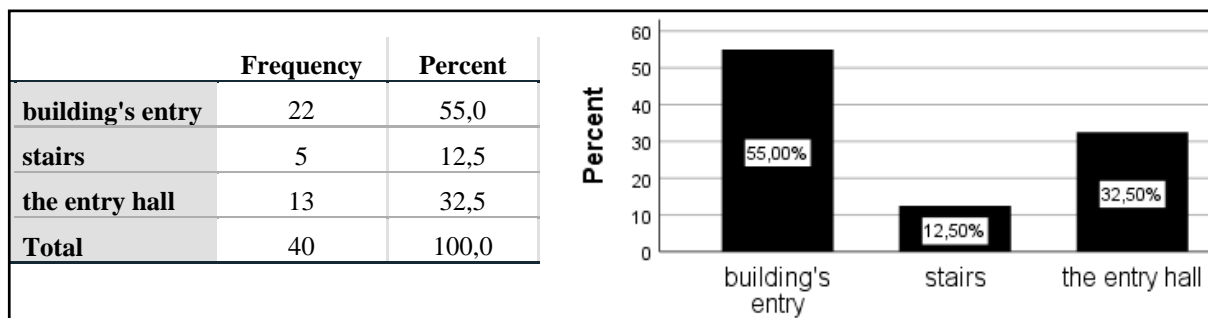


Figure 4. 36. The least secure space in the building

Source: Author, 2022 survey.

- Feeling at home

When asked "What space do you feel at home in? The entrance to the housing estate; The outside space of the housing estate; The entrance to the building; The entrance hall; The stairs; The entrance to your dwelling", more than 57.5% of the inhabitants only feel at home in front of their housing doors, they have no feeling of ownership of these in-between spaces and they do not consider that they belong to them. (see Figure 4. 37)

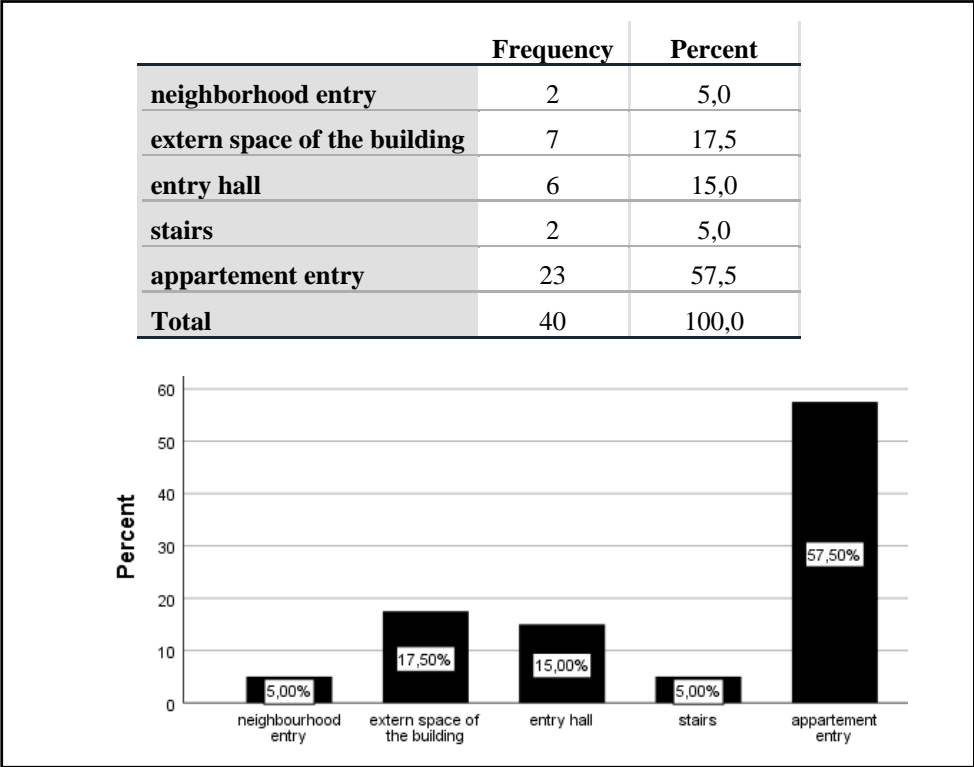


Figure 4. 37. The feeling of being at home.
Source: Author, 2022 survey.

1.3.1.3. Spatial Indications

- In-between space design threats

72.5% of residents are not disturbed by the designed in-between space; while 27.5% consider that the design has an influence on the generated use conflicts. (see Figure 4. 38)

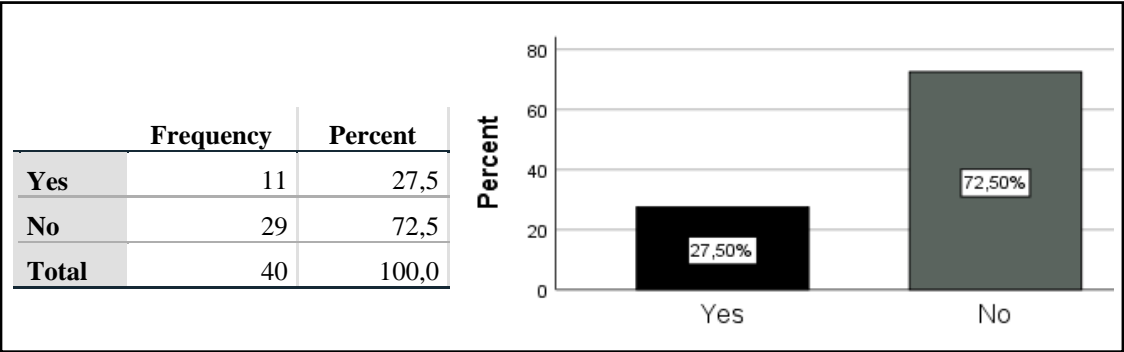


Figure 4. 38. The threats of design.
Source: Author, 2022 survey.

1.3.2. Case study 2 : 1000 units

1.3.2.1. Socio-Demographic Indicators

➤ **Dwelling identification**

- Occupancy Status

We noticed that 77% of the total number of respondents are owners, while 23% are tenants. (see Figure 4.39)

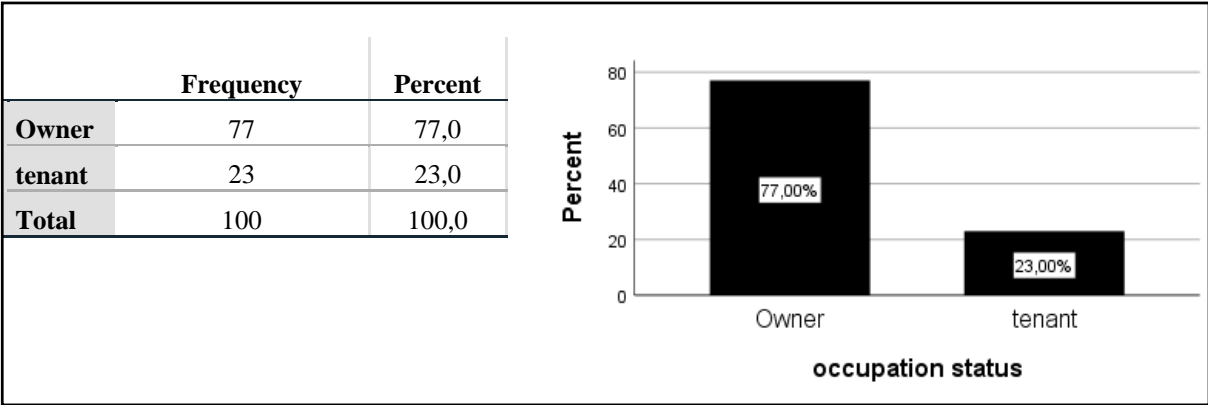


Figure 4. 39. Tenure status of respondents.

Source: Author, 2022 survey.

- Year of occupation

We also noticed that 64% of the respondents have been living in the city for more than 20 years, from 2008 to the present. (see Figure 4.40)

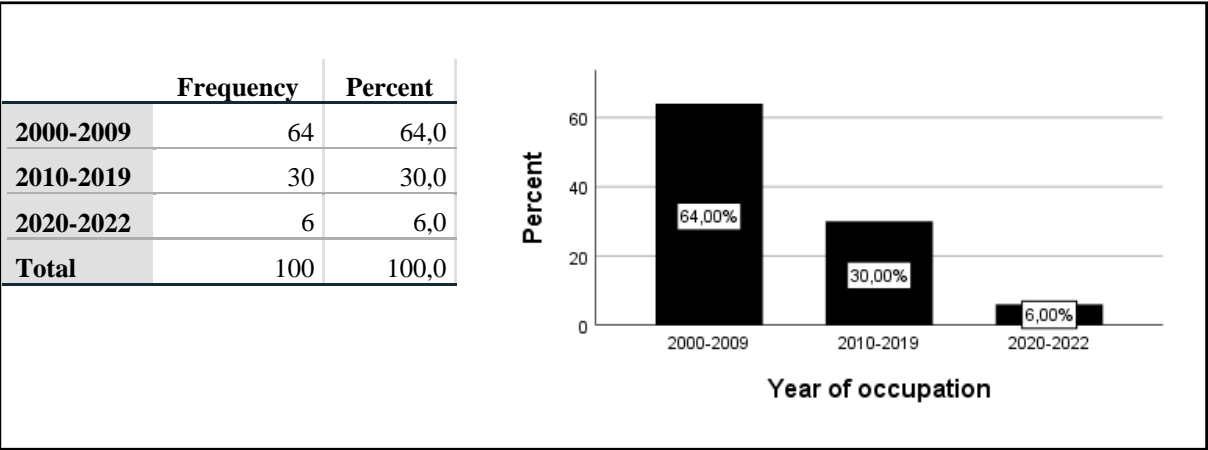


Figure 4. 40. The distribution of respondents by year of occupancy

Source: Author, 2022 survey.

- Lived floor

The second floor has the most respondents, followed by the sixth floor and the third floor. (see Figure 4. 41)

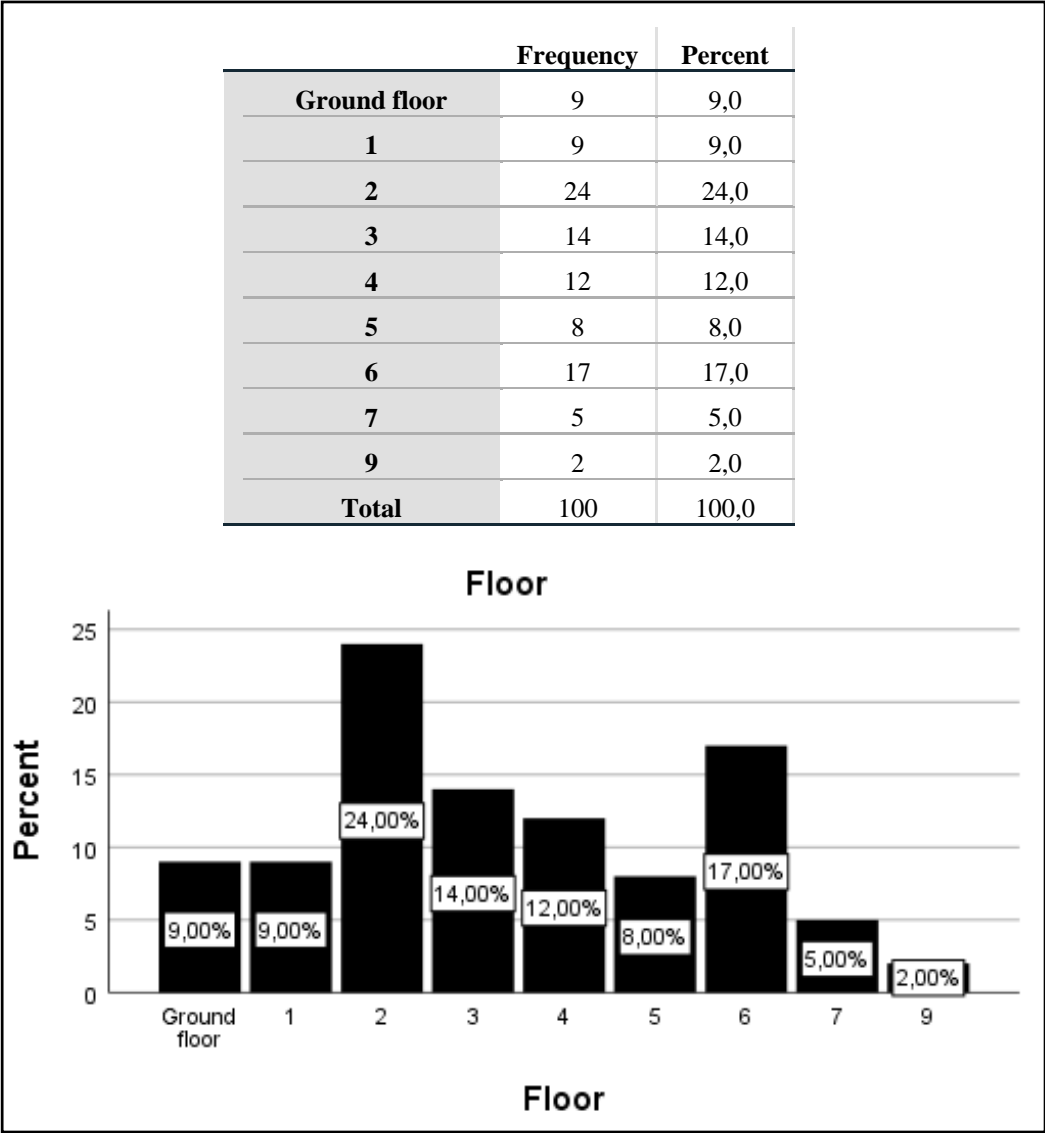


Figure 4. 41. The distribution of respondents by floor occupied
 Source: Author, 2022 survey.

➤ **Inhabitant identification**

- Gender

The results reveal that 55 of the 100 respondents are men, equivalent to 55%, and 45 are women, representing 45% of the total. (see Figure 4. 42)

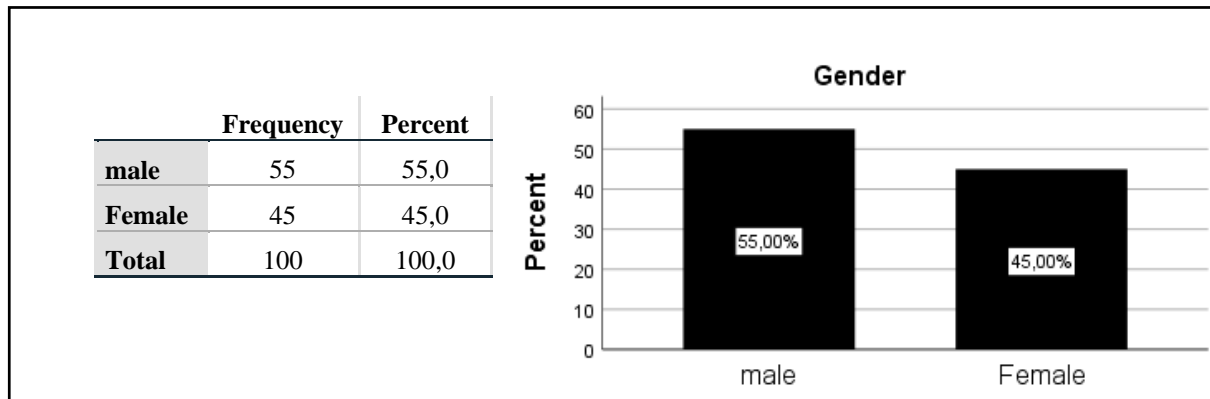


Figure 4. 42. Distribution of respondents by gender.

Source: Author, 2022 survey.

- Age

In our sample, the dominant age group is between 40 and 50 years old with a percentage of 37%, divided between men (15%) and women (22%). So, we are dealing with a population that is not very young. (see Figure 4.43)

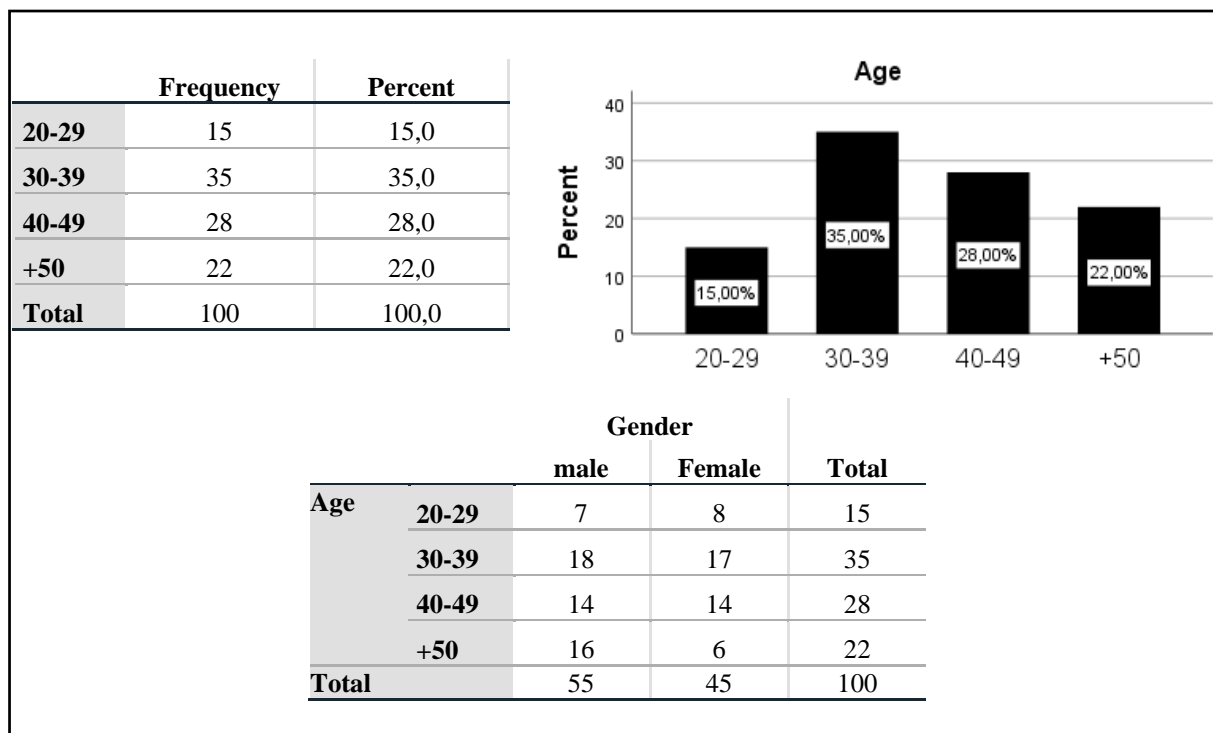


Figure 4. 43. Distribution of respondents by gender and age.

Source: Author, 2022 survey.

- Family Situation

Most of the respondents are married with children with a percentage of 79% of the total population. (see Figure 4.44)

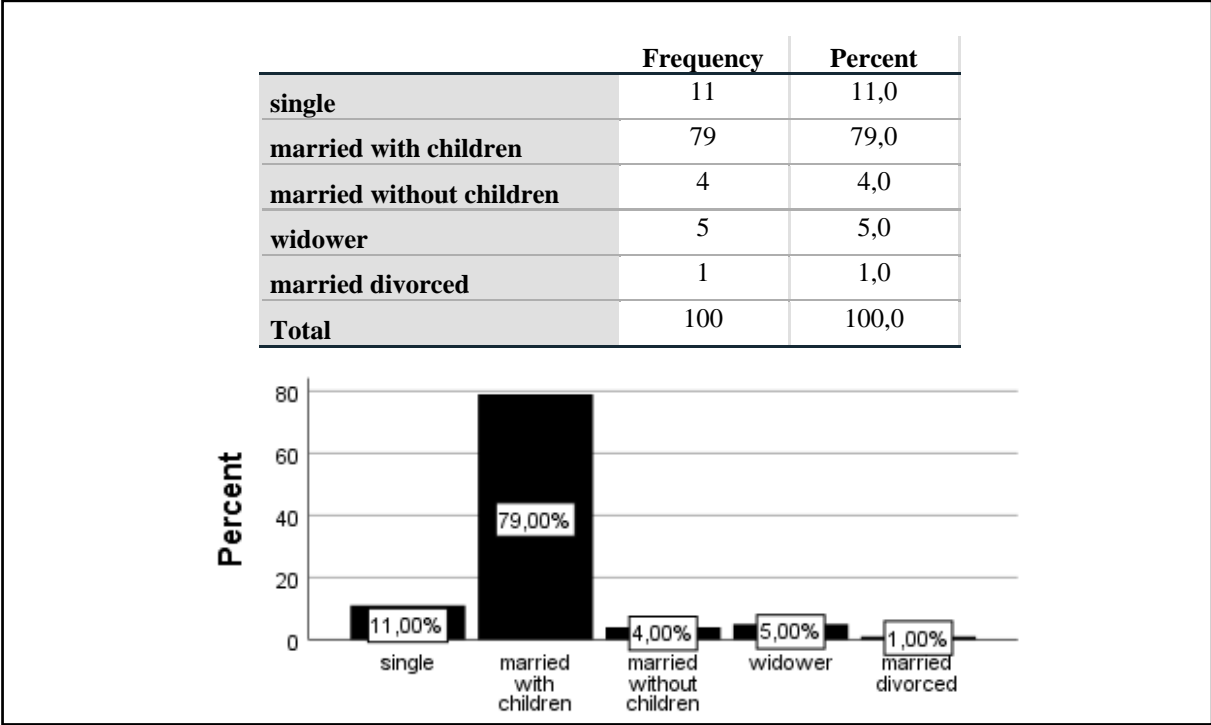


Figure 4. 44. The family’s situation of the respondents

Source: Author, 2022 survey.

- Education Level

The most respondents have a high school level with a percentage of 41%, the university students represent 36% of the population. (see Figure 4. 45)

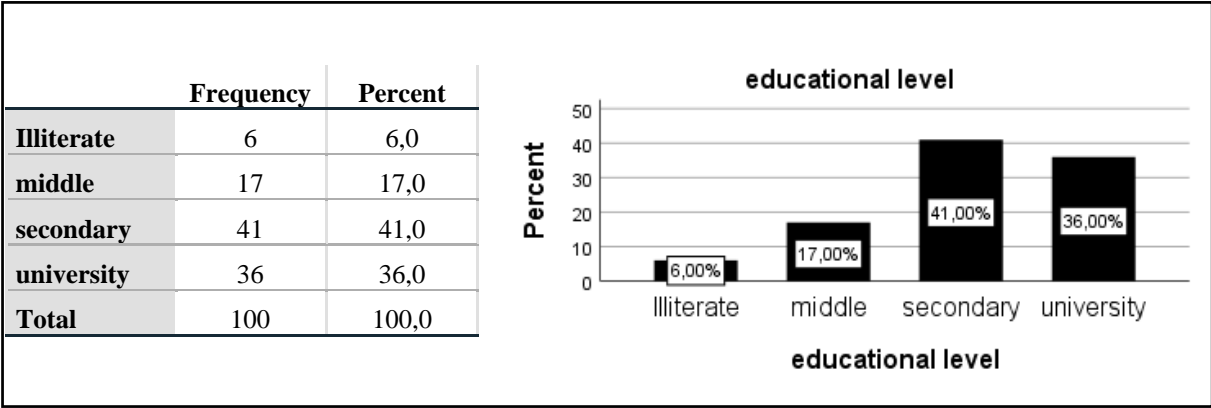


Figure 4. 45. The level of education of the respondents.

The level of education of the respondents.

A classification by education level and gender shows that men have the highest level of education. (see Figure 4.46)

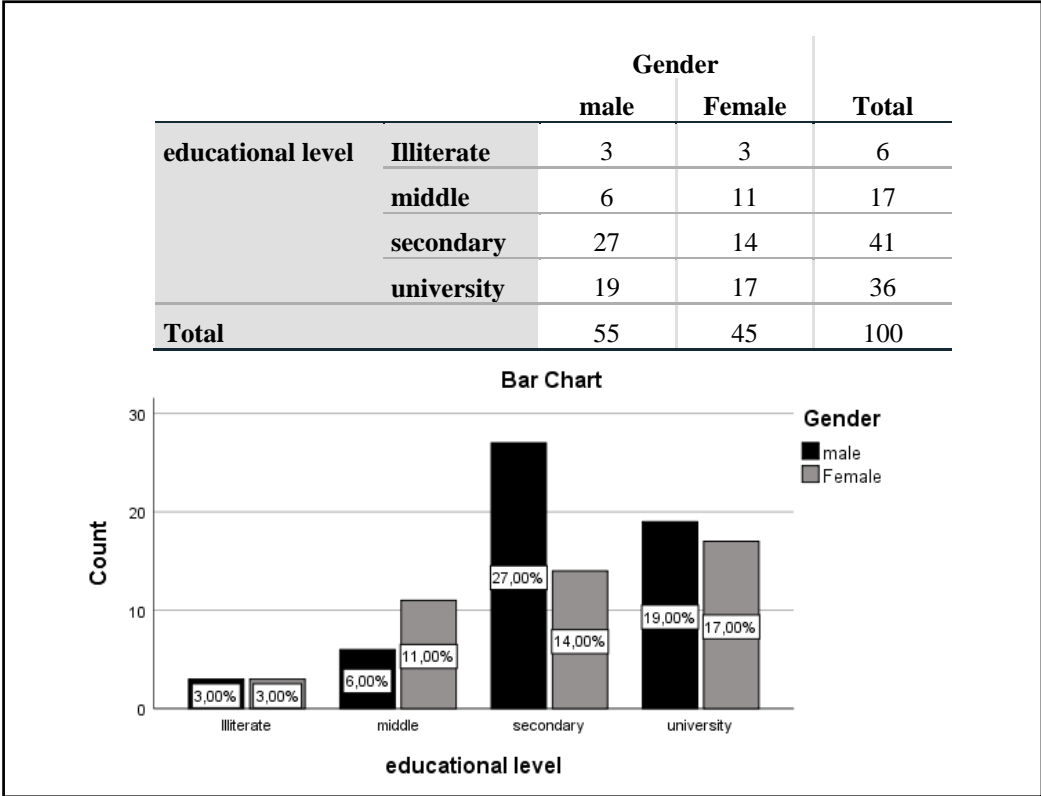


Figure 4. 46. The distribution of respondents by gender and education level.

Source: Author, 2022 survey.

- Socio-professional category

Given that most of the respondents are in the 40-50 age group, the dominant socio-professional category is the retired with 40%, followed by government employees who represent 37%. The two dominant categories of the target population are almost tightly packed, so their behaviors would be varied with respect to the use of in-between spaces. (see Figure 4.47)

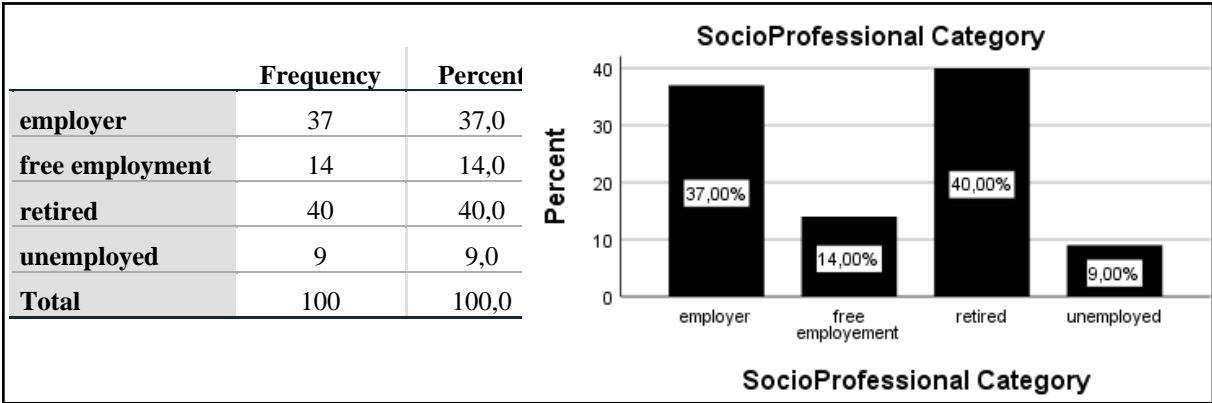


Figure 4. 47. The socio-professional category of the respondents.

Source: Author, 2022 survey.

The majority of the retired individuals who have the dominant category are men, 24 of 40 people; it is identical for government employees, with men taking the first position with 22% as opposed to 15% for women. (see table 4. 7)

		Gender		Total
		male	Female	
Socio-Professional Category	employer	22	15	37
	free employment	5	9	14
	retired	24	16	40
	unemployed	4	5	9
Total		55	45	100

Table 4. 7. Interviews repartition based on gender and socio professional category
 Source: Author, 2022 survey.

➤ **Proportion of encounters**

- Presence of neighborhood relationships

75% of respondents report that they had relationships with their building neighbors; while 25% maintain no relationship with them. (see Figure 4.48)

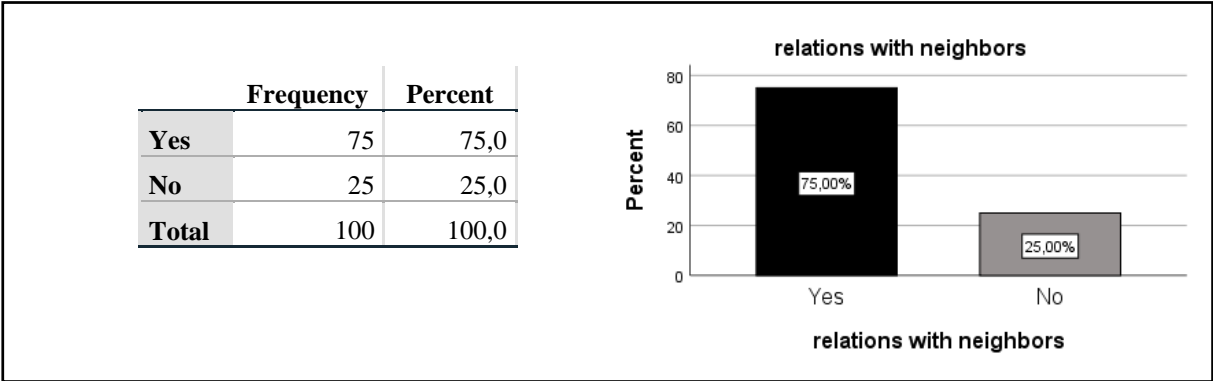


Figure 4. 48. Neighborhood relations of the respondents.
 Source: Author, 2022 survey.

- Degree of acquaintance among neighbors

Regarding the question "Do you know your neighbors in the building: All; Most; About half; Some; None", the inhabitants who know "some" dominate with a percentage of 42%, followed by the inhabitants who know most of their neighbors in the building with 22% of the total. (see Figure 4. 49)

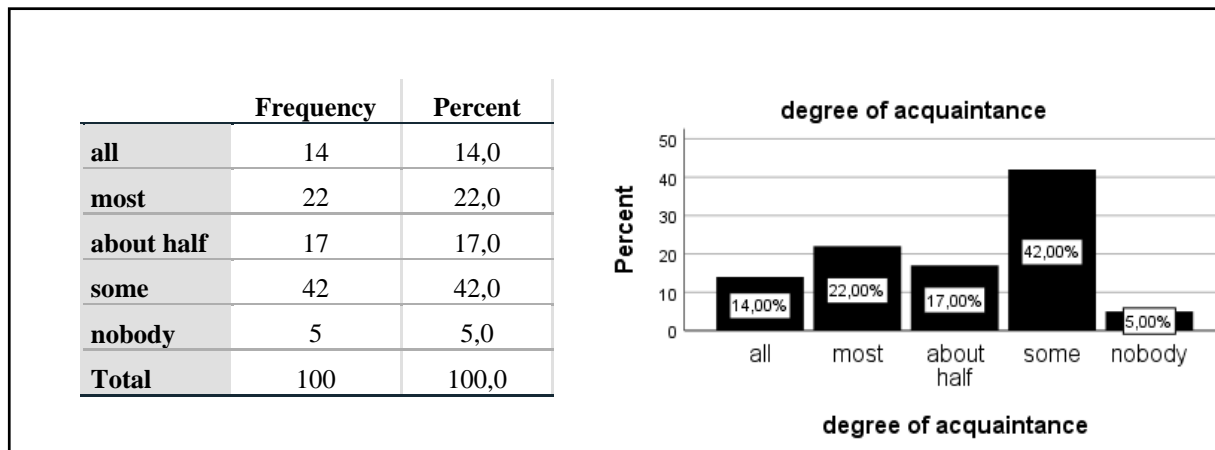


Figure 4. 49. The degree of acquaintance between the inhabitants of the same building.

Source: Author, 2022 survey.

- Occasional meetings between neighbors:

For the question "Do you meet occasionally with your neighbors: once a day; once a week; once a month?" most residents chose the answer: once a week; they see each other almost every day in-between spaces. (see Figure 4. 50)

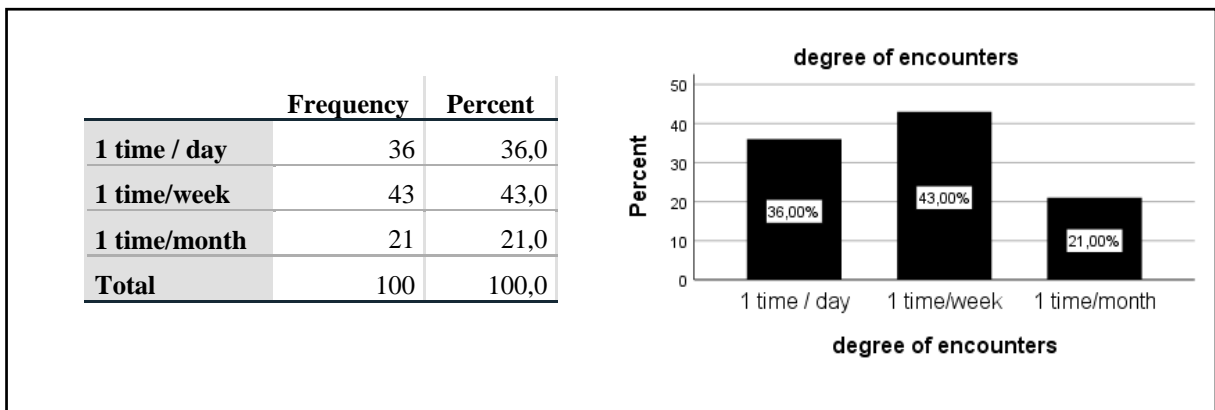


Figure 4. 50. Occasional meetings between neighbors.

Source: Author, 2022 survey.

- Neighborhood Relations

On the question that stipulates: "Do you consider your relationship with your neighbors: Low; Average; High"; 55 of the inhabitants consider their relationship with neighbors of average buildings; followed by those that consider them as low that present 23%; only 22% see that they can consider it high. (see Figure 4.51)

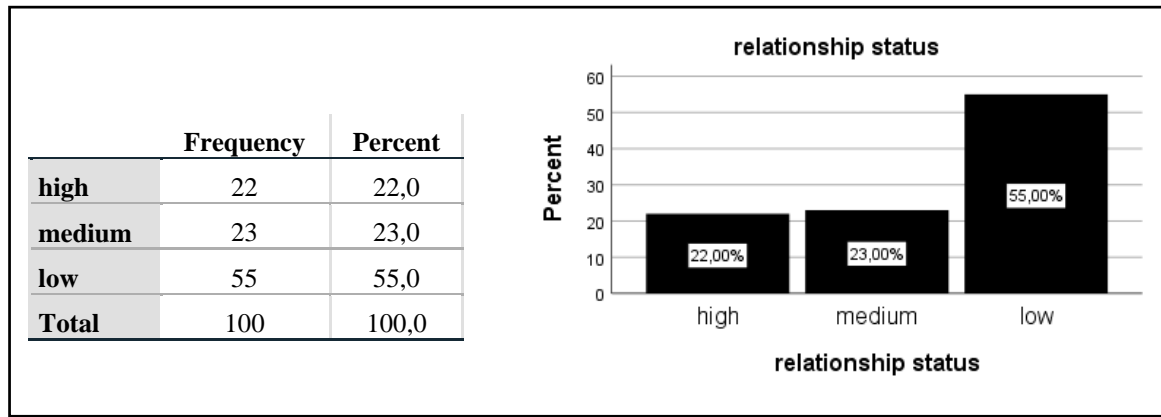


Figure 4. 51. Neighborhood relationships of respondents.

Source: Author, 2022 survey.

- Type of Neighborhood Relationships

In the question "Are your relations with your neighbors: friendly; courteous; conflictual; mutual aid; non-existent?", the majority of respondents consider the relationship between neighbors to be courteous (38%), followed by those who consider it to be friendly (29% of the total). (see Figure 4.52)

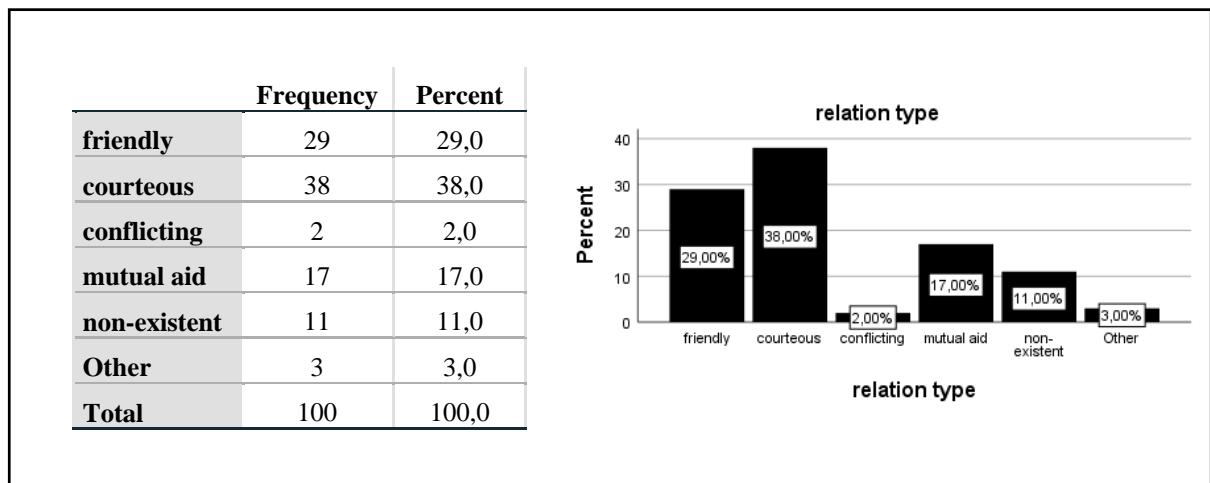


Figure 4. 52. The type of neighborhood relations in the building.

Source: Author, 2022 survey.

- Most frequented location

The building entrance is the in-between space where neighbors occasionally meet most often, at 39%, followed by the choice of stairs with a percentage of 22%. (see Figure 4. 53)

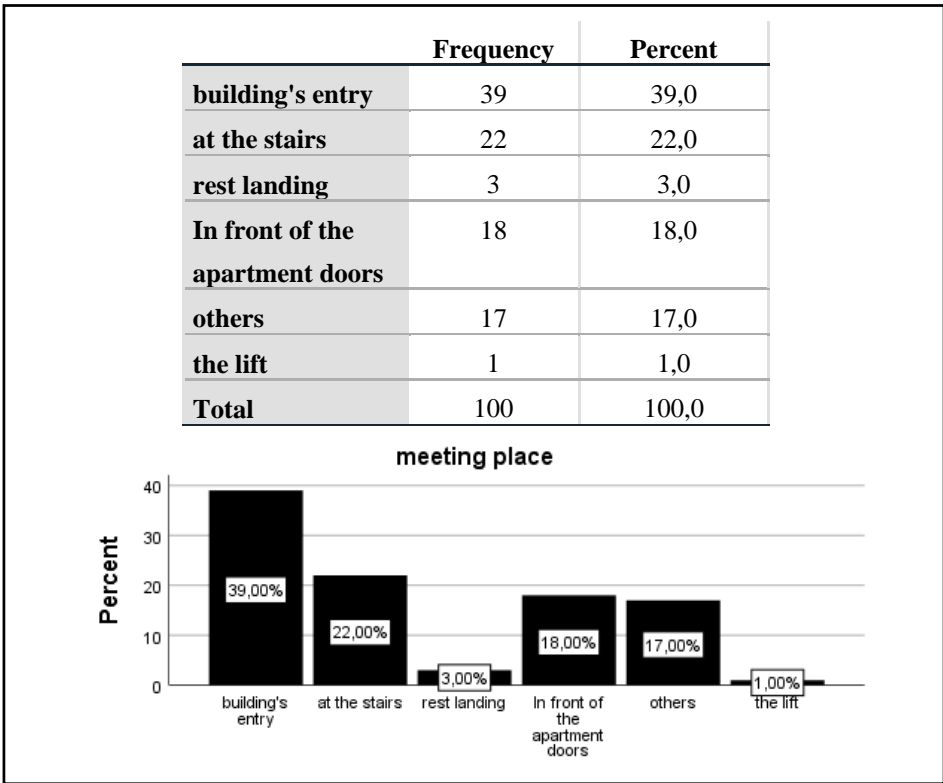


Figure 4. 53. The place most frequented by the respondents
 Source: Author, 2022 survey.

- Sharing talents and interests

No less than 88% of the inhabitants share neither talents nor interests with their neighbors in the building. This indicates a preference for increased individuality. (see Figure 4.54)

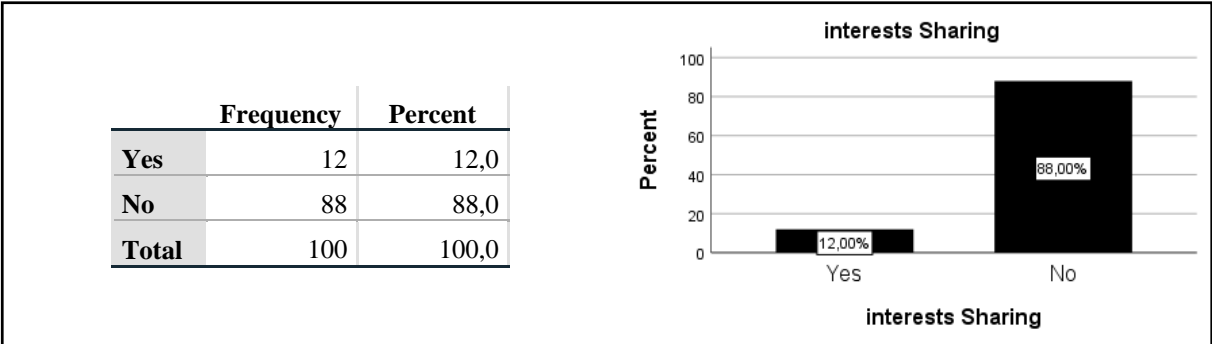


Figure 4. 54. Sharing talents and interests among building neighbors
 Source: Author, 2022 survey.

Sharing of interests by gender

The graph shows that the refusal to share a collective life between neighbors is strongly present among men; women choose to keep a considerable distance. (see Figure 4.55)

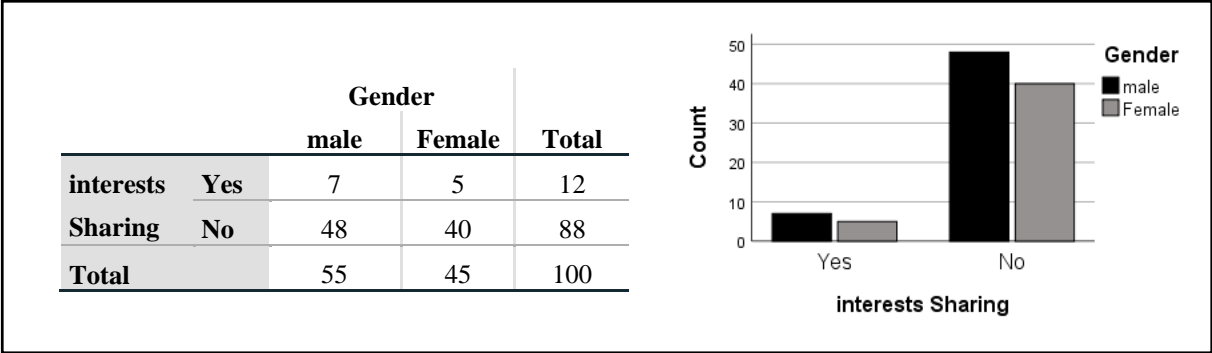


Figure 4. 55. Interest sharing by gender

Source: Author, 2022 survey.

➤ Practices And Uses Of The In-Between Space

- In-between space usage

The in-between spaces are used more by the neighbors of the building which presents 45% of the total, 19% notice that the housewives use these spaces often, 16% of the neighbors of the city consider these spaces as public and use them freely. (see Figure 4.56)

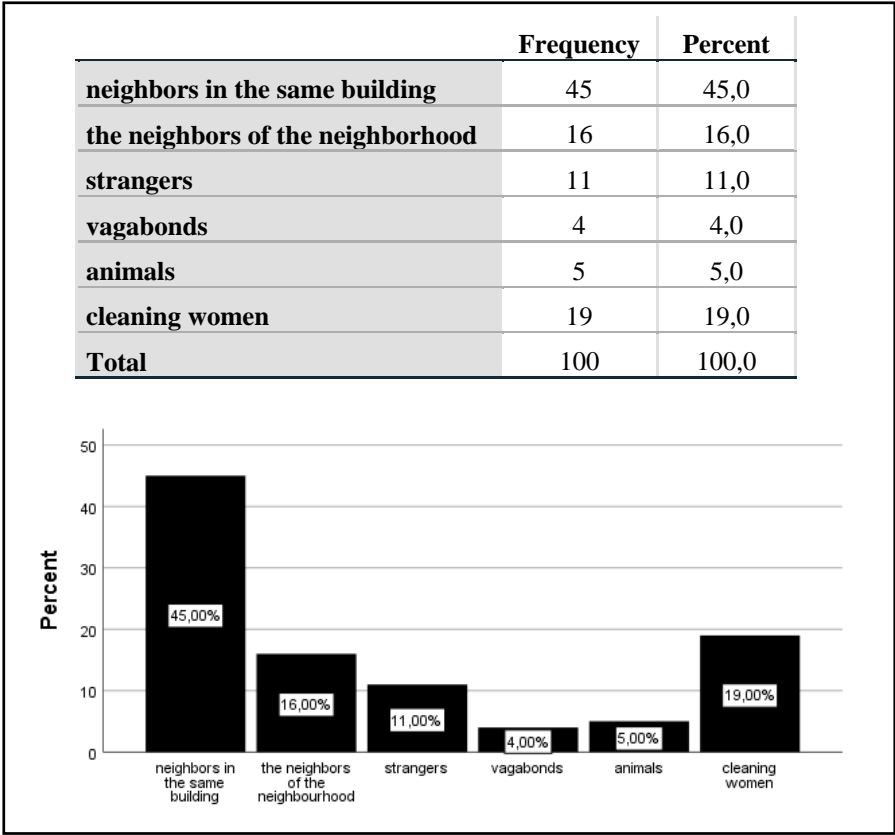


Figure 4. 56. The use of in-between space

Source: Author, 2022 survey.

- In-between space modifications

90% of the respondents did not observe any change in the in-between spaces; 10% answered yes; the current state of these spaces reveals that there is no change noticed and this is due to the strict supervision of the AADL agency. (see Figure 4. 57)

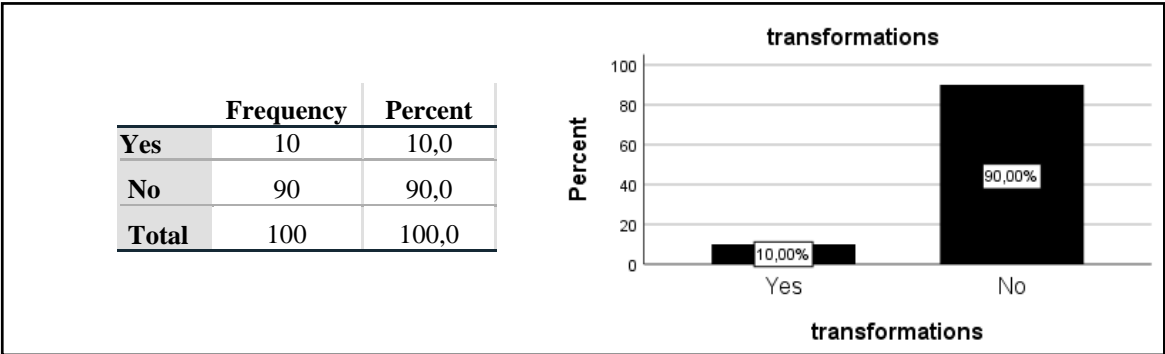


Figure 4. 57. Changing in-between spaces.

Source: Author, 2022 survey.

- Usage practices of internal in-between spaces

This multiple response question reveals that the majority of respondents use the in-between spaces at the funeral with 32%; followed by the different parties with 24%, while 20% do not use these spaces. (see Table 4. 8)

		N	Percent
Usage	funeral	58	32,8%
	Aid	33	18,6%
	Drying of laundry	7	4,0%
	event	43	24,3%
	none	36	20,3%
Total		177	100,0%

Table 4. 8. Usage practices of in-between spaces

Source: Author, 2022 survey.

- Storage of objects in in-between spaces

"Do your neighbors store their old furniture, ladders, boxes, bikes... in internal common areas (stairways/ rest landings/ decks/ building entrance/ near their doors)?" ; 76% answered no, it really shows after multiple visits.

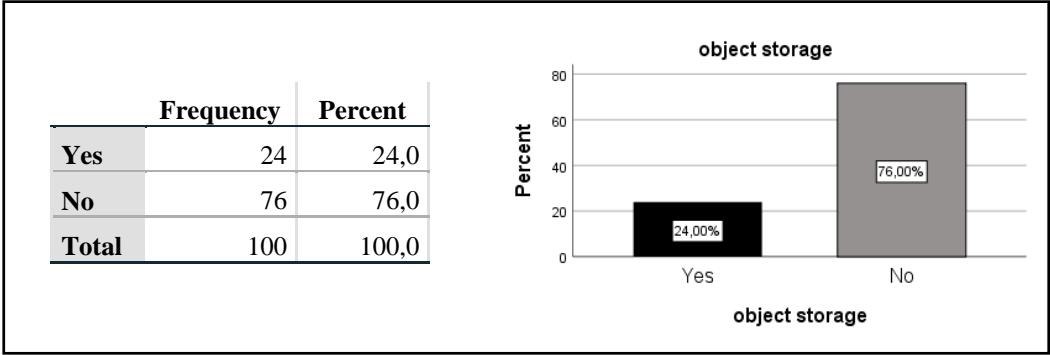


Figure 4. 58. Storage of objects in in-between spaces.
 Source: Author, 2022 survey.

➤ **How To Live In A Community**

- Balcony use bothering

The balcony is improperly used by the neighbors of each building, we want to identify the genes that increases the conflicts between neighbors; the majority of the respondents chose the shaking of the carpets is 52%; 43 people of 100 are bothered by throwing cigarettes and 30 claim the high way of the music. (see table 4.9)

		Responses	
		N	Percent
balcony _usage	BBQ smoke	10	6,6%
	Clothes drying	16	10,6%
	throw away cigarette	43	28,5%
	loud music	30	19,9%
	Shake and spread mats	52	34,4%
Total		151	100,0%

Table 4. 9. Balcony’s usage improper habits
 Source: Author, 2022 survey.

- Respecting the cleanliness of in-between spaces

The answers to this question reveal that 55% of the inhabitants see that there was no respect for the cleanliness of the in-between spaces; this indicates that the neighbors do not feel ownership of these spaces.45% answered yes despite the undeniable dirtiness of some buildings. (see Figure 4. 59)

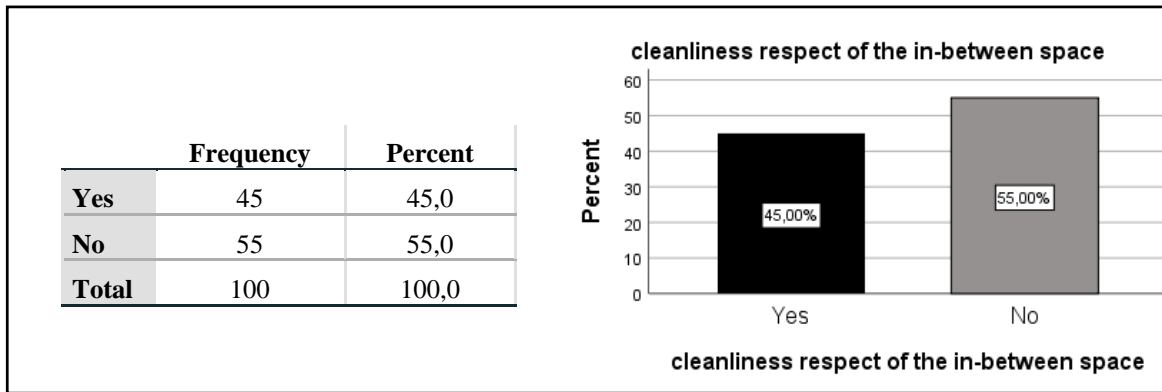


Figure 4. 59. Respect for the cleanliness of in-between spaces.

Source: Author, 2022 survey.

- Being in a neighborhood disorder situation

When asked about the possibility of entering into a conflict with neighbors, the vast majority, 71%, answered no; 29% were in a neighborhood disturbance. (see Figure 4.60)

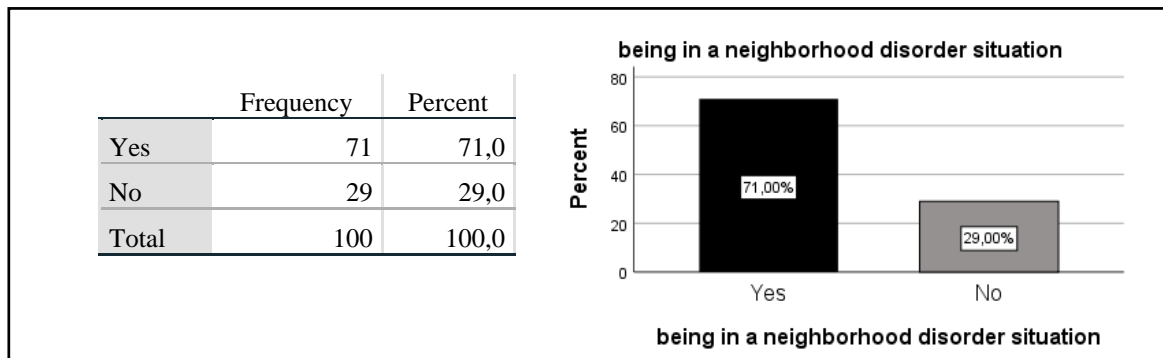


Figure 4. 60. Neighborhood quarrels.

Source: Author, 2022 survey.

- The actors in a neighborhood disturbance situation by gender

Among the inhabitants who have entered into conflicts with their neighbors, women tend to be the gender most included in these conflicts with a percentage of 55%; against 45% of men. (see Figure 4.61)

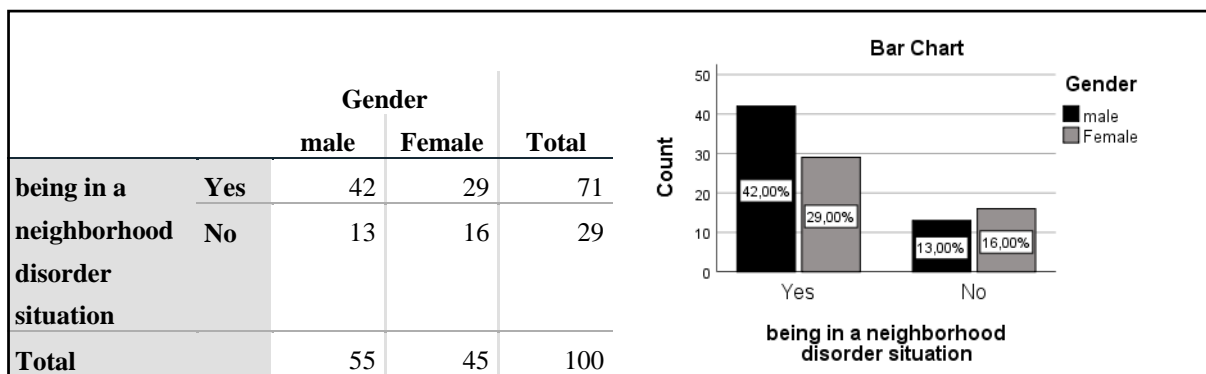


Figure 4. 61. Actors in neighborhood quarrels by gender

Source: Author, 2022 survey.

- Reactions to conflicts of use

29 of the 100 inhabitants questioned who answered yes, 55% informed the neighbor who caused the problem, 44% spoke with the neighbors of the building to solve the problems; while recourse to the police is an unavailable choice among all the inhabitants of this city. (see Figure 4.62)

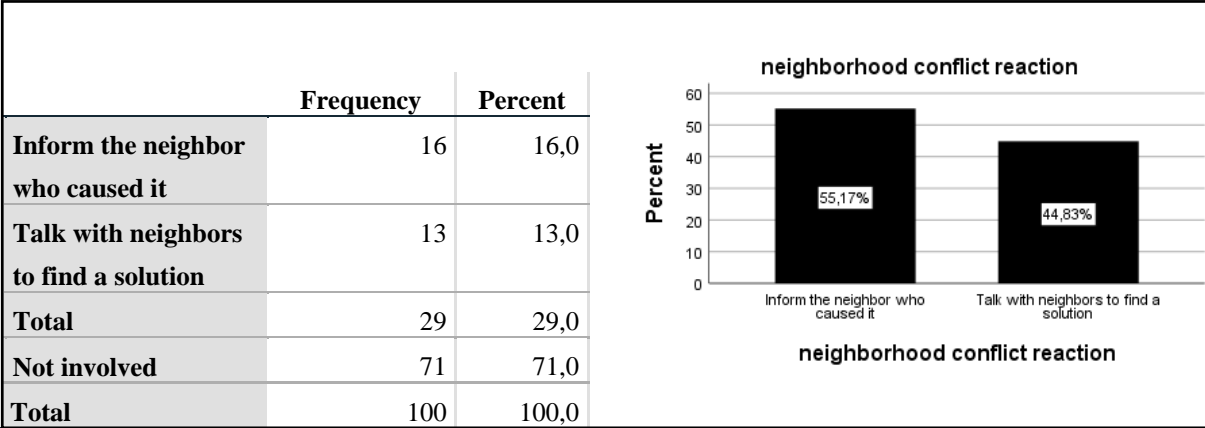


Figure 4. 62. Reactions to neighborhood quarrels.

Author, 2022 survey.

- Reactions to conflicts of use by socio-professional category

We found based on the results that government employees and retirees are more involved in neighborhood conflicts. (see Figure 4.63)

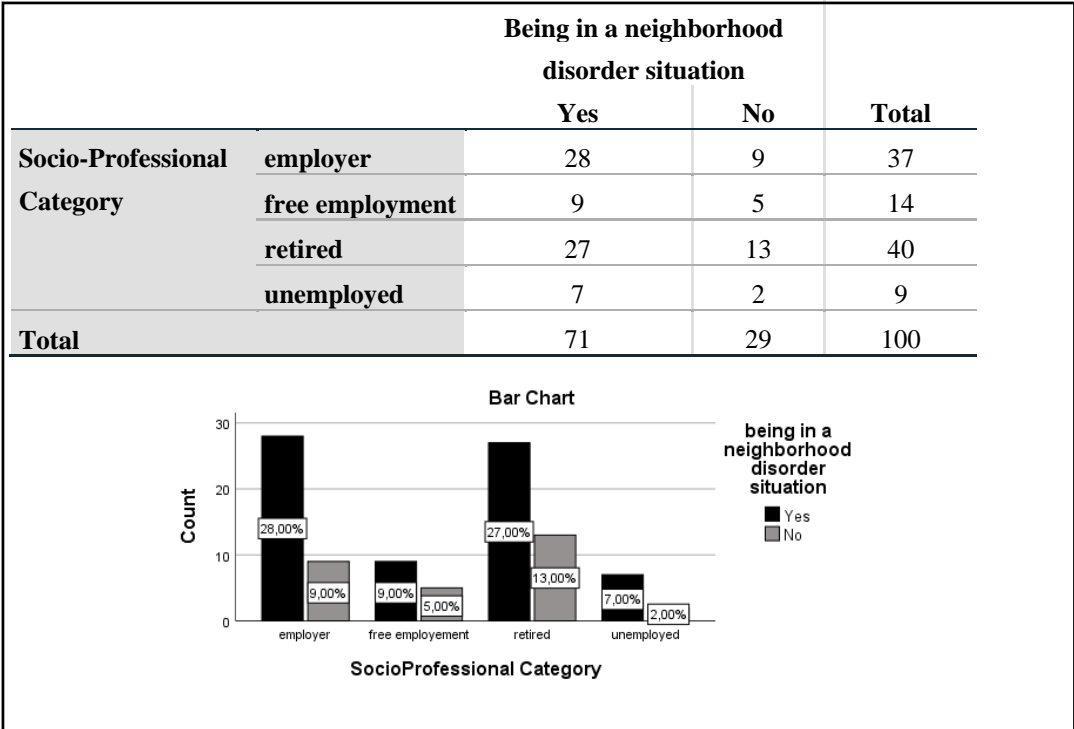


Figure 4. 63. Reactions to neighbourhood quarrels by socio-professional category

Source: Author, 2022 survey.

- Reactions to conflicts of use according to the state of the relationship

15% of the respondents who consider their relationships to be strong; have entered into conflicts over the use of in-between spaces with their neighbors, while more than 40% of the respondents who consider the relationship to be average have been in a conflictual situation. (see Figure 4.64)

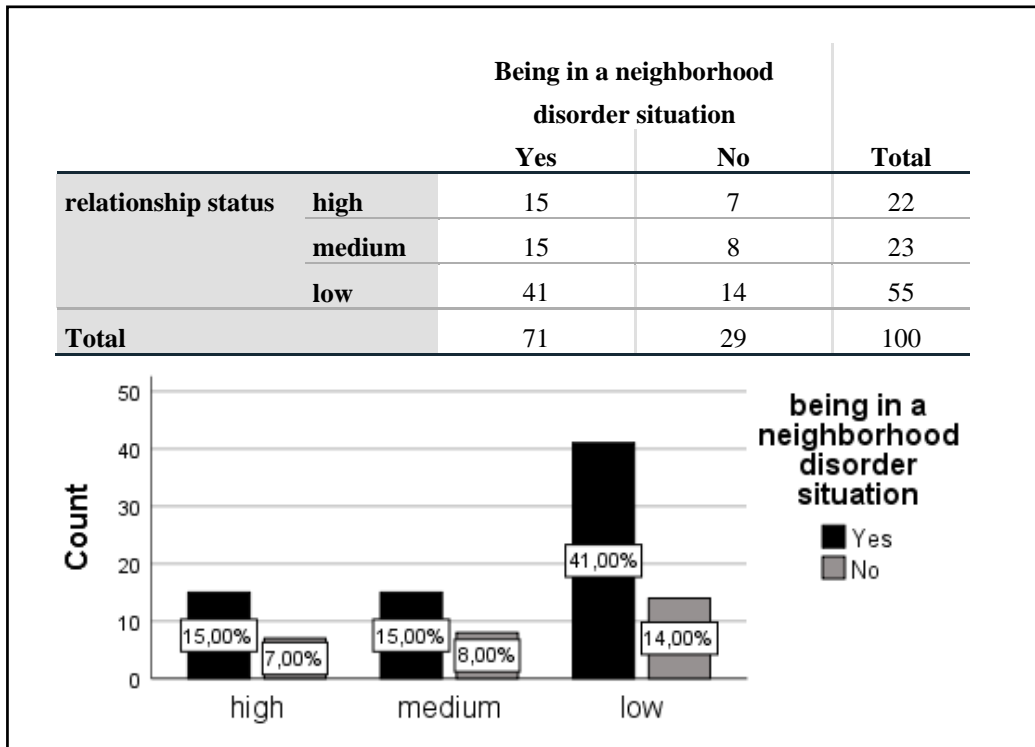


Figure 4. 64. Reactions to neighborhood disputes by relationship status

Source: Author, 2022 survey.

- Entering into a conflict of use according to the type of relationship

We can notice that the general impression of the relationship with the neighbors does not necessarily indicate that they have not been in a situation of neighborhood disturbance. (see Figure 4.65)

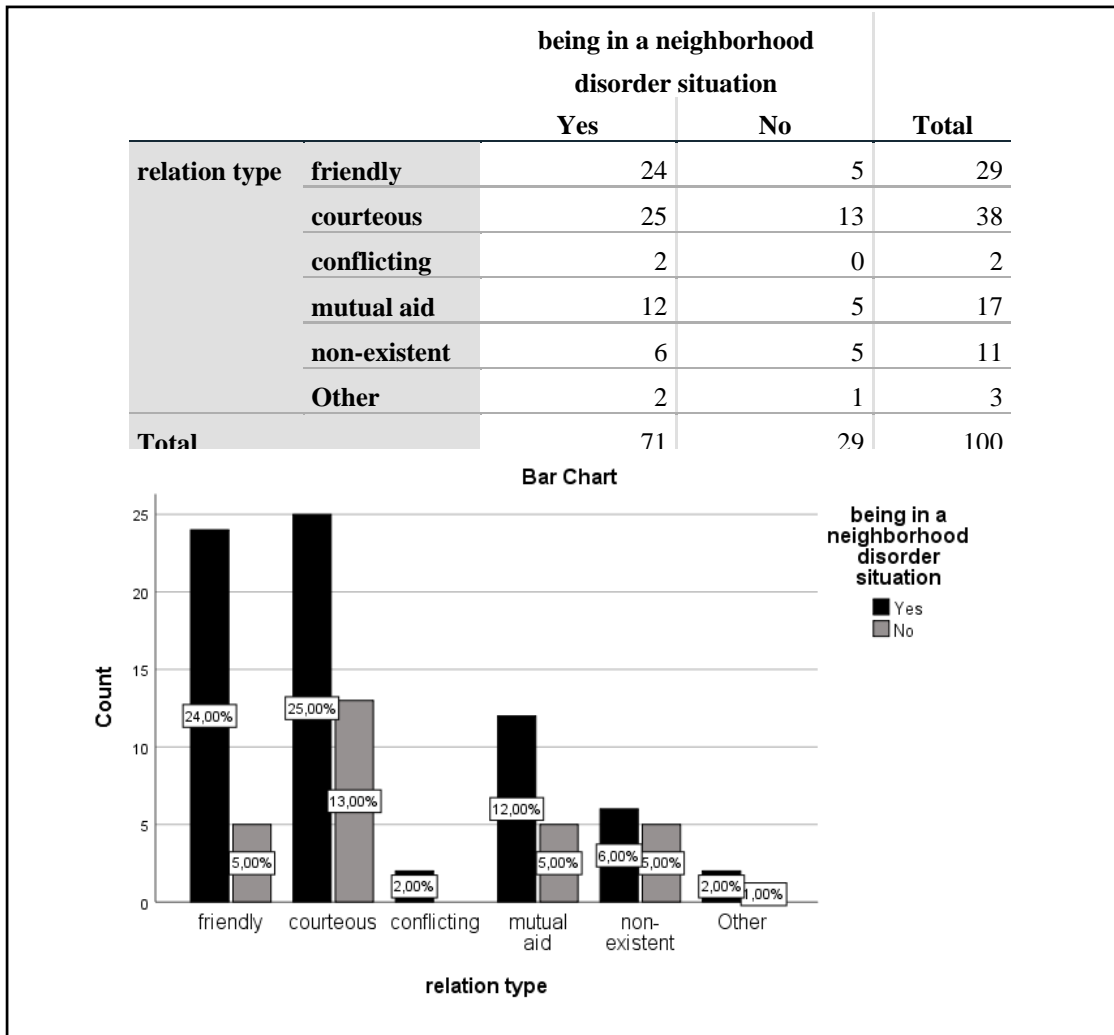


Figure 4. 65. Conflict occurrences by type of relationship between neighbors

Source: Author, 2022 survey.

- The legality of transforming in-between spaces

For the question: "Do you think it is allowed to transform internal common areas into private areas? Yes or No", 80% of respondents answered no. (see Figure 4. 66)

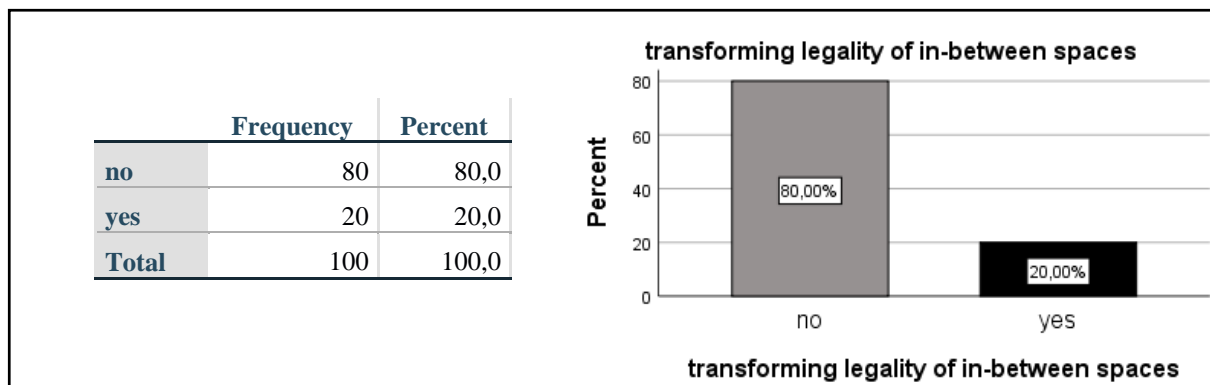


Figure 4. 66. The legality of transforming in-between spaces.

Source: Author, 2022 survey.

- The responsible for the work related to the in-between spaces

"Concerning the works related to the common parts, who is responsible? The neighbors; the agents of AADL; the janitor; no one"; the vast majority, 60% of respondents, know that the agents of AADL take care of this task by paying a monthly sum by the neighbors; 22% say that no one is responsible for the works related to the in-between spaces; 14% did not agree to pay to clean a space that they do not see as a collective property. (see Figure 4.67)

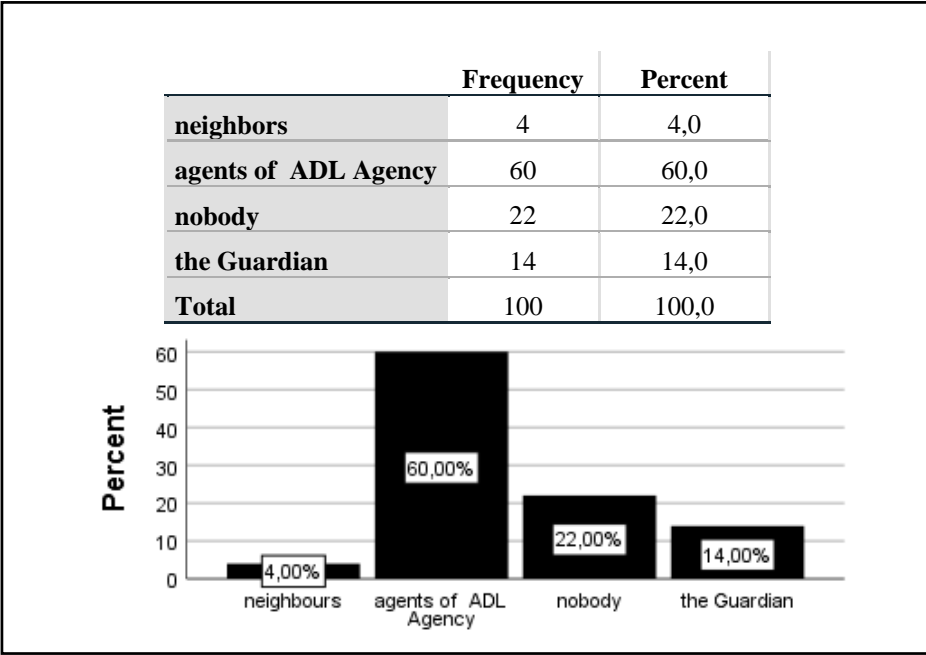


Figure 4. 67. The work manager related to in-between spaces.

Source: Author, 2022 survey.

1.3.2.2. Psychological Indications

➤ **The Common Consciousness**

- Participation in building maintenance

Apart from the maintenance work of the agency AADL, we want to know the degree of ownership of the inhabitants through this question "Do you participate in the activities of maintenance, cleanliness or decoration in your building? Yes or No"; 52% of the inhabitants participate. (see Figure 4.68)

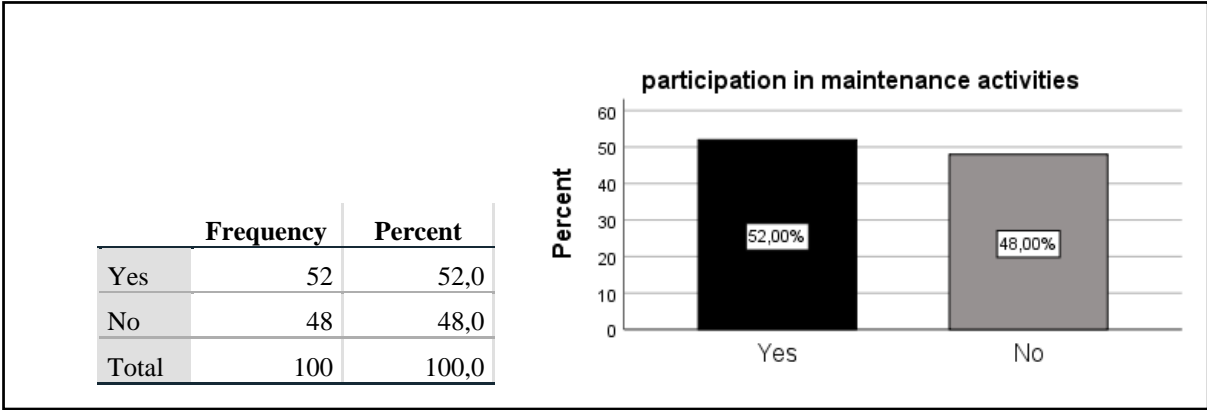


Figure 4. 68. Resident participation in in-between space interviews.

Source: Author, 2022 survey.

- Mutual aid during the Covid lockdown

"Were you helped by a neighbor during the lockdown?"; the percentage of residents who were helped by their neighbors was 51%; indicating that half had good relationships. (see Figure 4.69)

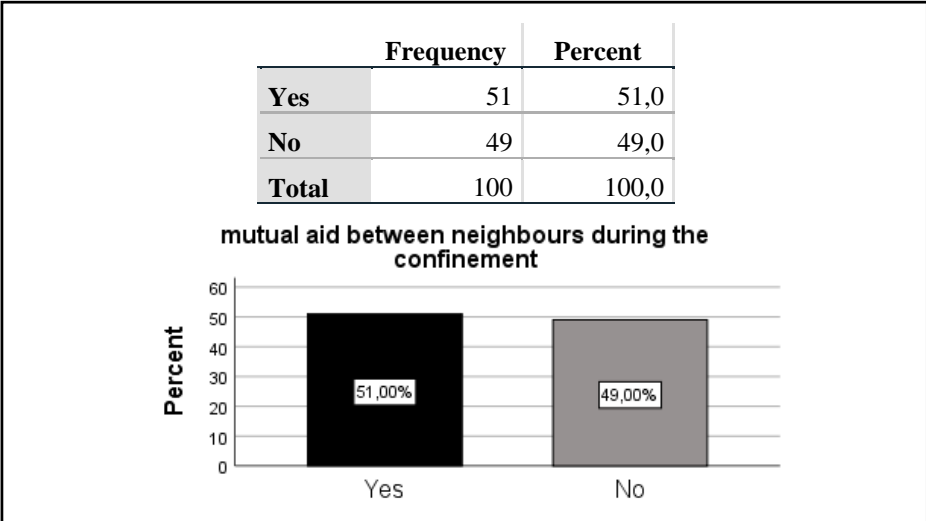


Figure 4. 69. Resident participation in in-between space maintenance

Source: Author, 2022 survey.

- Internal regulations of the building

55% of residents stated that there are house rules in the building; while 45% saw the opposite. (see Figure 4.70)

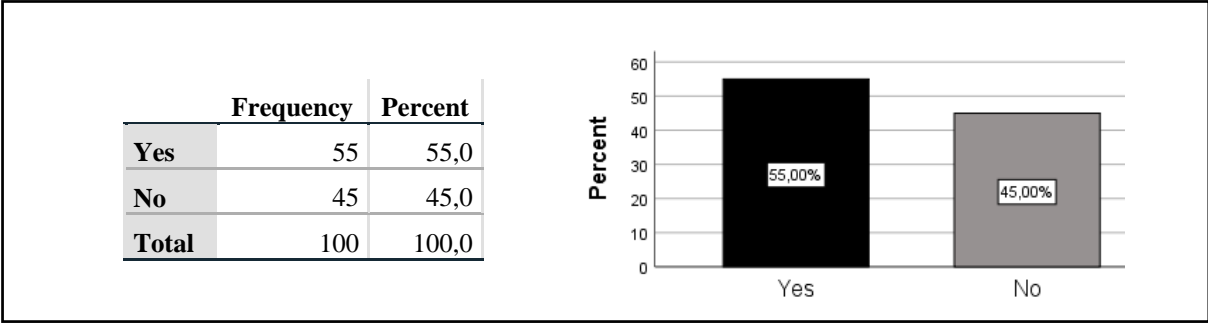


Figure 4. 70. The presence of building regulations
 Source: The author, 2022 survey.

- The rate of neighborhood quarrels

The results reveal that the degree of occurrence of neighborhood quarrels observed by the residents is "RARELY" which is represented by a percentage of 55%; 24% have never heard a neighborhood conflict since they moved. (see Figure 4. 71)

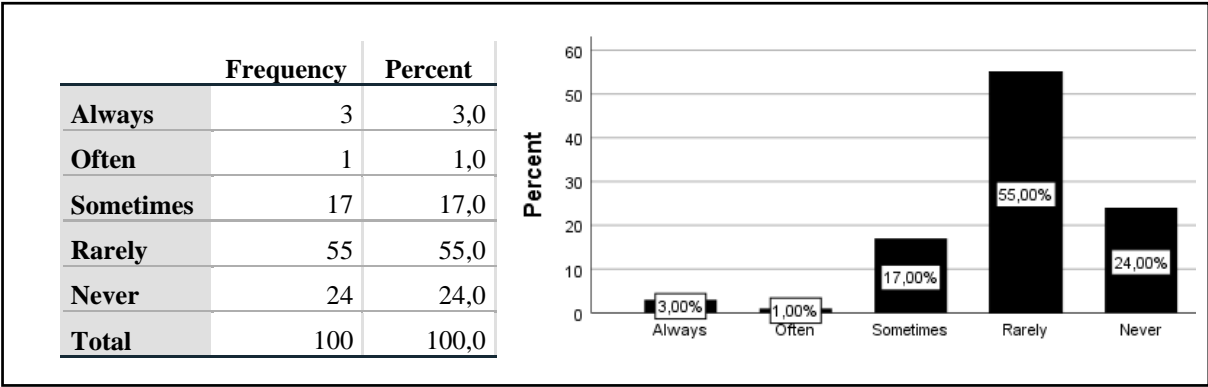


Figure 4 . 71. Neighborhood quarrels in the Building.
 Source: Author, 2022 survey.

➤ **The Perception Of The In-Between Space**

- Sense of belonging

Only 21 out of 100 respondents feel that they belong to the building; 32% consider it extremely weak; while 24% find it quite strong. (see Figure 4.72)

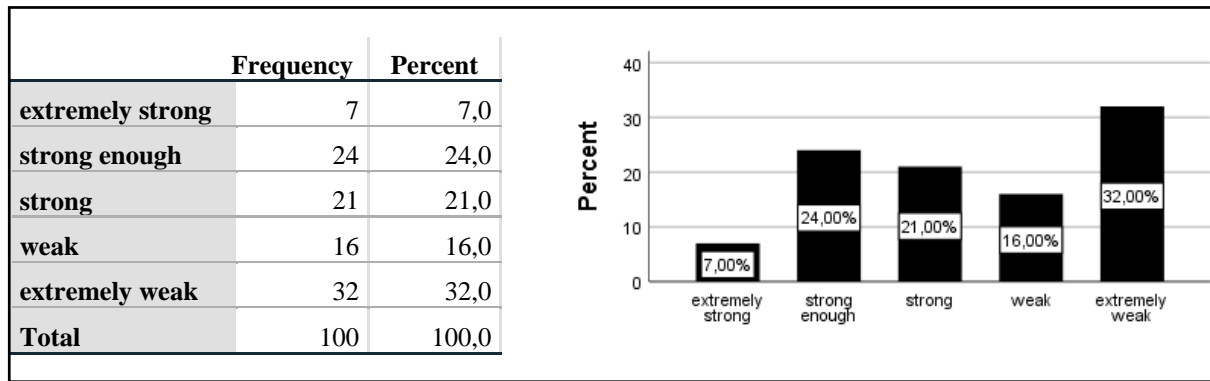


Figure 4. 72. Belonging in the building

Source: Author, 2022 survey.

- The perception of internal in-between spaces

When asked about the representation of in-between spaces, 56.1% consider them to be no more than a transitional space; 18.7% find them to be a meeting space between neighbors; 16% declare that these spaces present insecurity and sobriety. (see table 4.10)

		Responses	
		N	Percent
perception	transitional space	60	56,1%
	insecure dark space	18	16,8%
	storage space	6	5,6%
	encounters space	20	18,7%
	conflict-generating space	3	2,8%
Total		107	100,0%

Table 4. 10. The perception of in-between space.

Source: Author, 2022 survey.

➤ **Belonging And Security**

- The least secure in-between space

The building entrance was rated as the least safe in-between space by 37%; the lobby was chosen by 27 of 100 people; 24% felt the stairs were unsafe. (see Figure 4.73)

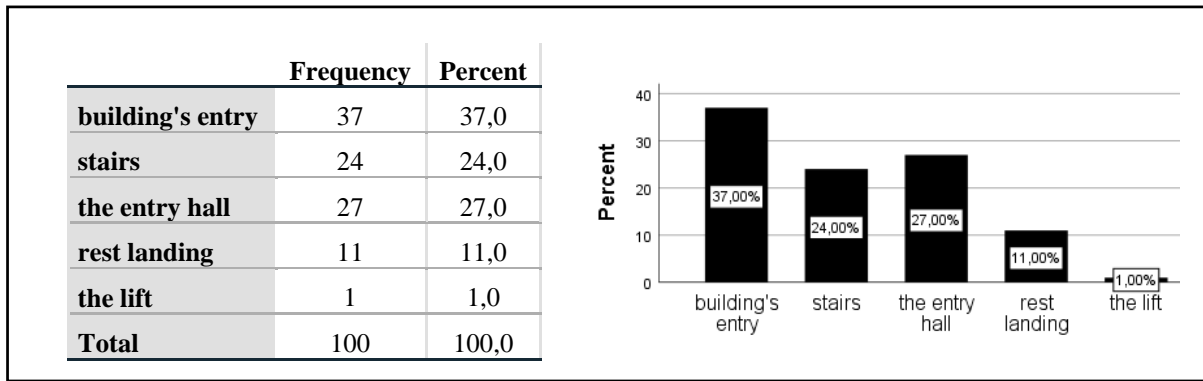


Figure 4. 73. The least secure space in the building blocks.

Source: The author, 2022 survey.

- Feeling at home

To determine whether residents feel at home when they arrive at the housing estate, we asked the following question: "What space do you feel at home in? The entrance to the housing estate; The space outside the housing estate; The entrance to the building; The entrance hall; The stairs; The entrance to your home; Other"; 39% see that they only feel at home at the entrance to their homes. (see Figure 4. 74)

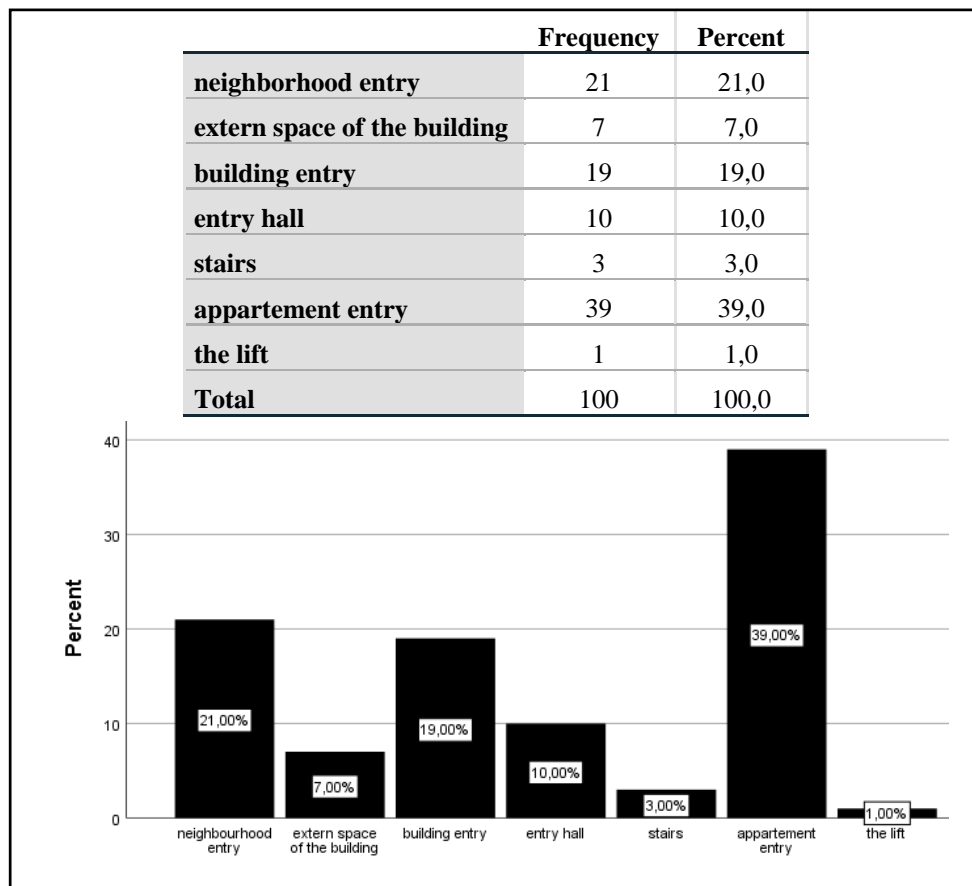


Figure 4. 74. The feeling of being at home.

Source: Author, 2022 survey.

1.3.2.3. Spatial Indications

In-between space design threats

Findings indicate that 84% of residents surveyed do not find in-between spaces to be poorly designed. (see Figure 4. 75)

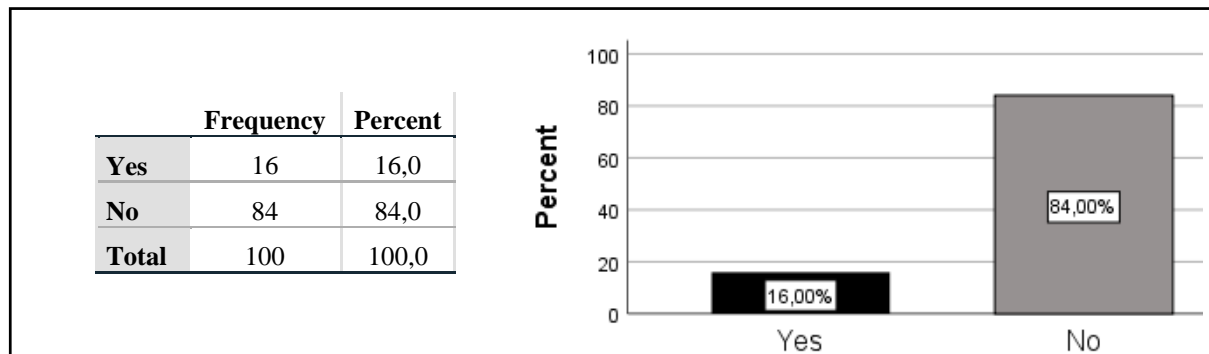


Figure 4. 75. The threats of design.

Source: Author, 2022 survey.

2. The morphological analysis

2.1. Introduction

In this part an analysis in two parts will be approached, With the first one the morphological describing the organization of the structures of the selected neighborhoods;

In the second part, it is the analysis of the typology of case studies.

2.1.1. Case study 1 : 800 units

2.1.1.1. Morphological Analysis

➤ Boundary of the site

The neighborhood is bounded by:

- ✓ **The North**
 - 20-unit LSP OPGI.
 - 09-unit health sector.
 - Subdivision Moudjahidine.
 - 164 units residence.
- ✓ **The South**
 - The university residence 2000 beds.
 - The 148 dwellings
- ✓ **The East**
 - The post office Hadj Lakhdar.

- The telephonic centrale.
- ✓ **The West**
- The subdivision Benflis.
- The residence of the 300 units.
- Allotments.

➤ **Near environment**

Our neighborhood is surrounded by (see Figure 4.76) :

- Houses of individual type.
- Houses of collective type.
- Equipment of several activities.

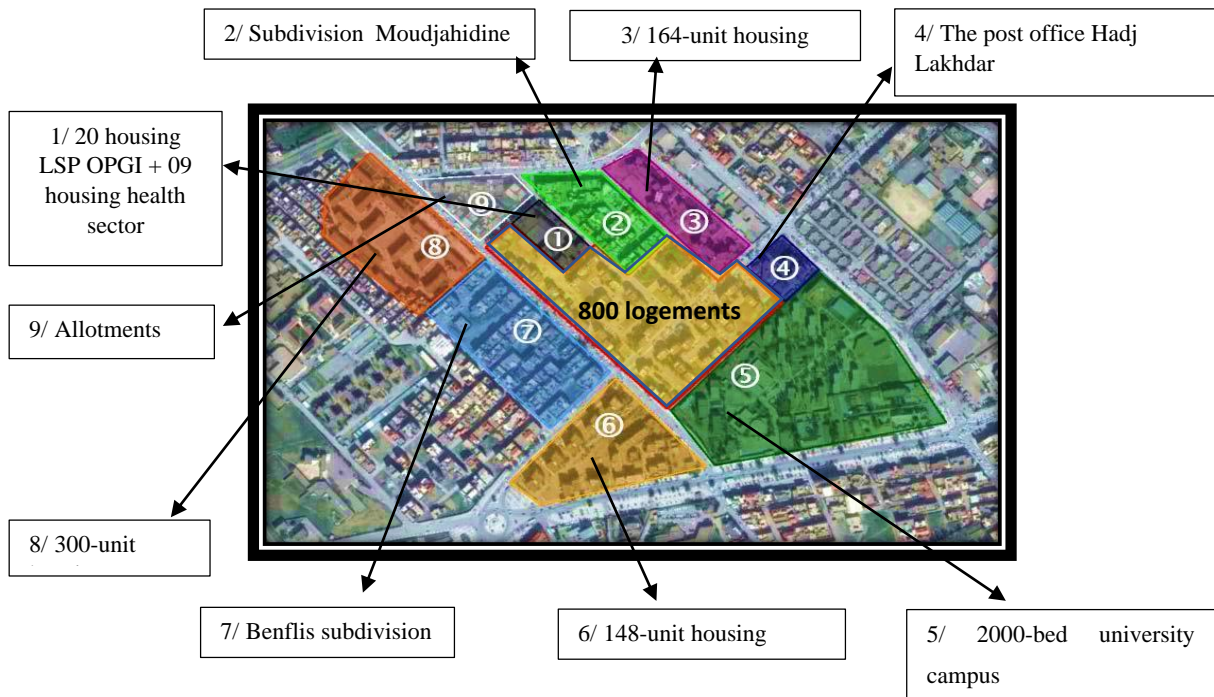


Figure 4.76. Near environment of the 800 housing units.

Source: Google Earth 2022+ author's treatment 2022 Batna.

➤ **Accessibility of the site**

The 800 housing units are accessible from the streets that delimit it and even cross it. (see Figure 4.77)

- ✓ The bidirectional delimiting access provides accessibility to Chouhada and the other to 1020 housing.
- ✓ And the interior part is accessible by the bidirectional axis towards the Annasr and the other towards Boulevard KL.

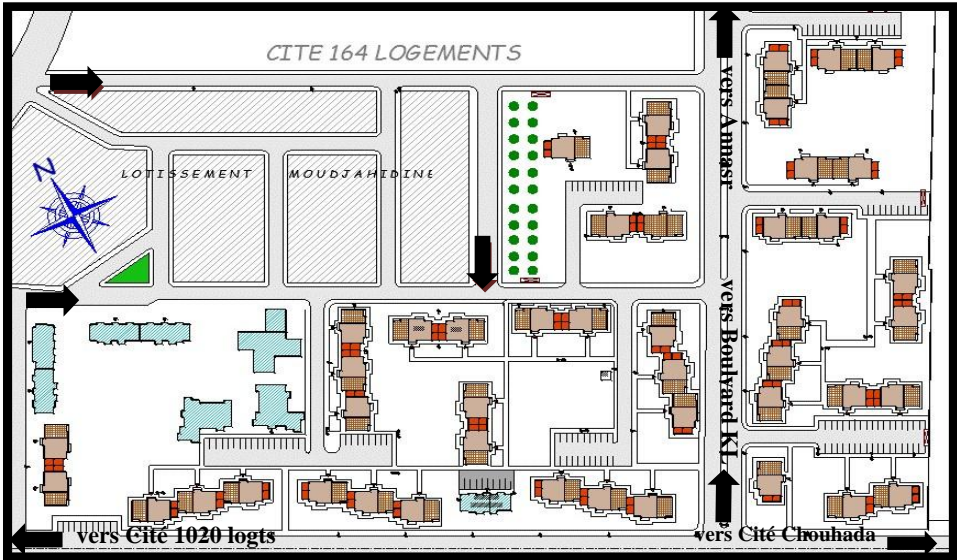


Figure 4. 77. Accessibilité in 800 Housing unit

Source : Bureau d'étude Benfredj kamel+ traitement d'auteur 2022

➤ Morphology of the site

The city of 800 housing units located in a geometric position of a regular shape of the plate, It consists of several rectangles juxtaposed, the district merges with the neighborhoods that surrounds it. It spreads over an area of 5.83 ha. (see Figure 4. 78)



Figure 4. 78. Morphology of the 800-housing case study.

Source : Google Earth 2022

➤ **Street pattern**

The buildings are organized on both sides of the double path, dividing the city into two parts. There is a certain hierarchy of roads that allow access to each grouping. Where the road network inside the 800-housing unit, present lanes that follow the layout of the blocks to facilitate the circulation of cars within the estate. (see Figure 4.79)

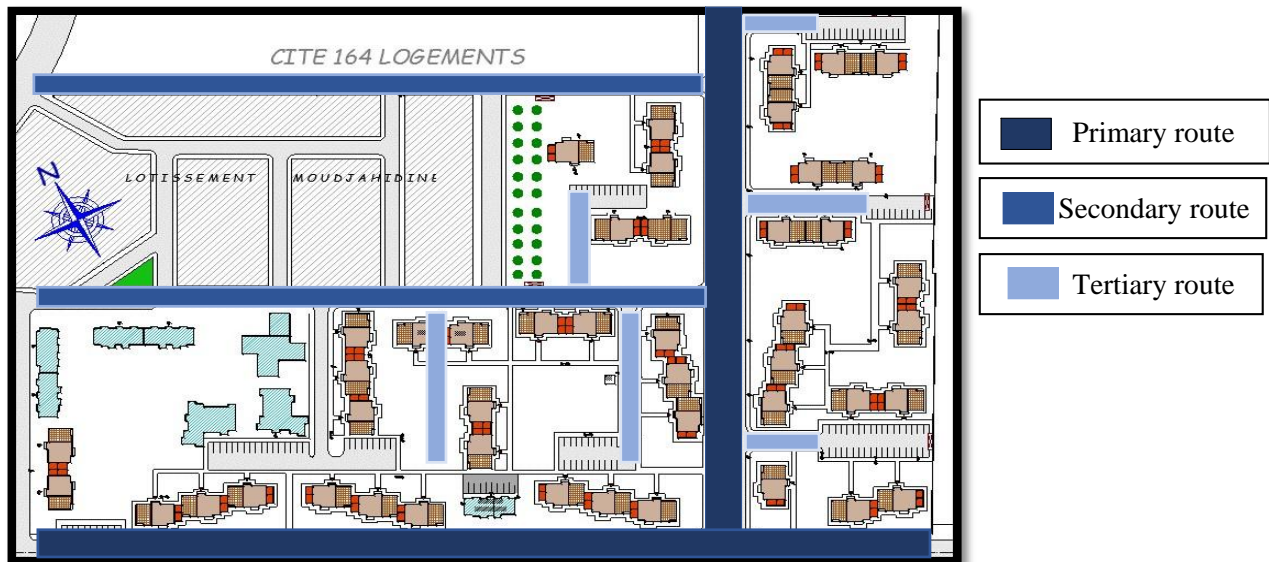


Figure 4. 79. Street pattern of the 800 housing units

Source : Author 2022

□ **Primary route**

The primary route is considered the main entrance to the 800-unit housing. (see Figure 4. 80)It is characterized by larger and wider dimensions, and has recently been widened due to insufficient space.

It represents a structuring axis of the neighborhood

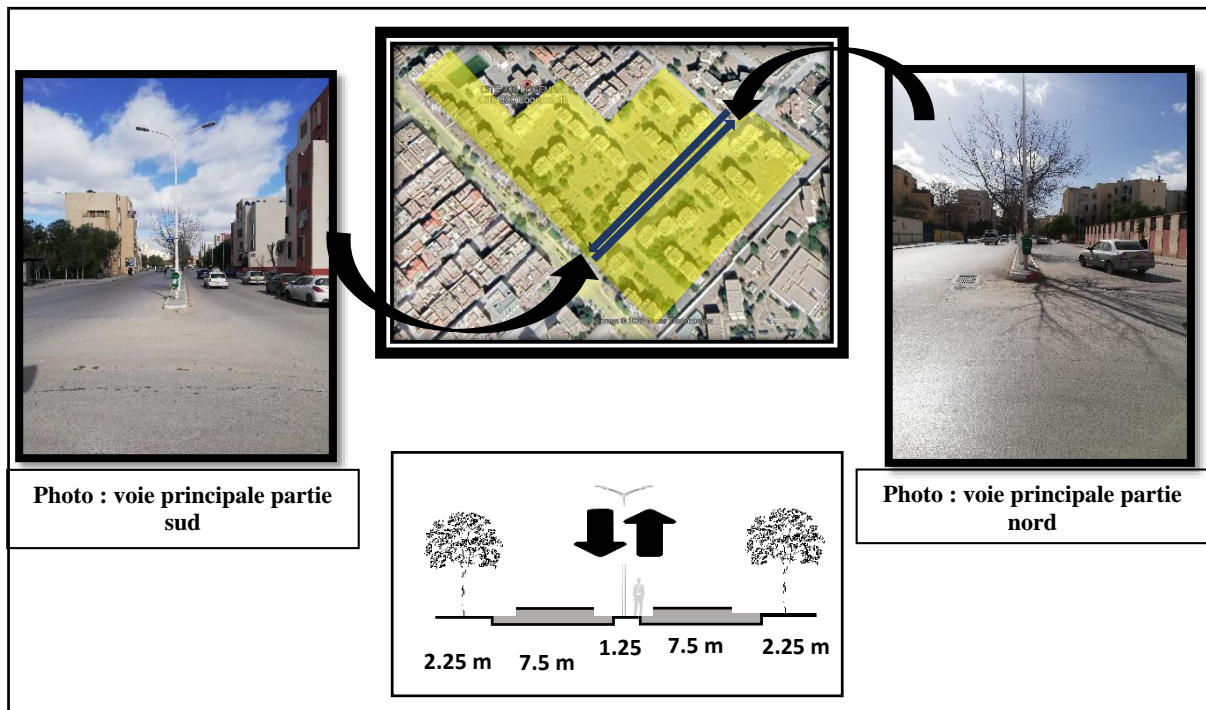


Figure 4. 80. Principal streets' section

Source : Author 2022

□ **Secondary route**

- Secondary roadway serves between clusters. (see Figure 4.81)
- Has an average width of 7.5 m.
- Offers the possibility of parking.



Figure 4. 81. Secondary street section

Source : Author 2022

□ **Tertiary route**

Tertiary road serving between the dwellings of the groups, its dimensions are less wide and less important. (see Figure 4.82)



Figure 4.82. Tertiary street section

Source : Author 2022

➤ **Parcel grid**

At the level of the parcel system, we observe regular grids, the parcels have a rectangular shape and more or less equal sizes, except for the corner parcel which changes in size. Thus, in relation to their positions perpendicular to the road, the parcels are hierarchical. (see Figure 4.83) and (see Figure 4.84)

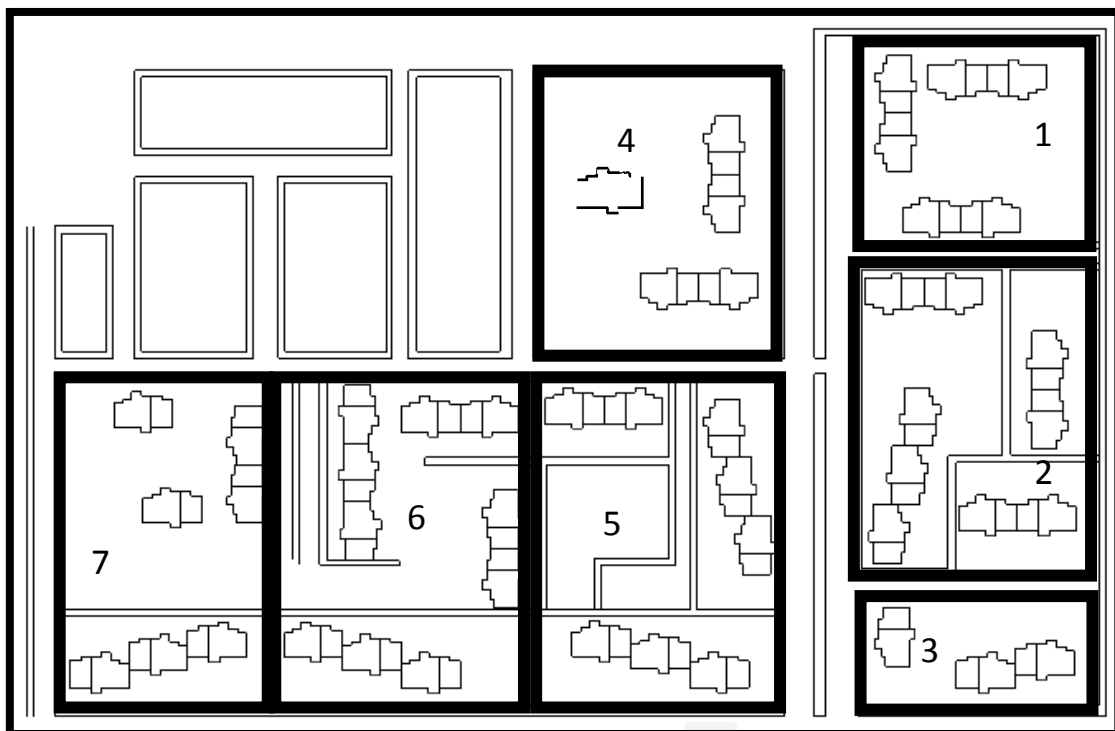


Figure 4. 83. The parcel grid in the 800-unit

Source : Author 2022

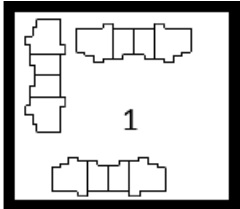
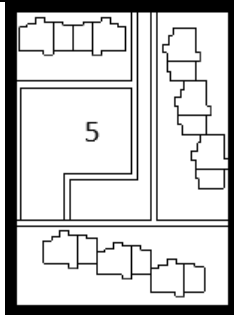
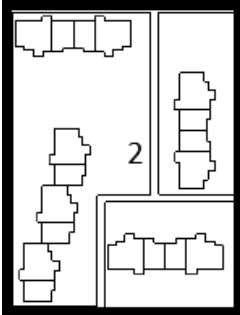
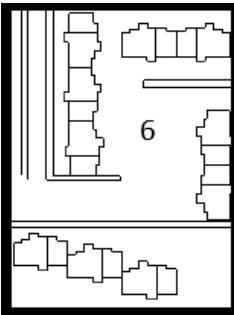
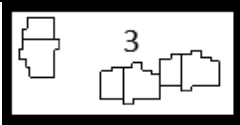
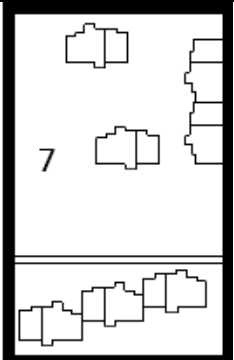
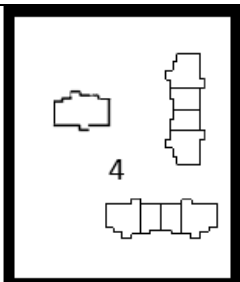
Parcelles	Dimensions (m)	Parcelles	Dimensions (m)
	78.9 x 82		89.65 x 115.72
	78.9 x 110.6		87.4 x 115.72
	78.9 x 45.4		119.14 x 115.72
	89.65 x 98.9		

Figure 4. 84. Dimensions of the parcels in the 800-unit housing.

Source: Author 2022

➤ **Built grid**

The city is consisting of collective housing distributed over 46 blocks of five levels (R+4) each block contains 09 housing type F2, F3, F4 and F5 and each floor has 02 housing by levels except

for the last floor (R+4) which has a single housing type F3, and an accessible terrace. (see Figure 4.85)

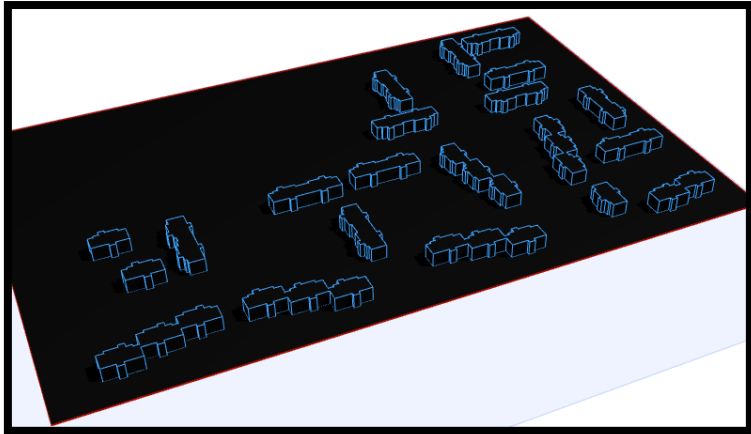
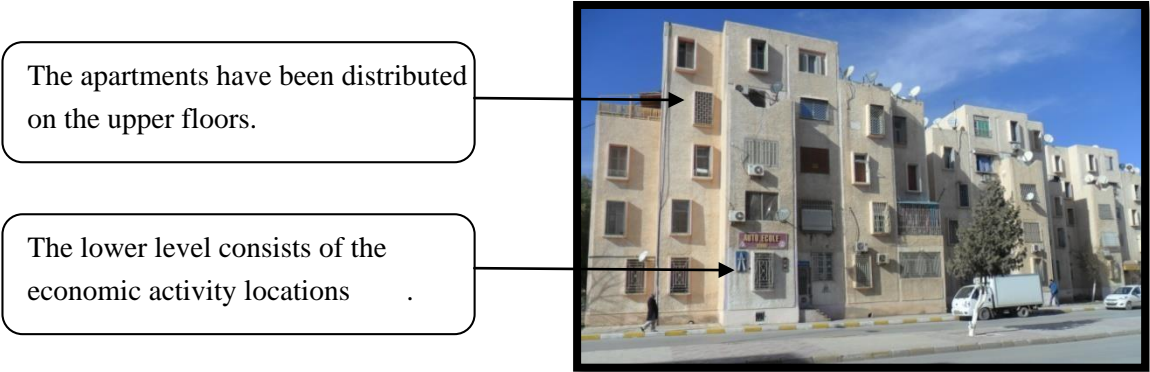


Figure 4. 85. Organization of the mass plan of the 800 housing units.

Source : Author 2022

Buildings facing the main roads contain business activity locations (shops, design offices, medical practices ...) on the ground floor, and the upper levels (R+1 in particular). (see Figure 4.86)



The apartments have been distributed on the upper floors.

The lower level consists of the economic activity locations .

Figure 4. 86. Buildings facing the main roads.

Source : Author 2022

Built / not built component

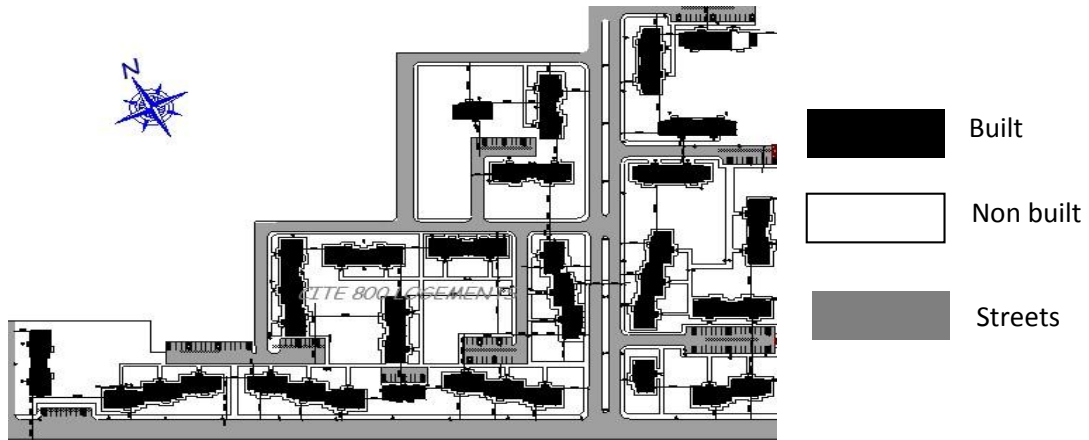


Figure 4.87. Built/not built component in the 800-housing unit

Source: Author 2022

According to the observation of the map we notice the dominance of the non-built in the city (40% built and 60% non-built). (see Figure 4.87)

However, the empty spaces are occupied in a thoughtless way; either pedestrian ways, or without any development, so a considerable empty surface reserved for green spaces but in reality, are totally neglected.

➤ Open Space Grid

A network of open spaces is a set of parts that are not built, whether these spaces are public (squares, esplanades, streets, etc.) or private (yards, gardens).

- Green spaces

The green areas are represented by lands covered with dust in summer and containing mud in winter. (see Figure 4. 88)



Figure 4.88. Green spaces in the 800 housing units

Source: Author 2022

- **Play airs**

The fragmentary and concessive conception of the spaces considered as playgrounds, of sport, is that these have been only blank and dusty grounds. (see Figure 4.89)



Figure 4.89. playing airs
Source: Author 2022

- **Parking spaces**

The presence of parking areas in the center of each grouping allows quick access to the building in case of emergency. (see Figure 4.90)

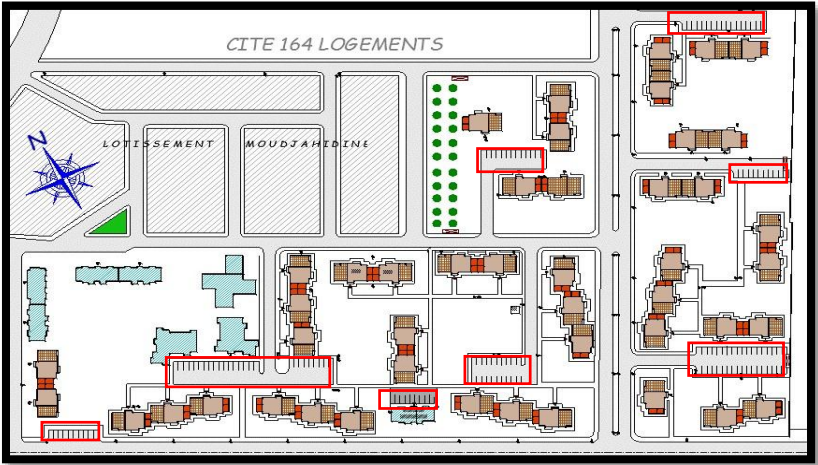


Figure 4. 90. Parking areas in the 800-unit housing
Source: Author 2022

Despite the presence of parking areas, residents have a preference for parking near the building entrances or on the sidewalks as shown below. (see Figure 4. 91)



Figure 4.91. Parking in front of the building entrances.

Source: Author 2022

The open spaces occupy a considerable surface, these spaces are in a neglected and undeveloped state, lost spaces.

2.1.1.2. Architectural Typology Analysis

➤ Facade

In the 800 housing units, the facades do not benefit from any particular treatment, with windows of simple forms. The majority of the latter in the city are equipped with occultations (wooden shutters) that offer protection against the sun's rays. (see Figure 4.92) (see Figure 4. 93)



Figure 4.92. Principal façade



Figure 4.93. Posterior facade

The closure of the balconies with metal grills has for reasons of security and privacy. In addition to the closure of the dryers to make them an extension of the living spaces. The installation of barbed wire, and the installation of metal grids in the windows and around the terraces, the creation of new doors are among the most encountered modifications in the city. (see Figure 4. 94) and (see Figure 4.95)

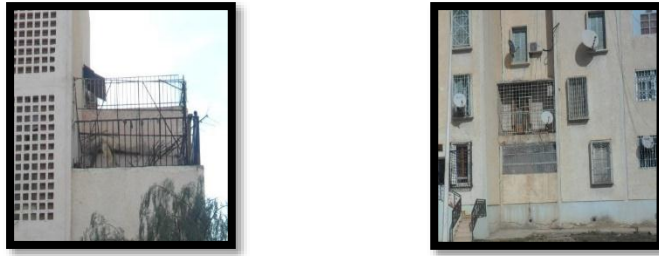


Figure 4.94. The installation of metal grids to secure terraces and windows.

Source: Author 2022



Figure 4.95. Closure of balconies and dryers and change of window joinery

Source: Author 2022

➤ **Construction type**

The urban living environment in the selected perimeter is occupied by a single type of housing, that of collective housing with 4 level.

➤ **Assembly patterns**

All of the 46 constituent blocks of the city are divided into several groups, according to different assemblies and organizations(see Figure 4.96)and (see Figure 4.97):

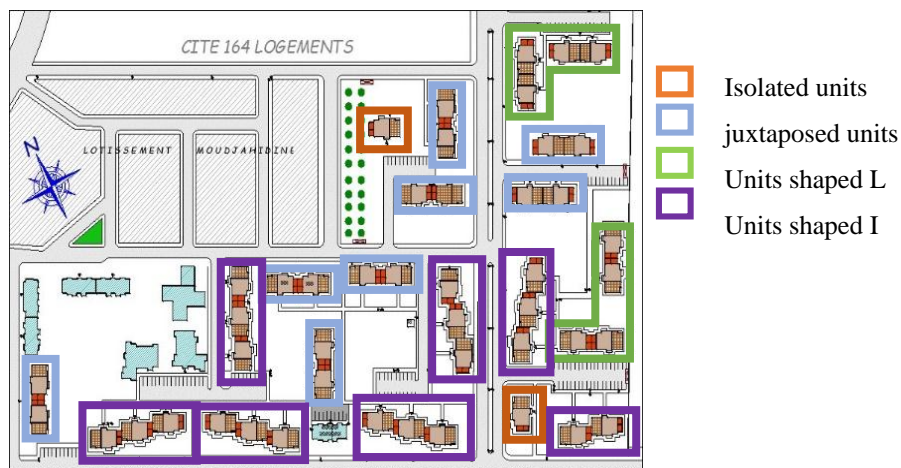


Figure 4.96. The assembly patterns of the building blocks on the plan of the 800-unit

Source: Author 2022

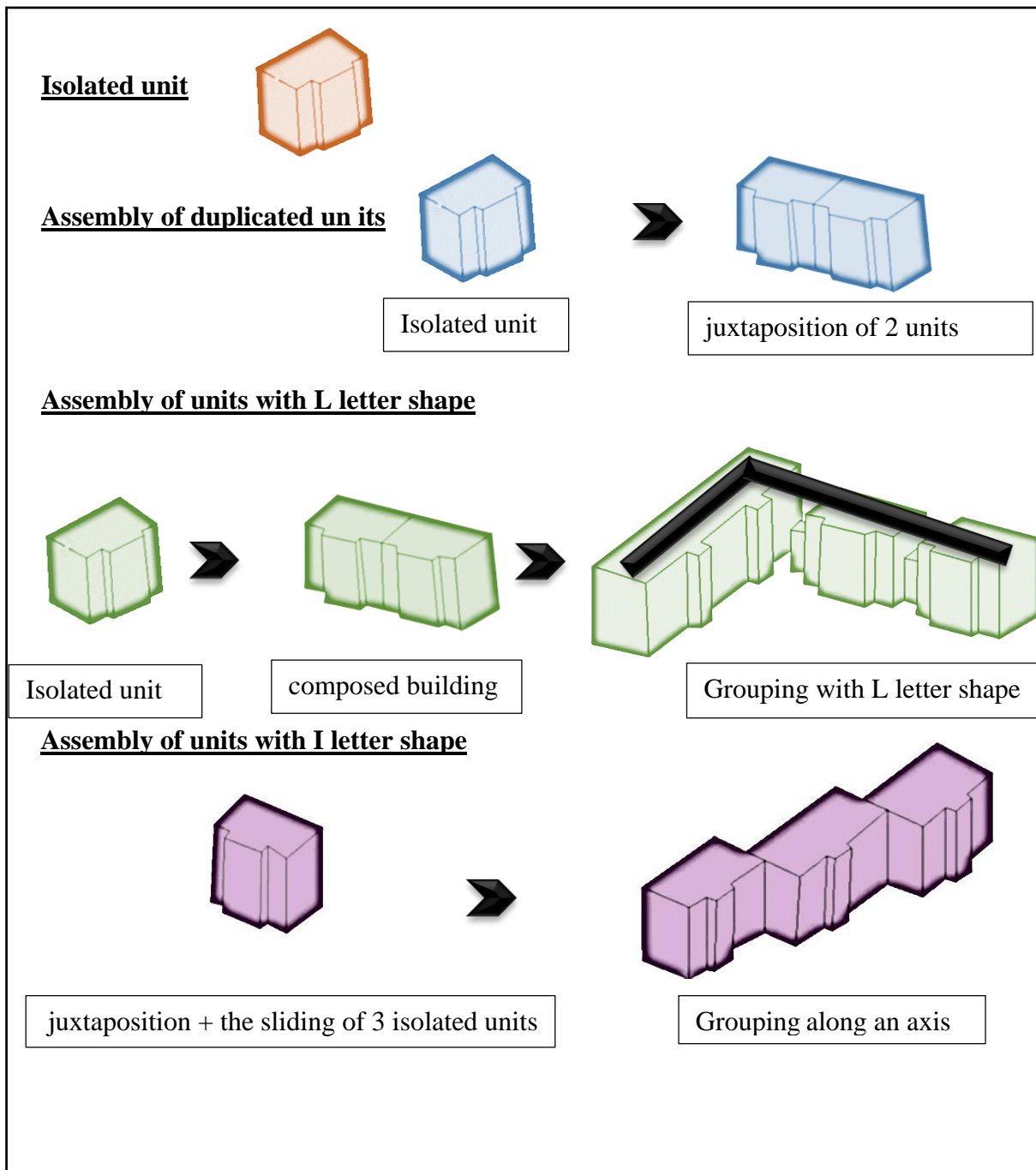


Figure 4.97. The assembly methods of the building in the 800-unit housing.

Source : Author 2022

➤ **Building typology**

The type of building in the 800 housing units is "bar", where each block contains different joints of cells.(see Figure 4.98)

Articulation of cells

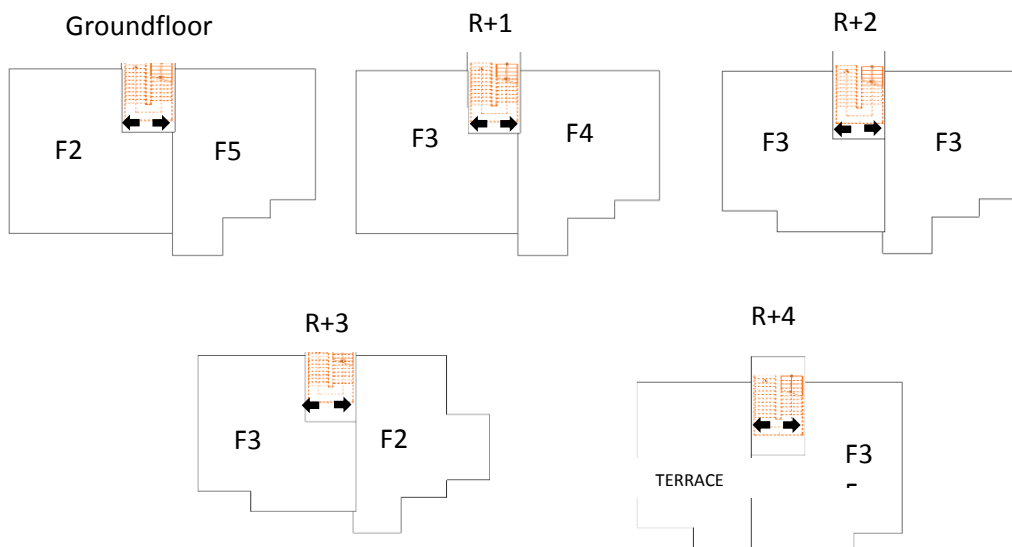


Figure 4.98. Articulation of the cells in the building of the 800-unit housing.

Source : Author 2022

The articulation is made by straight flights of stairs with In-between landing, located in the centers of each block making the distribution to two housing units. (see Figure 4.99)



Figure 4.99. The stairwell seen from outside and inside.

Source: Author 2022

➤ Marking of the entrances

A bad marking of the entrances appears, they are extremely small compared to the volumes of the buildings. (see Figure 4.100)



Figure 4.100. Marking the entrances to the 800-unit housing.

Source : Author 2022

A double entrance door in the building_(see Figure 4. 101)



Figure 4.101. the entrance hall.

source: Author 2022

The entrance lobby is in a state of disrepair; wet and dirty walls, broken mailboxes. (see Figure 4. 102)



Figure 4.102. Broken mailboxes .

source: Author 2022

2.1.1.3. The staircase

Located in the center of each building, takes a rectangular shape, the type of staircase is common with two volleys, and gives access to 2 housing units per landing. (see Figure 4.103)



Figure 4.103. The location of the stairwell

source: Author 2022

The staircase has been subjected to several interventions by the inhabitants, namely the change of the basements, or the renovation of the ground of their floor because of its damaged state. (see Figure 4.104)

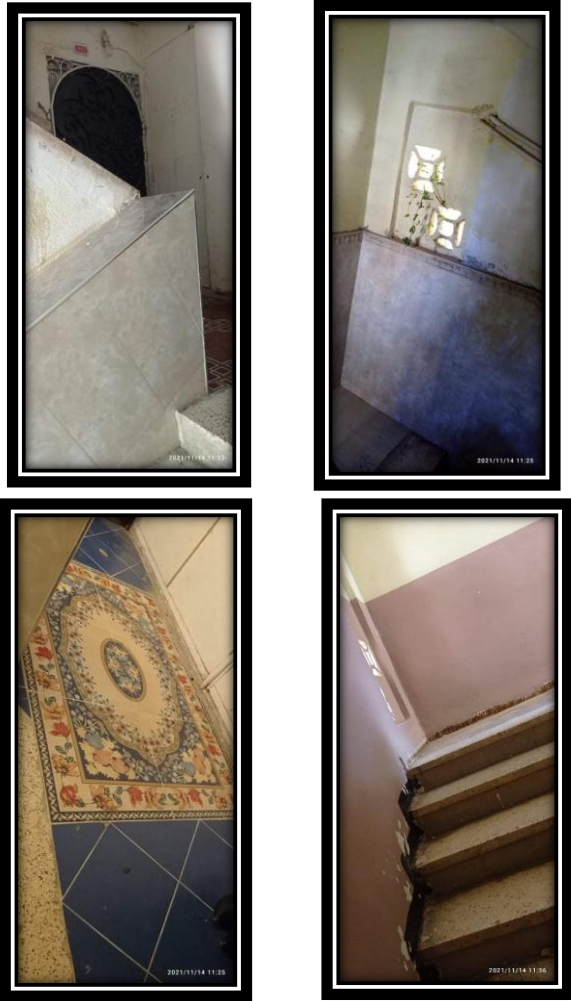


Figure 4.104. Stairwell modifications

Source: Author 2022

The accessible terrace on the 4th floor is suitable for the user on the same floor by closing it with a metal door. (see Figure 4.105)



Figure 4.105. Terrace's appropriation
Source : Author 2022

The cell (Private space) (see Figure 4.106)



Figure 4.106. Different layout's levels of the 800-housing unit
Source : Author 2022

2.1.2. CASE STUDY 2 : 1000 UNITS

2.1.2.1. Morphological Analysis

➤ Boundary of the site

The selected site is bounded on four sides by :

- ✓ The North
 - A health center.
- ✓ The East
 - A hill
- ✓ The West
 - The 200 social housing units
 - Bouzourane high school.
 - Middle school Aissa maatougui.
 - Primary school laarbi zayour.
 - Municipal library.
 - Parking cemetery.
- ✓ The South
 - A blank field
 - The DAS Batna.
 - The cemetery.
 - The Sohaib alromi mosque.

2.1.2.2. Near Environment

The 1000 housing units AADL Bouzourane is surrounded by (see Figure 4.107) :

- Collective housing.
- Facilities.
- Half of the surface is empty land.

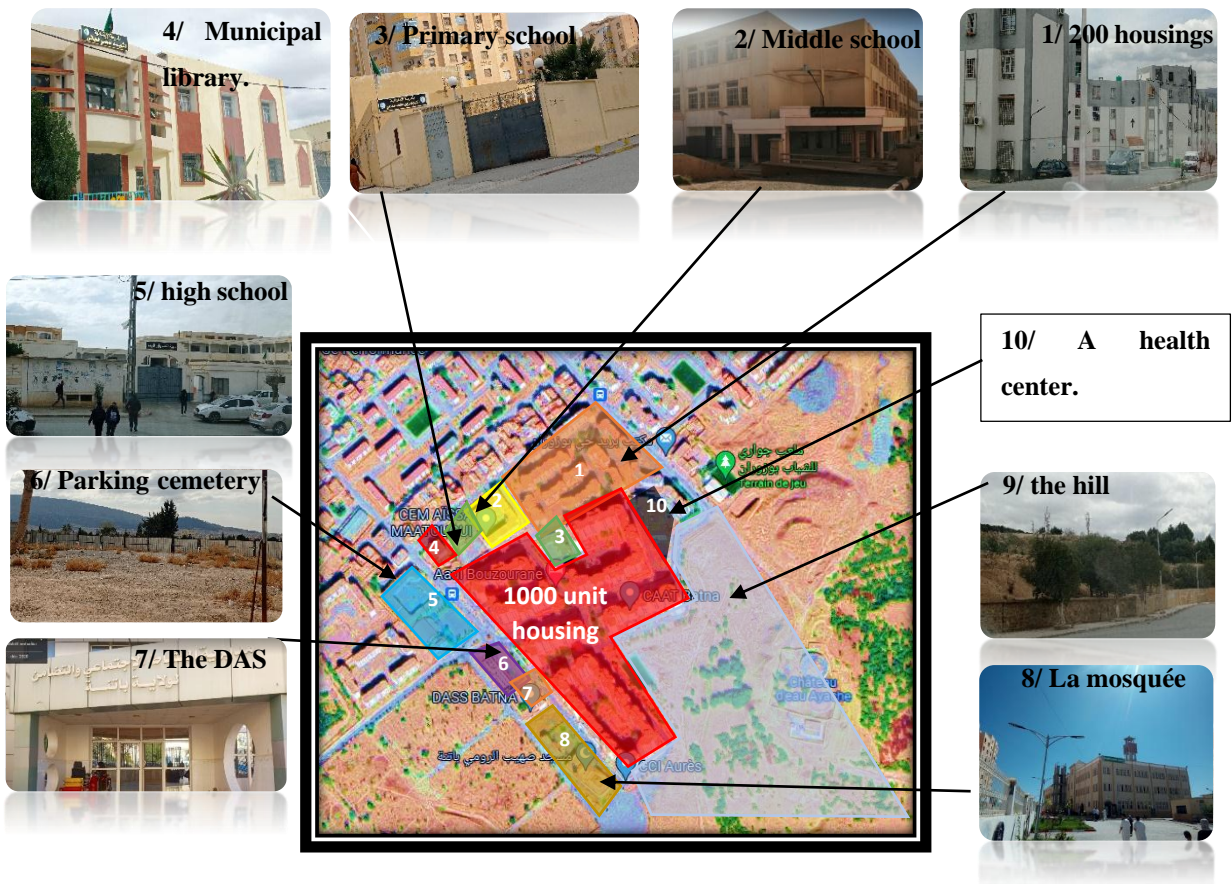


Figure 4.107 . Near environment of the 1000 housing units

Source: Google Earth 2022 + author's treatment 2022.

➤ Site accessibility

The 1000 housing units are accessed by 3 main accesses which cross it and divide it into four large parts. It is limited on its three sides by mechanical traffic lanes and other accesses reserved for the blocks. (see Figure 4.108)

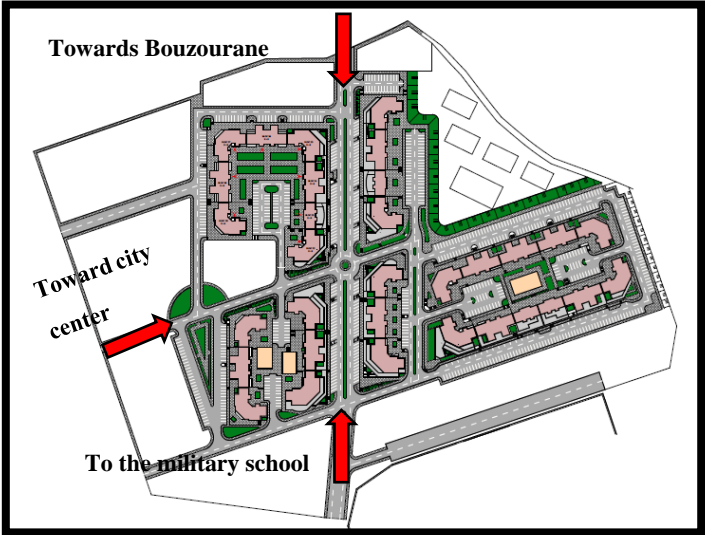


Figure 4.108. The main axes of the 1000 housing units
Source: architect Mekaoussi Nadia + author treatment 2022.

➤ **Site morphology**

The project AADL 1000 housing units located on a hill sloping ground of an informal form. The mass layout consists of a node where the inner axes join, this division results in the appearance of 4 irregular sections. (see Figure 4.109)

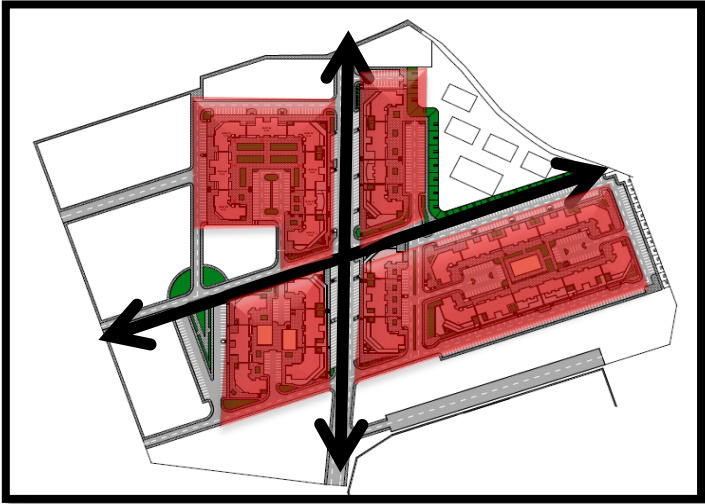


Figure 4.109. The division of the sections of the 1000 housing units
Source: architect Mekaoussi Nadia + author treatment 2022.

➤ **Street pattern**

The roads in this city are hierarchical to provide an orderly access. We can therefore understand that the road network of this district is composed of three types of roads classified according to flow, distance and function. (see Figure 4.110)

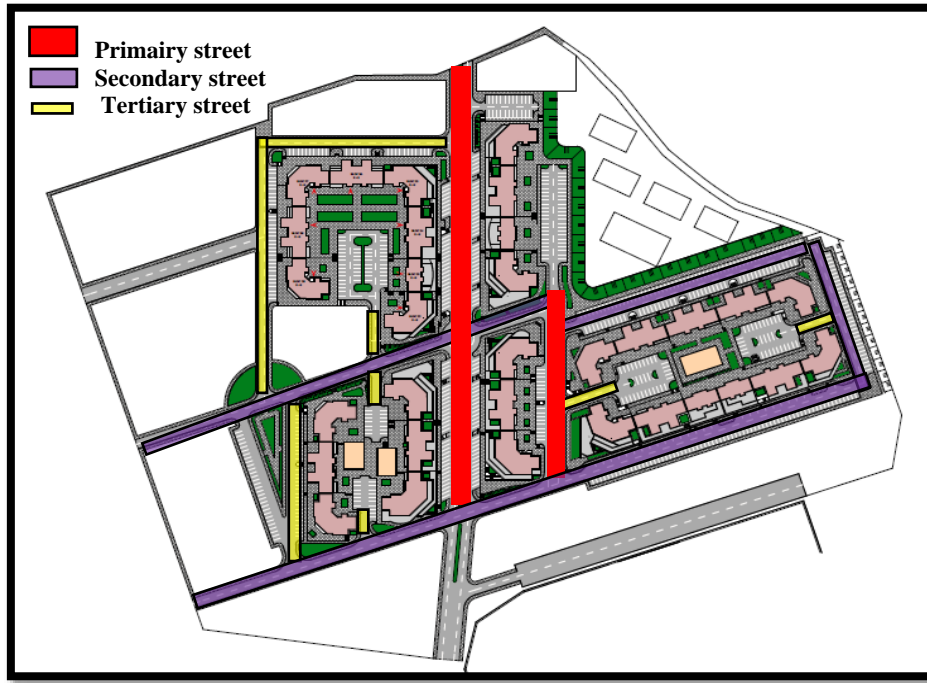


Figure 4.110. The street pattern of the 1000 housing units
Source : architect Mekaoussi Nadia + author treatment 2022.

□ **Primary route**

The primary road is considered as the main access of the city; this can be seen in the width and size dedicated to this type of roads. (see Figure 4. 111)

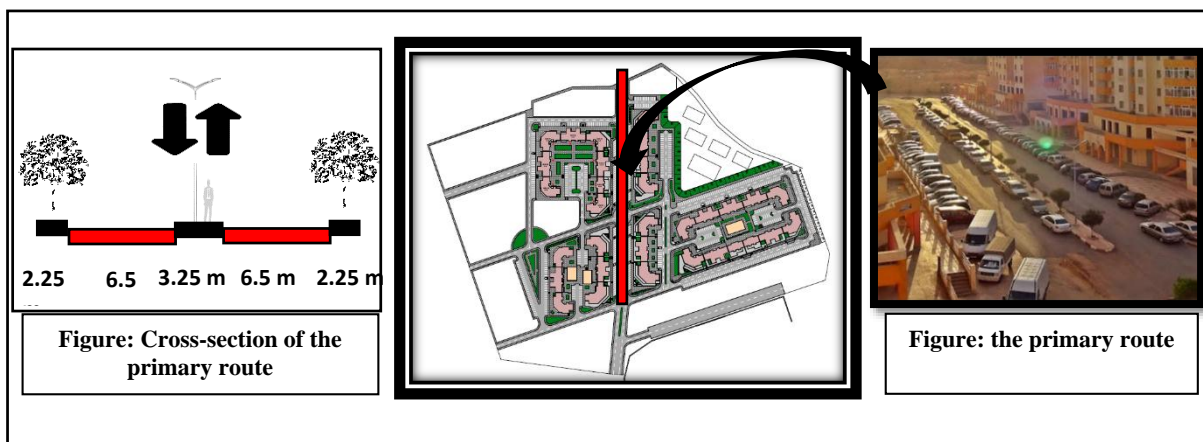


Figure 4.111. Primary street
Source : architect Mekaoussi Nadia + author treatment 2022.

□ **Secondary route**

The secondary roads are characterized by a less important flow, they are roads that facilitate the service inside the neighborhood between the different parts. (see Figure 4.112)

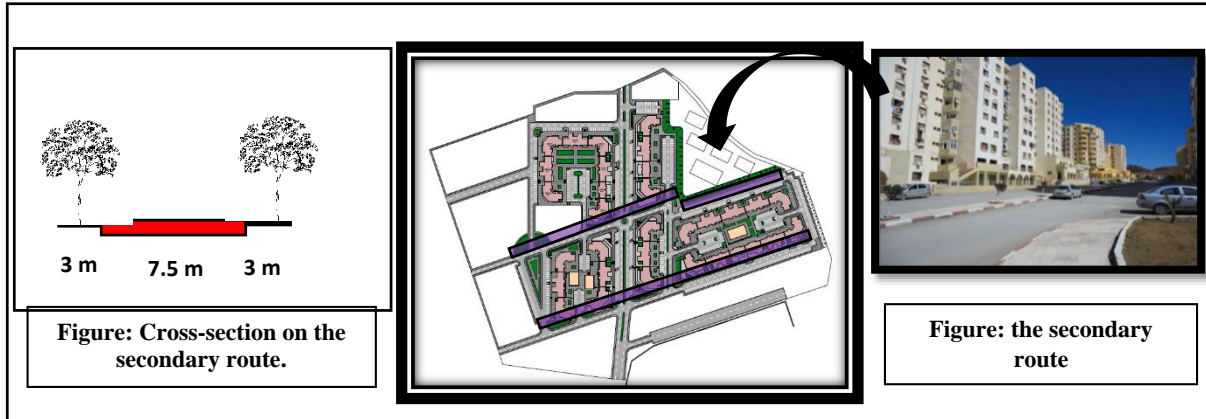


Figure 4.112. Secondary street

Source : architect Mekaoussi Nadia + author treatment 2022.

□ **tertiary route**

tertiary streets are those with smaller dimensions and less flow. (see Figure 4.113)

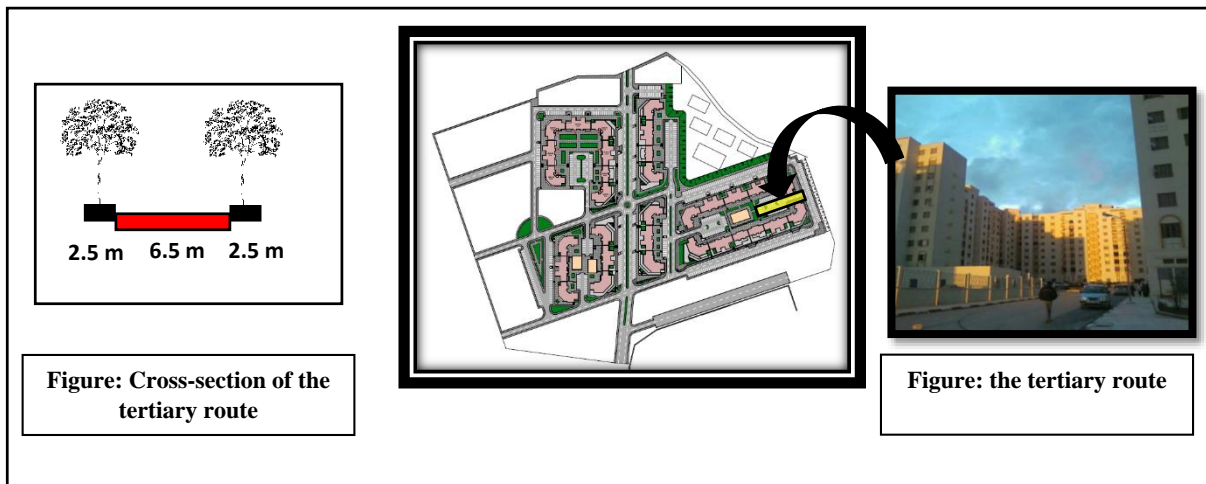


Figure 4.113. Tertiary street

Source : architect Mekaoussi Nadia + author treatment 2022.

➤ Parcel grid

The ground is formed by four parts of different shapes and sizes (see Figure 4.114)

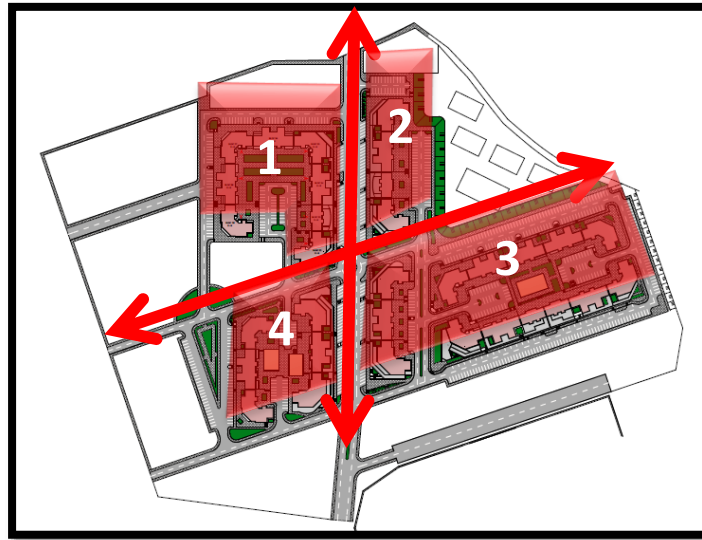


Figure 4.114. The component parts of the residential quarter.

Source: the architect Boukhalifa Zennine charged with the project

Part 1: Has an almost square shape surrounded by 4 lanes, the structure is made by the juxtaposition of 8 blocks following the U shape opposed to each other; 4 types of buildings are connected, two of bar type and two of angle type, this creates a space in the center reserved for vegetation, parking lots placed at both sides of the accesses. (see Figure 4.115)

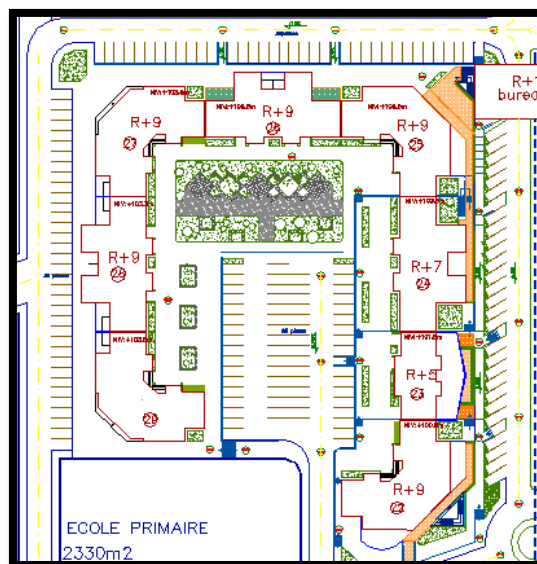


Figure 4.115. The first part

Source: the architect Boukhalifa Zennine charged with the project

Part 2: Is a closed island with a single access and 8 juxtaposed building blocks including four corners and four bars, surrounded by parking lots and green spaces with a single access. (see Figure 4.116)

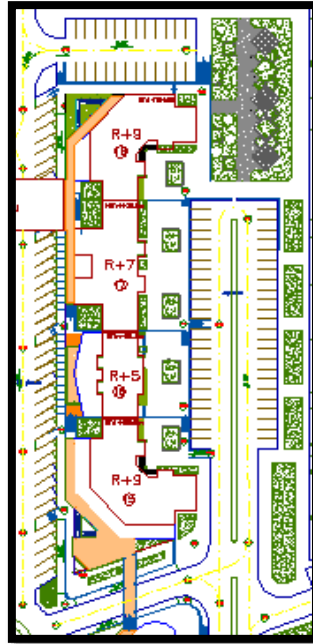


Figure 4.116. The second part

Source: the architect Boukhalifa Zennine charged with the project

Part 3: Is the largest block, taking the form of a rectangle divided in two by a lane and a parking lot and playgrounds. The left vertical island is composed of three U-shaped building blocks. And the right side is composed of two opposite blocks following the U shape with green spaces, playgrounds and parking lots with two accesses. (see Figure 4.117)

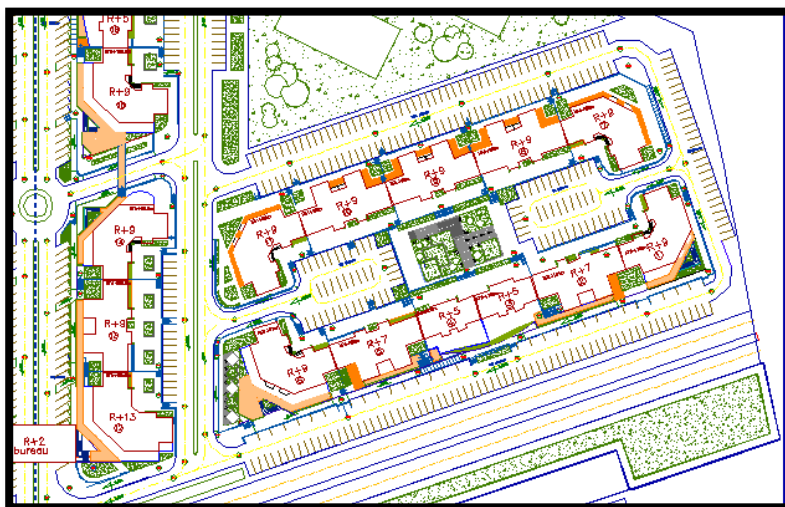


Figure 4.117. The third part

Source: the architect Boukhalifa Zennine charged with the project

Part 4: Takes the form of a lozenge divided into two opposite parts in a U shape; surrounded by roads of different types, parking lots and green spaces. (see Figure 4.118)

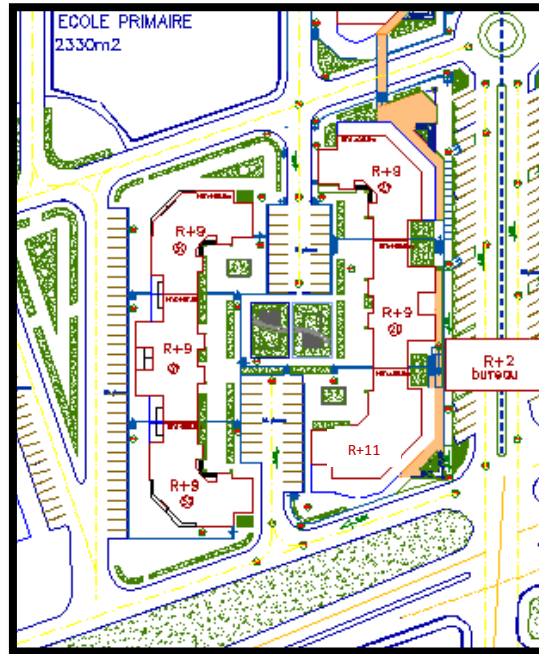


Figure 4.118. The Fourth part

Source: the architect Boukhalfa Zennine charged with the project

➤ **Built grid**

The residential quarter is consisting of 1000 collective housing units distributed on 32 building blocks of 5, 7, 9 and 11 floors, each floor contains 4 /2 housing units of type F3, F4.

The apartments are distributed on the upper floors, the rear facades overlooking the primary and secondary roads benefit from the premises of different activities that are on the ground floor still containing janitors, housing units, service spaces while the offices of different functions are in the r+1. (see Figure 4.119)



Figure 4.119. The typology of a building.

Source : author 2022.

Built / not built component

The built-up area at the level of the 1000 housing units in Bouzourane presents a clear domination with 70% compared to 30% of the non-built-up area, space which is used for green spaces, playgrounds and parking lots. (see Figure 4.120)

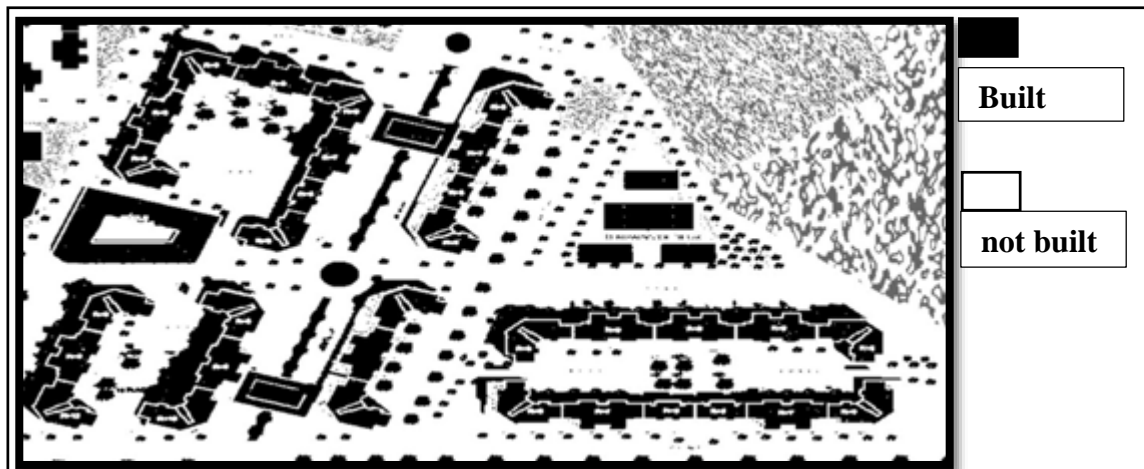


Figure 4.120. Built and Unbuilt in the 1000 housing units in Bouzourane

Source: author 2022.

➤ Open Space Grid

Neighborhood Open Spaces (NOS) are defined as public open spaces near where people live, such as public spaces around people's homes, neighborhood parks and community gardens (see Figure 4.121)



Figure 4.121. Green spaces in the 1000 housing units in Bouzourane
Source: author 2022.

- **Green spaces**

Vegetation as an element of architectural composition takes many forms(see Figure 4. 122):

- Isolated from trees and shrubs



Figure 4.122. Vegetation in the 1000 housing units in Bouzourane
Source : author 2022.

- **Play airs**

The only playground available on site is this soccer field located to the east of the project. (see Figure 4.123)



Figure 4.123. play airs in the 1000 housing units in Bouzourane
Source: author 2022.

- **Parking spaces**

For the parking lots we notice three types (see Figure 4. 124):

- 1- Parking lots along the main roads.



Figure 4.124. Parking lots at main roads.
Source: author 2022.

2-We note that there is parking for residents located within each cluster. (see Figure 4.125)



Figure 4.125 parking lots at main roads

Source: author 2022.

3-Parking lots in front of the facilities. (see Figure 4.126)



Figure 4.126. Facilities' parcs

Source: author 2022.

2.1.2.3. Architectural Typology Analysis

➤ Façade

The facades of the 1000 housing units in Bouzourane benefit from a very rich composition contributing to their special character and identity. This composition is made by following very precise rules which are mostly related to geometry. (see Figure 4.127)

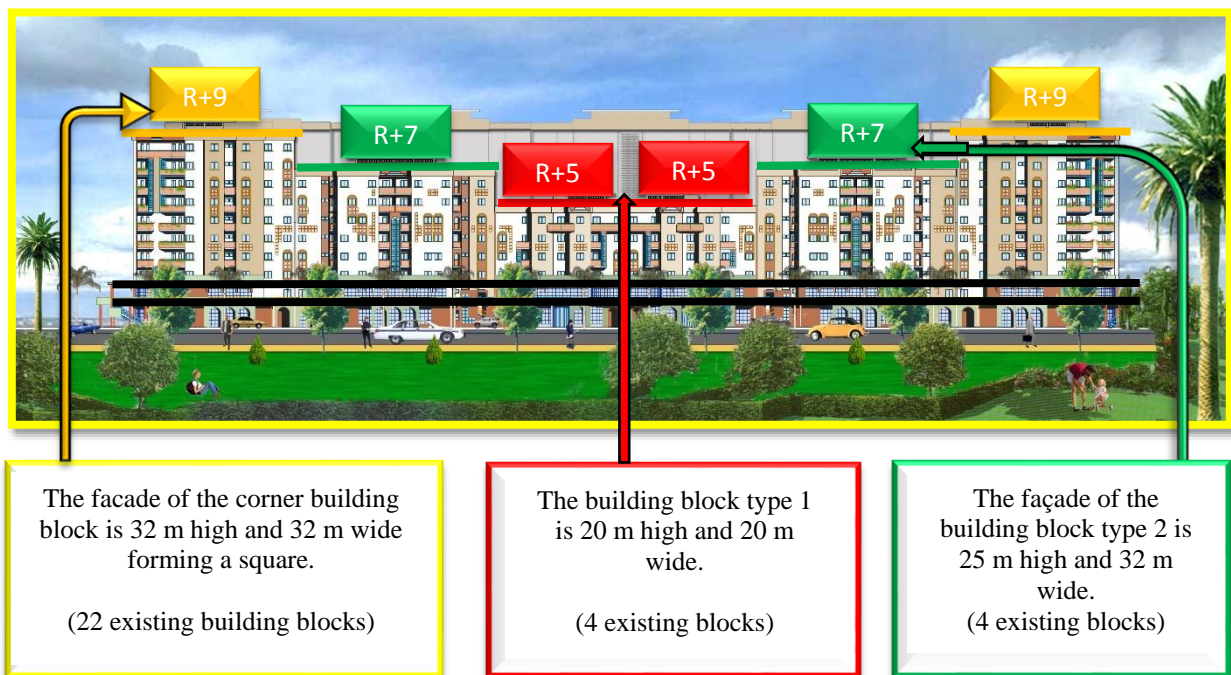
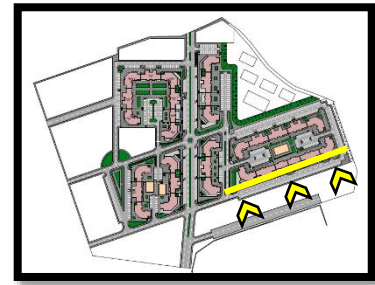


Figure 4.127. The façade on the peripheral boulevard

Source: author 2022.

It is characterized by (see Figure 4.128):

Symmetry, rhythm, repetition

*The base, which consists of the ground floor and the first floor, is decorated with arches on columns and large juxtaposed windows.

*The body containing the upper floors is characterized by a game of full and empty balanced created by windows, moucharabihs throughout the stairwell to ensure the privacy of the user and allow to see without being seen they are not that decorative rooms, small cubes under some windows.

*A flat roof with end marking.

*The material used is concrete.

*The choice of a warm orange color with white.

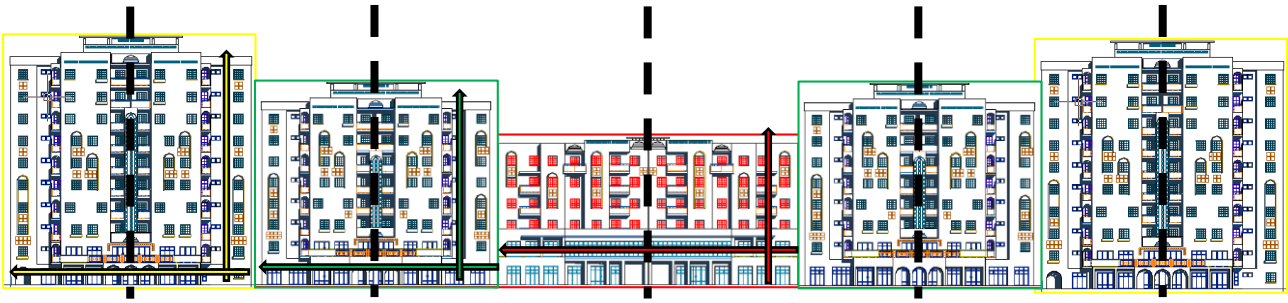


Figure 4.128. The composition of the façade on the ring road.

Source: The architect Boukhalfa Zennine charged with the project + author treatment 2022.

We notice a play of height given that the land has an average slope of 8.6%. 3 types of buildings are present, building block type 1 and type 2, block angle to R + 9 floors, The ground floor consists of juxtaposed premises decorated by a repetition of arches. (see Figure 4. 129)



Figure 4.129. The horizontal topographic profile of the façade on the peripheral boulevard.

Source: Author 2022.

- **The façade on the main boulevard**

The only change created on the facades is the closing of the balconies with aluminum windows and with opaque and translucent glass. (see Figure 4.130) (see Figure 4.131)



Figure 4.130. The closing of the balconies.

Source: Author 2022



Figure 4.131. The composition of the façade on the main boulevard.

Source: Architect Boukhalfa Zennine charged with the project + author treatment

➤ Construction type

The selected site is a residential, commercial type. A collective housing in R+5, R+7, R+9, R+11.

➤ Assembly patterns

The district is composed of 32 blocks, distributed on 4 blocks according to different assemblies. Firstly, we distinguish 4 types of units with different heights (see Figure 4.132) and (see Figure 4.133):

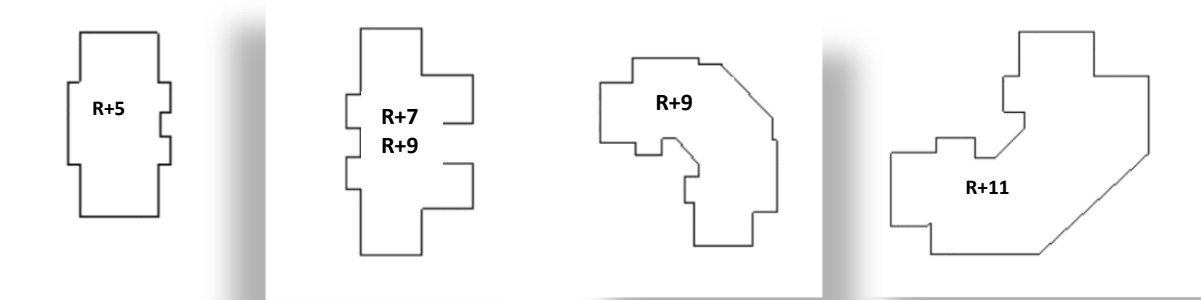


Figure 4.132. Types of units at the site.

Source: Author 2022.

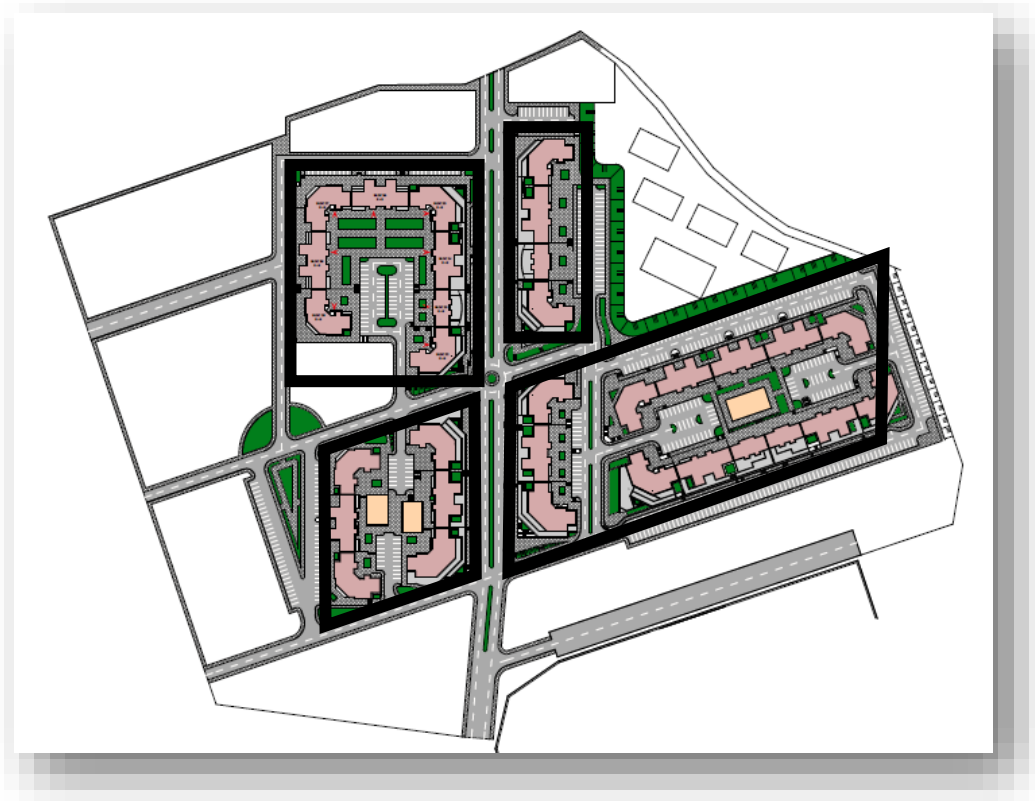


Figure 4.133. The assembly patterns.

Source: The architect Mekaoussi Nadia + author treatment 2022.

Assembly of juxtaposed building blocks under the U letter shape, i.e., closed or opposite islands. (see Figure 4.134)

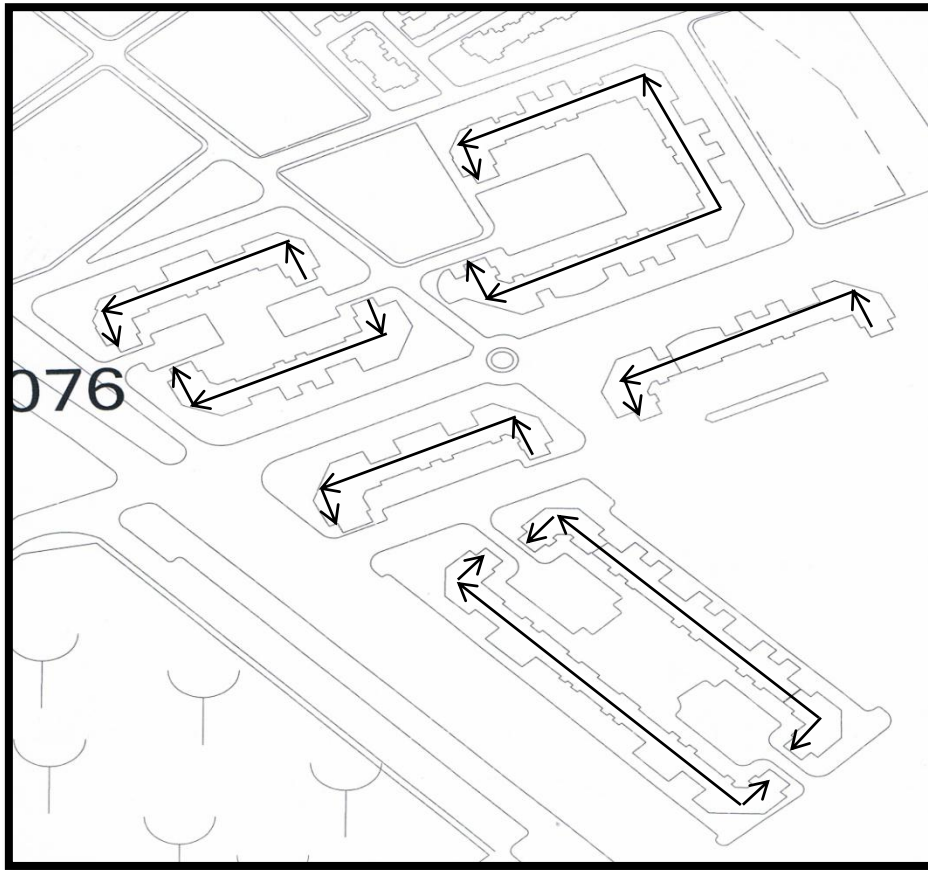


Figure 4.134. The assembly of the building blocks.

Source: PDAU Batna + author treatment 2022.

➤ **Building typology**

We can see that there are 2 types of building blocks "Bar" and "Angle", articulated differently.

- **Articulation of cells**

It is accomplished by :

- The stairs

we have 2 types of building; the articulation is different (see Figure 4. 135) (see Figure 4.136):

1. The "Bar" type building blocks the cells are articulated by :

Stairs with 3 or 2 straight flights with 1 or 2 In-between landings.

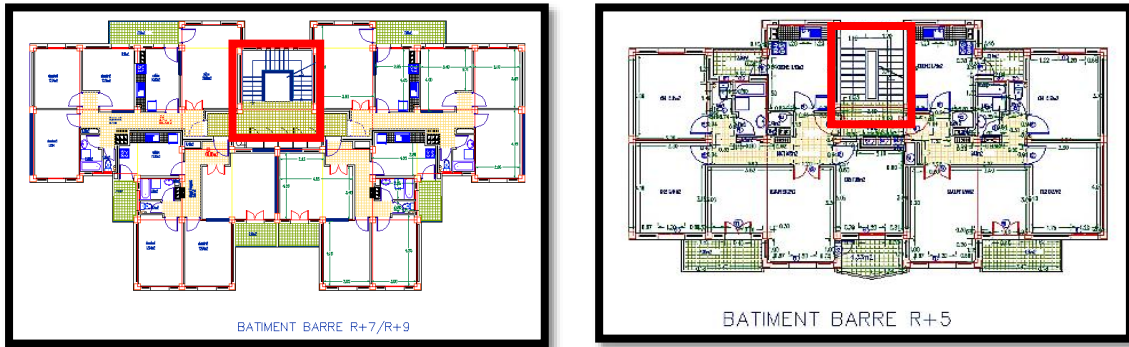


Figure 4.135. The articulation of the building bar type.

Source: Architect Boukhalfa Zennine + author treatment 2022.

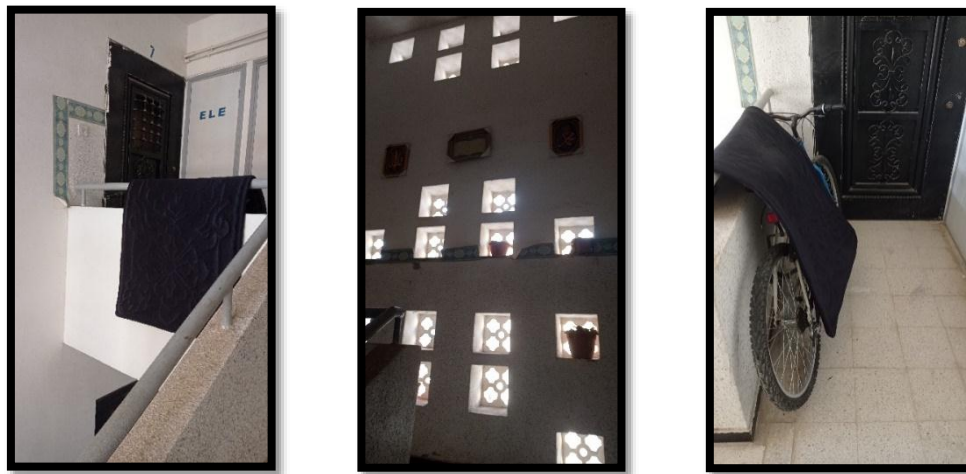


Figure 4.136. The articulation of a building.

Source: Author 2022.

2. The "Angle" type building blocks, the cells are articulated by staircases with 3 or 2 straight flights with 1 or 2 In-between landings. (see Figure 4.137)

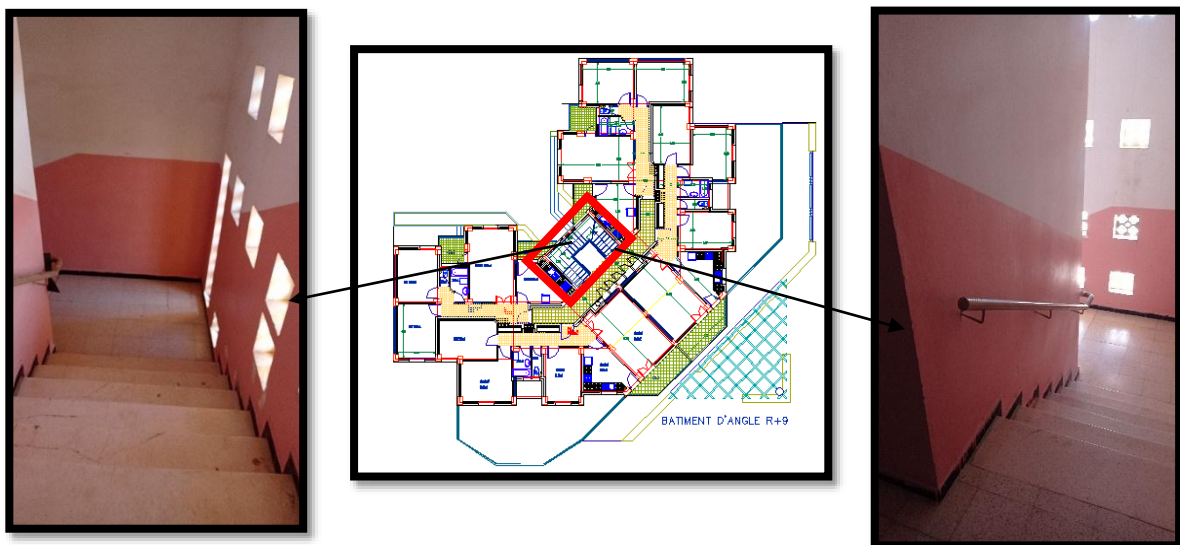


Figure 4.137. The articulation of the corner block.

Source: Architect Boukhalfa Zennine + author treatment 2022.

- **Elevator**

There are elevators at the level of blocks with high heights of R+7, R+9 and R+11, with 1.85 by 2.10 of dimensions, located in the center of the block surrounded by the stairwell. (see Figure 4.138) and (see Figure 4.139) and (see Figure 4.140)

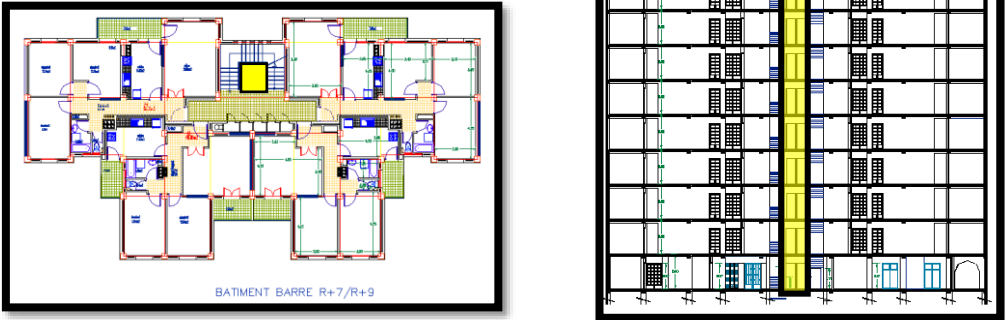


Figure 4.138. The layout of the elevators in the type 1 bar block.
Source: Architect Boukhalifa Zennine + author treatment 2022.

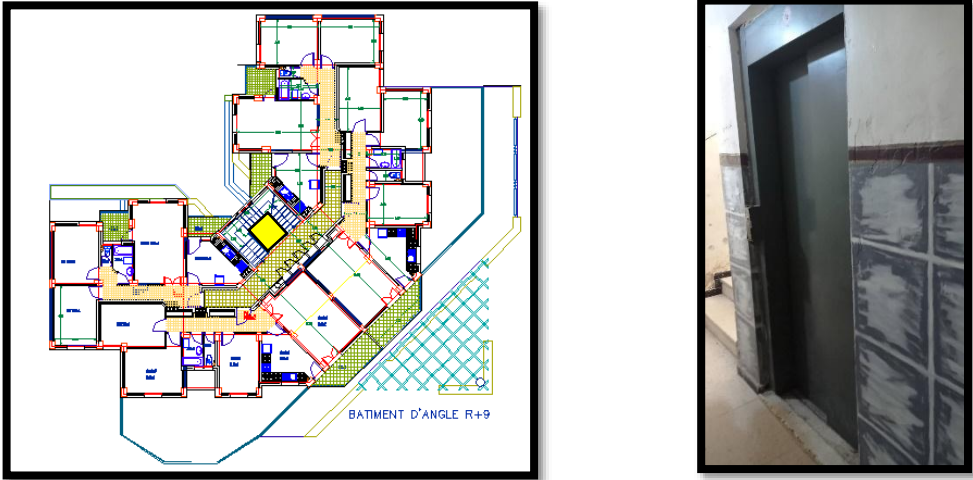


Figure 4.139. The layout of the elevators in the corner block type 1.
Source: Architect Boukhalifa Zennine + author treatment 2022.

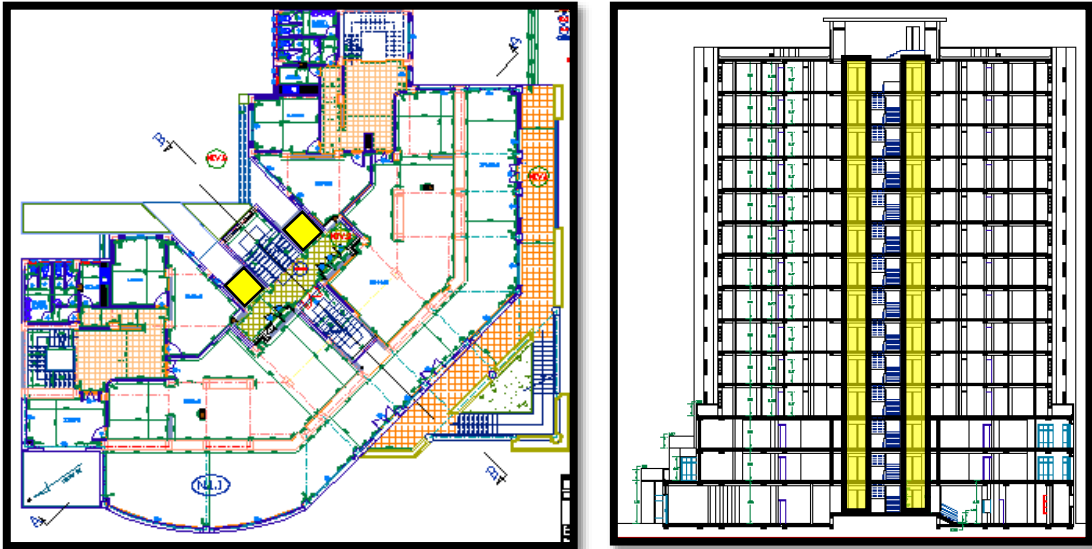


Figure 4.140. The layout of the elevators in the corner block type 2.
Source: Architect Boukhalfa Zennine + author treatment 2022.

- **Stairs of locals and bureau**

Stairs that provide vertical circulation to the different activity floors. (see Figure 4.141) and (see Figure 4.142)

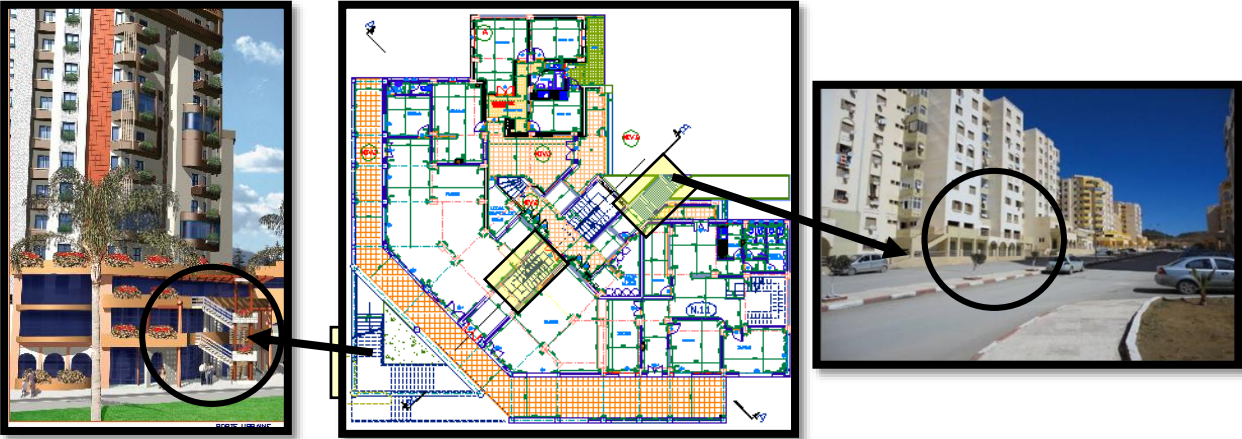


Figure 4.141. The emergency stairs.
Source: Architect Boukhalfa Zennine + author treatment 2022.

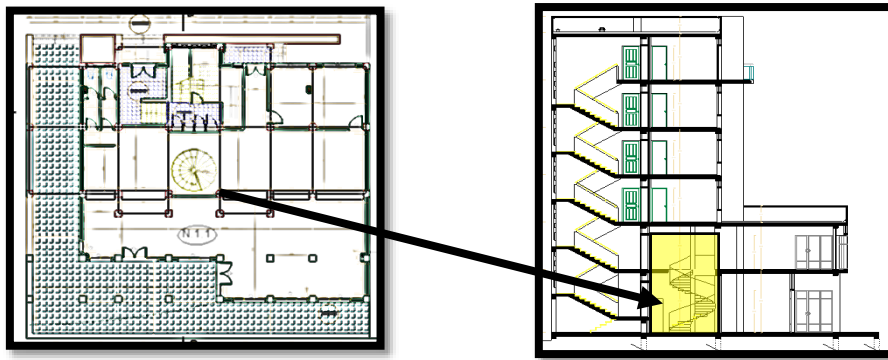


Figure 4.142. The emergency stairs.

Source: Architect Boukhalfa Zennine + author treatment 2022.

➤ **Marking of the entrances**

The main entrances of the buildings are inside the blocks, while the premises and offices have other entrances. (see Figure 4.143)

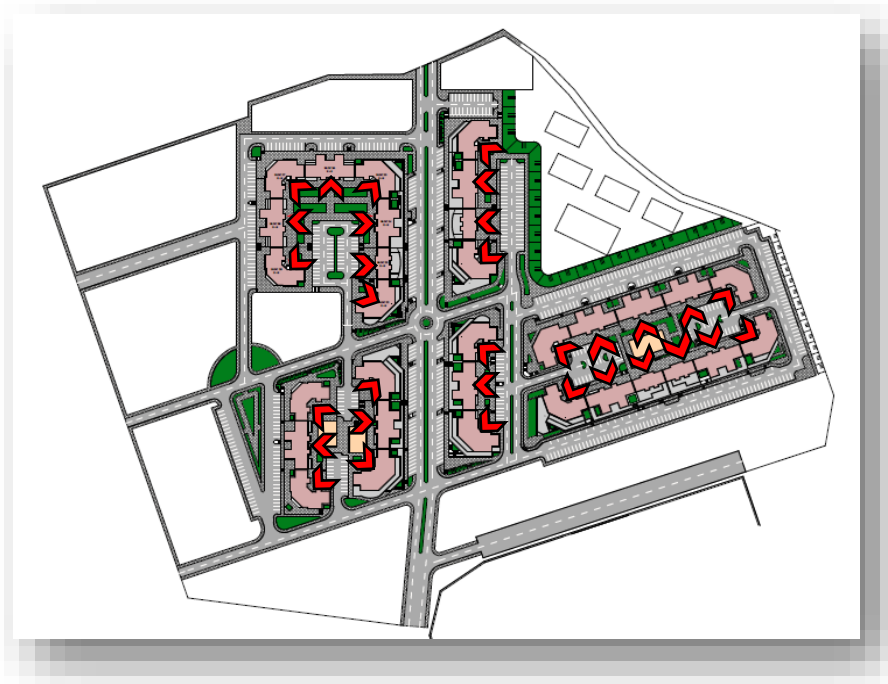


Figure 4.143. The main entrance to the buildings.

Source: the author 2022.

The entrance is marked by a setback of 1m inside, the location of the metal door is on the left side with a height of 2.80 m by 1.40 width, while the right side is characterized by moucharabiehs to allow natural light to access inside, an intercom is available for all residents of the building. (see Figure 4. 144)

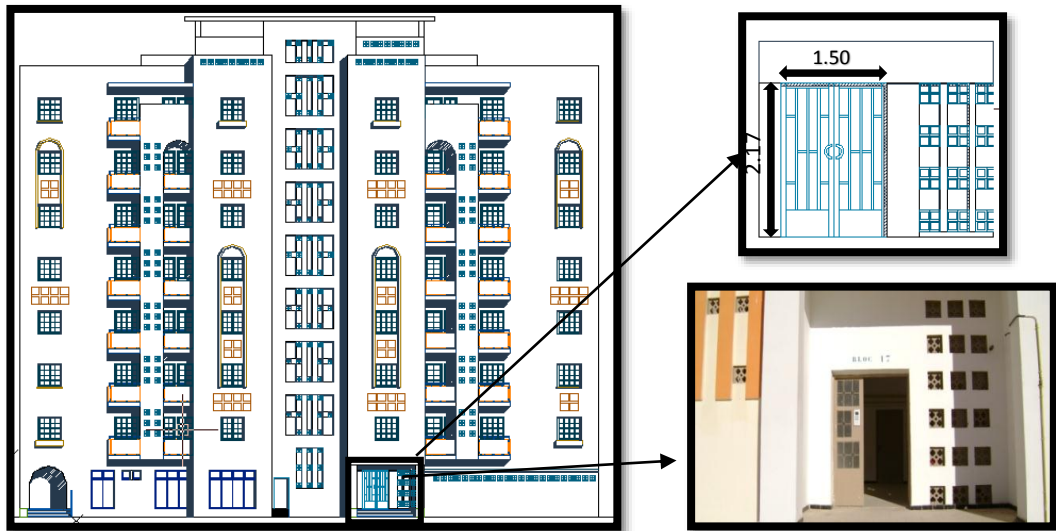


Figure 4.144. The main entrance to the building.

Source: Architect Boukhalfa Zennine + author treatment 2022

The entrance hall

A rectangle of 3m width and 7.80 length. Decorated by the inhabitants with frames, a mirror, bouquets of flowers; and especially the panels to display the internal regulation which fixes the rights of use of the building. (see Figure 4. 145)



Figure 4.145.The lobby of the building in the 1000 housing units.

Source : Author 2022

On the ground floor level there are (see Figure 4.146):

- Business premises that have other main entrances at the other facade that faces the boulevards.
- The housing unit for the security guard who handles the janitorial and security duties of the property; with a window overlooking the lobby so he can monitor arrivals.



Figure 4.146. The housing unit of the building's janitor in the 1000 housing units.

Source : Author 2022

- Offices of different activities (see Figure 4.147)

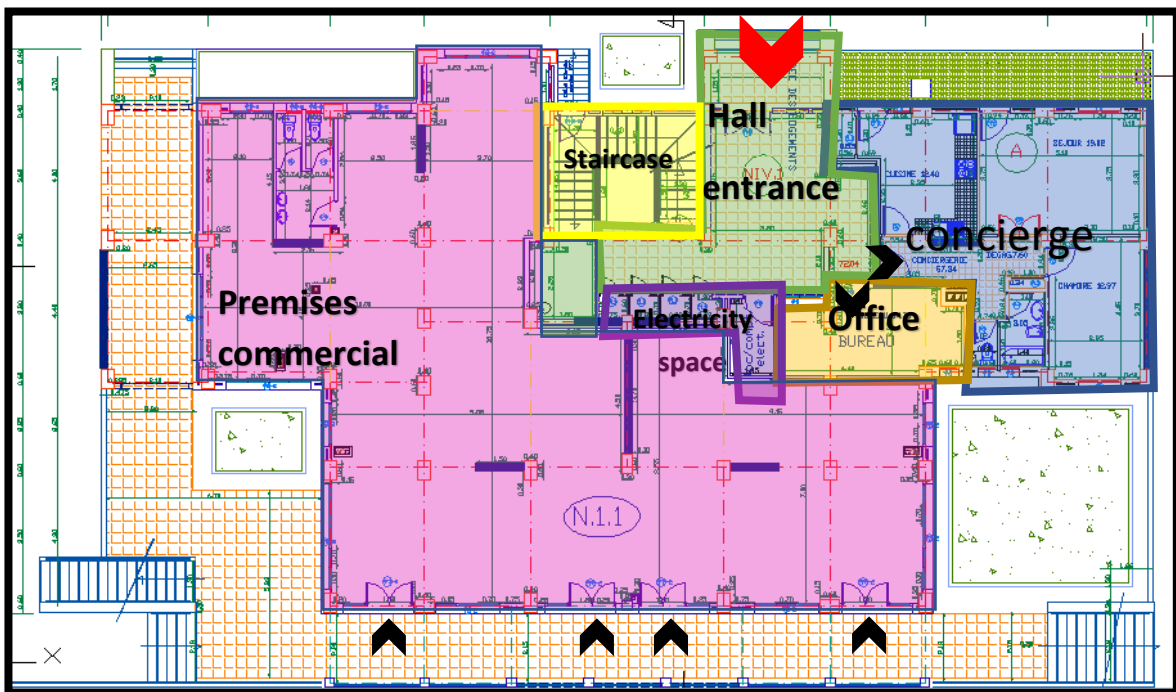


Figure 4.147. The ground floor components of a building block.

Source: Architect Boukhalfa Zennine + author treatment 2022

3. The Isovistic Analysis

3.1. Introduction

“Buildings are not merely objects, but rather represent transformations of space through objects; they gather elements into physical objects with specific shapes; they also create and arrange the volumes of empty space resulting from this object into a pattern. By organizing the space of the building, we organize the relationship between people. As a result, society

penetrates the essence and form of architecture. By the form of their objects, they are social objects”.(Hillier Bill & Hanson Julienne, 1984).

This chapter reports the results of the syntactic analysis of the two residential cities in Batna city that were selected for study, namely the 800 dwellings and the 1000 dwellings Bouzourane. It discusses the analysis of each case study by the spatial syntax in view of distinguishing their spatial identities; by applying DepthMap to the spatial representations related to the 2 selected study objects.

A comparison between the results obtained is necessary in order to arrive at the basic principles of each design dedicated to In-between spaces, in order to; firstly, know whether the spatial arrangement itself influences the relationship between neighbors; and secondly distinguish which conceptual aspects influence the sociability of neighbors the most.

The spatial organization of architectural forms can have a decisive impact on social relations, in this chapter we will focus on the more involved variables that mediate the system of spatial relations.

Here the design of the selected residential city buildings will be analyzed to show in principle that spatial organization is a function of the form of social solidarity - or the organizing principles of social reproduction - in that society. We have emphasized a very known hypothesis about space; that is, human spatial organization is the elaboration of common behavioral principles through a hierarchy of different levels. This space is shaped by similar social or psychological forces; this is where the "continuum" hypothesis comes from. The physical arrangement of space by societies is a function of forms of social solidarity; encounters and interactions between people represent what is observable and therefore visibly spatial in societies. They are the spatio-temporal manifestations of society, a more complicated and abstract articulated object. The object of analysis in this research study was restricted to the indicator of: The isovist.

3.2. Isovist Analysis Requirements

A space with significant properties of isovists is defined by a space that has good visual visibility and accessibility. isovists is defined by a space that has good visibility and visual accessibility and a good light quality if all the indicators respect the standards. We began our analysis of isovist with the city of 1000 dwellings, followed by the second case study the 800 dwellings. Which aims to characterize the visual and spatial quality of the studied spaces. We used an analysis on the attributes of the isovists (carried out by DEPTHMAP) a software which makes its calculations and simulations on the basis of Designs

DXF Designs, and allows to obtain accurate results (visual and numerical) in different forms: graphs, syntactic maps, tables... etc.

In assessing the shapes of the isovists and informing the degree to which these polygons are monolithic or spatially dispersed, an isovist analysis was performed by constructing "isovists" for each in-between space studied. We chose 4 measures from the large number of syntactic properties of isovists proposed by Benedikt and Burnham: "area, perimeter, compactness and occlusivity".

Compactness represents "the shape of the space visible from a given location relative to the circle" (Benedikt, 1979). It establishes a relationship between the surface of the isovist and its perimeter. It refers to a kind of shape coefficient that indicates the level of complexity of the geometry of the isovist, and therefore the complexity and richness of the landscape offered to the viewer from a given point in space. The formula presented the class is between 0 and 1 (circle).

"The occlusivity on the other hand is a measure of the length of the segments of the isovist that are not physical barriers, i.e., from visual obstructions (e.g., a column, a tree, etc) in the space (Benedikt, 1979). In a space of convex and simple geometry (unitary), these segments would not exist and the value of occlusivity would return to 0. As it is a length therefore, it is not subject to limitation.

The study examines the state of neighborhood relations and how they are influenced by the layout of the in-between space. Through simulation with DepthMap 10 software, an analysis of isovists is conducted to show the extent to which the visual field in in-between spaces that assume various shapes, areas and gaps influences the feeling of belonging in the residential building.

In looking for information on the positive or negative influence of the layout of the interstitial space on the sociability between neighbors and the emergence of conflicts, We generated isovists at different point positions, several isovists were determined at different degrees (90°, 120°, 180°, 360°), the results were the same (see Appendix 2), we chose the 360° isovists because it covers the whole visual field.

The analytical model envisions the housing as a bipolar system structured between the building entrances and the environment beyond the housing. The arrangement of space between these two domains is conceived as a technique for integrating two types of relationships: those

between inhabitants of the housing and those between inhabitants and strangers. In our case it is used to analyze the patterns of use of 2 collective type residential housing projects

3.3. The Neighborhood Of 1000 Units (Bouזורane) Analysis

It is a neighborhood of collective housing type consisting of 1,000 collective dwellings distributed over 32 building of 5, 7, 9 and 11 floors, each floor contains 4 dwellings of type F3, F4; the in-between space which is the object of study differs from one type of building to another, according to different assemblies with different heights; we distinguish 4 types (see Figure 4.148) (see table 4.12/4.13/4.14/4.15) :

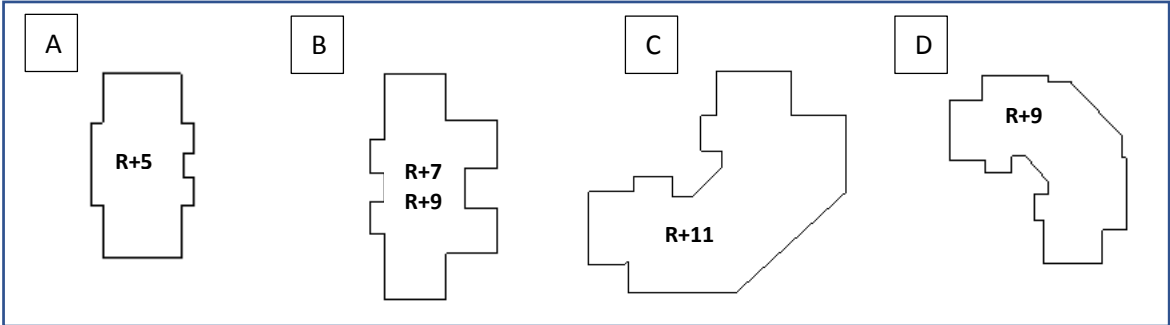


Figure 4.148. The assembly patterns of the buildings of the 1000 housing units Bouזורane.

Source : Author 2022.

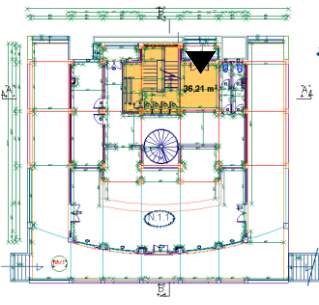
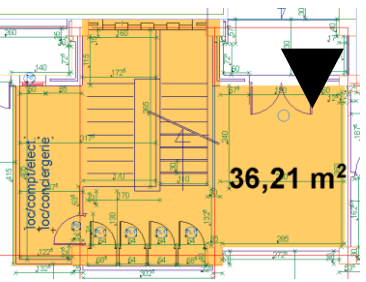
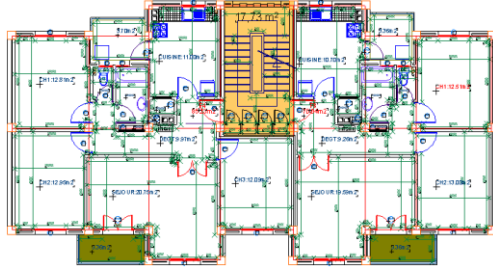
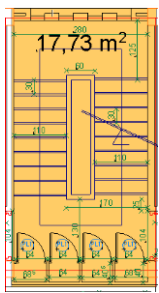
Type		Assembly	The design of the in-between space
Bar A	Ground floor		
	Current floor		

Table 4.12. Pattern assembly of building type Bar A

Source : Author 2022.

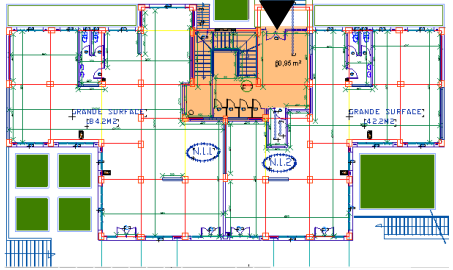
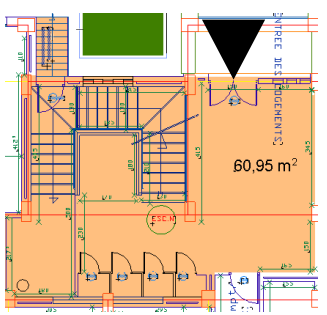
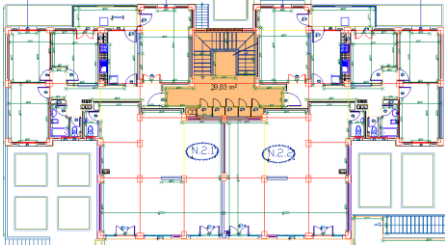
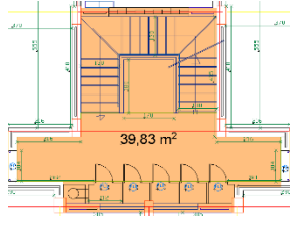
Type		Assembly	The design of the in-between space
Bar B	Ground floor		
	Current floor		

Table 4.13. Pattern assembly of building type Bar B

Source : Author 2022.


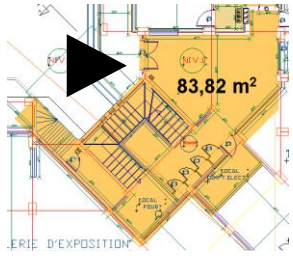


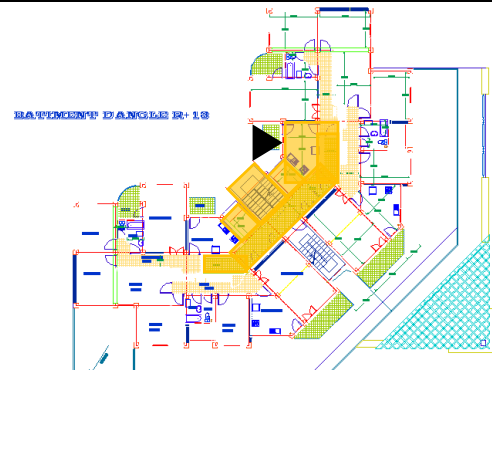
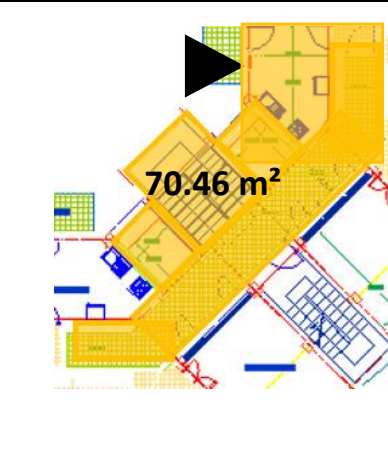
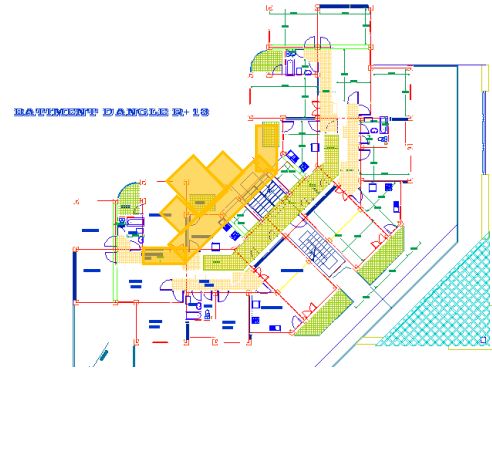
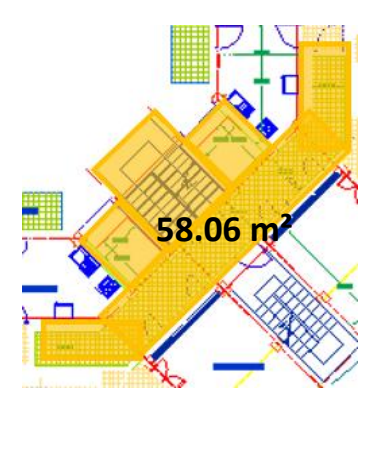
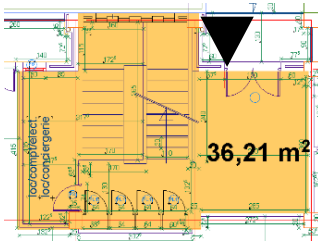
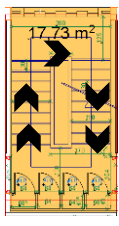
Type		Assembly		The design of the in-between space	
Angle	C	Ground floor			
		Current floor			

Table 4.14. Pattern assembly of building type Angle C
Source : Author 2022.

Table 4.15. Pattern assembly of building type angle D
Source : Author 2022.

The units are distributed on the upper floors, the back facades facing the primary and secondary roads benefit from the premises of different activities that are on the Ground floor still containing concierge offices, day care centers, service spaces while the offices of different functions are in the r+1.

Type		Assembly		The design of the in-between space	
Angle	D	Ground floor			
		Current floor			

Type bar	Bloc A	Ground floor	Current floor
			

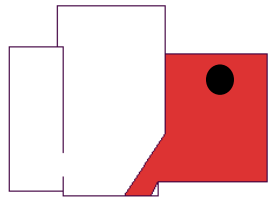

isovist		Floor	Ground floor	Current floor
Degree : 360°	Generator point			
	Ground floor	Current floor		
	The main entrance of the building	The resting landing		
The isovist measures	Surface (m²) Perimeter (m) Compactness Occlusivity(m)	13.41 (37.03%) 16.65 0.6 2.85	11.80 (66.55%) 20.03 0.36 3.58	

Table 4.16. The isovist of the in-between space type A

Source : Author 2022.

Given that the deeper the isovist, the more important the visual information is, the isovist of the generator point in the block of type A, Ground floor, is analyzed. The visual field obtained shows us that the isovist (37% of the total surface) takes a slightly elongated shape (rectangular) which is similar to a circle translated by the Compactness value 0.6, The considerable value of Occlusivity 2.85 indicates a low visibility at the level of the entrance hall (which represents almost half of the in-between space in the Ground floor). The isovist of the current floor occupies a surface of 11.80m², it shows a large value of Occlusivity of 3.58m thus, isovist rather scattered, and a Compactness less than the Ground floor with 0.36 which does not resemble a circle.(see table 4.16)

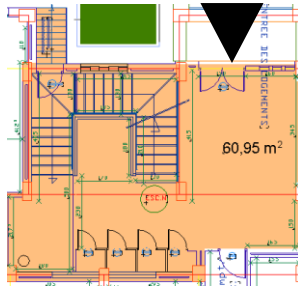
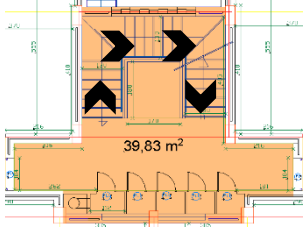
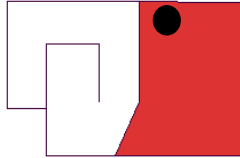
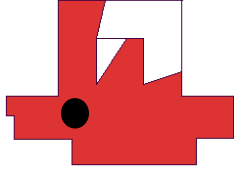
Type bar	Bloc B	Ground floor	Current floor	
				
isovist		Floor	Ground floor	Current floor
Degree : 360°	Generator point			
	Ground floor	Current floor		
	The main entrance of the building	The resting landing		
The isovist measures	Surface (m ²)	23.38 (38.35%)	33.97 (85.28%)	
	Perimeter (m)	20.45	37.11	
	Compactness	0.70	0.30	
	Occlusivity(m)	3.73	5.83	

Table 4.17. The isovist of the in-between space type B.

Source : Author 2022.

We observe that the properties of the isovists indicate an in-between space characterized by a very large isovist area, a considerable Perimeter and a Compactness value less than 1 equal to 0.7 in Ground floor and 0.3 in current floor. The Ground floor is easy to navigate compared to the current floor. The Occlusivity is higher in the current floor with 5.83 m and 3.73 in Ground floor. This indicates a better visibility on the Ground floor explaining the low dispersion of the isovist and the field when compared to the current floor.(see table 4.17)

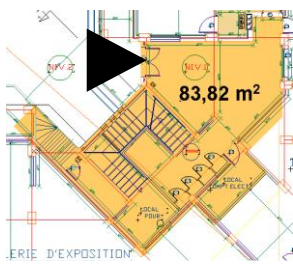
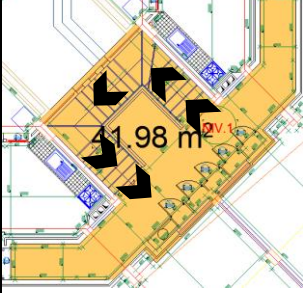
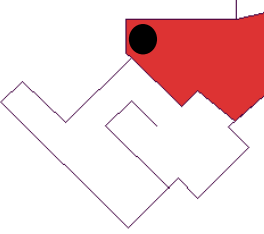
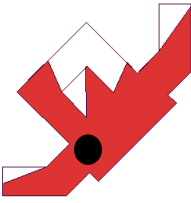
		Ground floor	Current floor
Type Angle	Bloc C		
isovist		Ground floor	Current floor
Degré : 360°	Generator point		
	GROUND FLOOR	Current floor	
	The main entrance of the building	The resting landing	
			
The isovist measures	Surface (m²) Perimeter (m) Compactness Occlusivity(m)	28.88 (34.45%) 23.15 0.67 4.06	36.01 (85.77%) 43.58 0.23 1.17

Table 4.18. The isovist of the in-between space type C

Source : Author 2022.

With regard to the C Block which takes the form angle; it can be qualified as spacious (seen that the values of the surface and the Perimeter are important), The measure of the Occlusivity refers to the proportion of the Perimeter being on the solid border of the environment. And which is estimated by 4.06 for the ground floor as compared to 1. 17 for the Current Floor where it is minimal and indicates easy navigation, While the values of Compactness, give an overview of the proximity of the isovists are to a convex space, the observation of the graphs indicates that the spatial organization of the Ground Floor is more compact than the Current Floor and it looks more like a circle. .(see table 4.18)

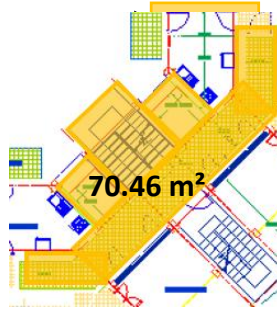
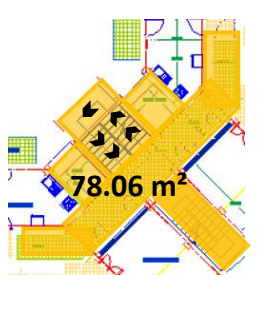
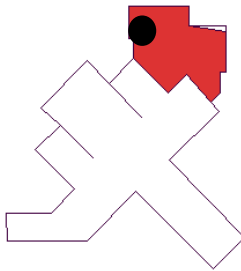
Type Angle	Bloc D	Ground floor	Current floor
			
isovist		Ground floor	Current floor
Degree : 360°	Generator point		
	Ground floor	Current floor	
	The main entrance of the building	The resting landing	
The isovist measures	Surface (m²) Perimeter (m) Compactness Occlusivity(m)	17.79 (25.84%) 19.63 0.58 4.03	63.57 (81.43%) 58.47 0.23 1.04

Table 4.19. The isovist of the in-Between Space type D.

Source : Author 2022.

The isovist surface in the block type D of the ground floor is reduced (17.79m²), when compared with that of the current floor (63.57m²); the value of Compactness in the current floor is less than that of the ground floor (0.23), revealing a stronger dispersion at the level of GROUND FLOOR (0.58), regarding the measure of Occlusivity, it appears a strong value in GROUND FLOOR(4.03 m) which presents a limited navigation with very reduced visual fields, at the level of the current Floor it is 1.04 m of Occlusivity with more possibility to explore the space. (see table 4.19).

3.4. The Neighborhood of 800 Units (414 Units) Analysis

The second study case is distributed on 46 blocks of five levels (R+4) each block contains 09 dwellings of the type F2, F3, F4 and F5 and each Floor has 02 dwellings per level except for the last Floor (R+4) which has only one dwelling of the type F3, and an accessible terrace; its in-between space is the same in all the blocks. .(see table 4.20)

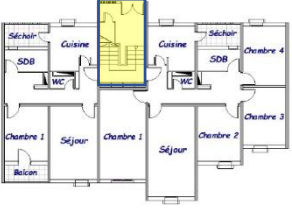
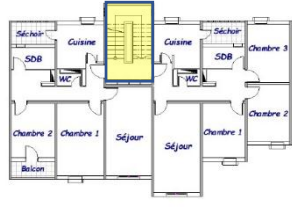


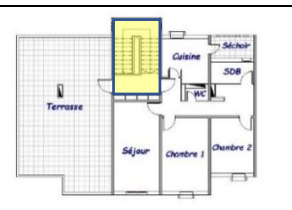
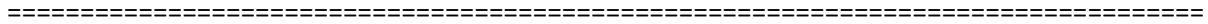
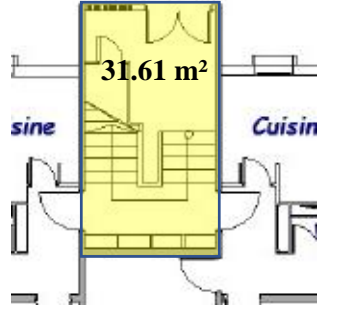
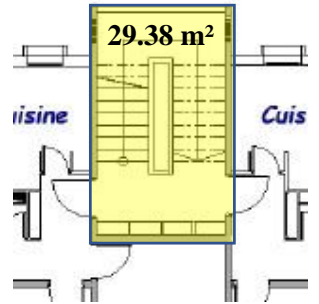
The In-Between space	Floor	Design
<p>A space of rectangular shape, with an area of 29.28 m² (4m × 7.32m), includes in the first Floor:</p> <ul style="list-style-type: none"> - The entrance of the building. - The cellar. - Stairs that lead to two apartments; <p>The 1sts;2nd;3rd and 4th Floor; The space maintains its basic shape and surface with few changes.</p>	Ground Floor	
	1st Floor	
	2nd Floor	
	3rd Floor	
	4th Floor	

Table 4.20. The In-Between space in the 800 units.

Source : Author 2022.



Type bar	Bloc E	Ground floor	Current floor
			


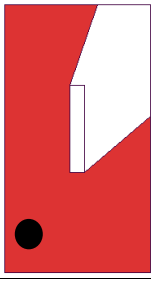
Isoviste		Floor	Ground floor	Current floor
Degree : 360°	Generator point			
	GROUND FLOOR	Current floor		
	The main entrance of the building	The resting landing		
The isovist measures	Surface (m²)	14.06 (44.47%)	21.56 (73.38%)	
	Perimeter (m)	25.57	25.98	
	Compactness	0.27	0.40	
	Occlusivity(m)	9.27	4.84	

Table 9. 1. The isovist of the in-between space type E.

Source : Author 2022.

Moving on to the last type of block analyzed, Block type E, the isovist surface of the current Floor is higher than that of the GROUND FLOOR, that is to say 14.06m² against 21.56 m², there is no difference in values between the Perimeters of the two isovists, the Compactness values of The In-Between space of the ground floor 0. 27 lower than that of the current Floor which indicates that the shape of the Design of the current Floor is closest to a circle, while the Occlusivity of the ground floor (9.27) is largely higher than that of the current Floor (4.84).
 .(see table 4.21)

The values of the isovist measures of the in-between spaces

		Surface (m ²)	Perimeter (m)	Compactness	Occlusivity(m)
Type A	Ground floor	13.41 (37.03%)	16.65	0.6	2.85
	Current floor	11.80 (66.55%)	20.03	0.36	3.58
Type B	Ground floor	23.38 (38.35%)	20.45	0.70	3.73
	Current floor	33.97 (85.28%)	37.11	0.30	5.83
Type C	Ground floor	28.88 (34.45%)	23.15	0.67	4.06
	Current floor	36.01 (85.77%)	43.58	0.23	1.17
Type D	Ground floor	17.79 (25.84%)	19.63	0.58	4.03
	Current floor	63.57 (81.43%)	58.47	0.23	1.04
Type E	Ground floor	14.06 (44.47%)	25.57	0.27	9.27
	Current floor	21.56 (73.38%)	25.98	0.40	4.84
The mean				0.43	4.04

Table 4.21. The values of the isovist measures of the in-Between spaces.

Sources : Author 2022.

The table above illustrates the maximum and minimum values of the selected isovist measures to be analyzed (Surface, Perimeter, Compactness, Occlusivity), the 5 cases are blocks that are the object of study; they have different spatial characteristics, but in them there were continuously conflicts of use of the in-between space, through the isovist analysis it allows us to describe the visibility by defining the spaces according to their visual and socio-spatial qualities

We notice that the in-between space arrangement that has the great isovist surface 85.77% of the total surface (it indicates the quality of spaciousity of the visual field), the most considerable Perimeter 43.58 m (it presents qualities of openness) and a low value of Occlusivity 1.04 m; that is to say, the current Floor of the type C block, this space is not characterized by a great Compactness. This analysis in summary shows a good visibility at this space compared to the other in-between spaces of the selected block types. .(see table 4.21)

Conclusion

This chapter delved into the social fabric of two collective housing units in Batna, Algeria: the City of 800 Dwellings and the City of 1000 Dwellings in Bouzourane. A resident survey aimed at understanding the reasons behind residential individuality and the lack of social life within these communities yielded surprising results.

Social Disconnect: A Preference for Isolation

The survey data painted a clear picture – residents in both case studies exhibited a preference for individual living and minimal interaction with neighbors in the in-between spaces, communal areas designed to foster social connection. This finding emerged despite significant differences in the physical layouts of the two housing units, suggesting a deeper underlying cause.

Ownership and Social Interaction: An Unexpected Disconnect

Ownership status, often assumed to influence social engagement, did not appear to be a major factor. Residents, whether homeowners or renters, expressed a similar desire for social isolation.

Superficial Connections: Neighborliness Without Depth

While a majority of residents reported having neighborly connections, these interactions remained superficial. The survey revealed a lack of deeper engagement or shared activities, suggesting a courteous but distant coexistence.

The Underutilized In-Between Spaces: Missed Opportunities for Community Building

The in-between spaces, originally envisioned as hubs for social interaction, fell short of their intended purpose. In the City of 800 Dwellings, residents viewed these spaces as limited and primarily used them for practical purposes. The City of 1000 Dwellings residents acknowledged the space, but a concerning gap existed between perceived cleanliness and the observed reality.

Conflict and Disruption: The Downside of Individuality

The survey unearthed a troubling trend – conflicts arising from the use of in-between spaces. These conflicts disrupted neighborly relations, with residents often opting to avoid confrontation or involvement altogether.

Limited Social Support Networks: A Reflection of Isolation

Despite reporting generally good relations with neighbors, residents expressed a lack of belonging and a reluctance to participate in collective maintenance activities. The social support networks observed during the COVID-19 pandemic further underscored this isolation, with residents relying minimally on neighbors for assistance.

Beyond Physical Design: A Search for Deeper Causes

The chapter then explored the physical layouts of the housing units through a typomorphological analysis. This analysis revealed significant differences in the configurations of the spaces. However, the consistent desire for social isolation across both case studies, regardless of physical layout variations, suggested that the root cause of the disconnect might lie beyond the physical design of the in-between spaces.

Exploring Spatial Navigation: Visibility and Accessibility

The concept of spatial syntax was introduced to analyze the visual accessibility and navigability of the in-between spaces. The analysis revealed acceptable visibility rates in all studied spaces, indicating that physical limitations on movement were unlikely to be a significant factor in resident behavior. This finding further strengthens the argument that the observed social patterns are likely driven by factors beyond just the physical design.

The Road Ahead: Delving Deeper into the Social Landscape

The chapter acknowledges the limitations of the current analysis and the need for further exploration. Future research will delve deeper into the potential causes of the observed social disconnect. This will involve exploring social, cultural, and psychological factors that might be influencing resident behavior.

Here are some potential areas for future research:

- **Social and Cultural Norms:** Investigating the influence of social and cultural norms on neighborly interaction and community engagement within Algerian society.
- **Psychological Factors:** Exploring the potential role of factors like privacy concerns, fear of conflict, or a general shift towards individualistic lifestyles.
- **Sense of Community:** Understanding how residents perceive the concept of community and what factors contribute to a sense of belonging within a collective housing environment.

By delving deeper into these areas, we can gain a more comprehensive understanding of the social dynamics at play within these housing units. This knowledge can then be used to inform the design and management of future collective housing projects, fostering a stronger sense of community and social connection among residents.

Confrontation Of Results

Confrontation Of Results

Confrontation of results

Unveiling the Disconnect: A Multifaceted Exploration of Social Dynamics in Collective Housing

This chapter delves into the social fabric of two collective housing units in Batna, Algeria: the City of 800 Dwellings and the City of 1000 Dwellings in Bouzourane. Our investigation aimed to understand the reasons behind the disconnect between the intended purpose of these communities as hubs of social interaction and the observed reality of resident preference for isolation.

A Surprising Reality: Preference for Isolation Transcends Physical Design

The resident survey revealed a striking trend – a clear preference for individual living across both case studies. This preference manifested in minimal interaction with neighbors within the in-between spaces, despite significant differences in the physical layouts of the housing units revealed by the typo-morphological analysis. The isovistic analysis further confirmed that these layout variations did not significantly impact visibility or navigation, suggesting a deeper cause for the observed social disconnect.

Ownership and Social Interaction: A Debunked Myth

Ownership status did not appear to be a major factor influencing social interaction. Residents, whether homeowners or renters, expressed a similar desire for social isolation. This finding challenges the notion that a sense of ownership fosters a stronger investment in the community and a greater willingness to engage with neighbors.

Superficial Connections: Neighborliness Without Depth

While a majority of residents reported having neighborly connections, the survey revealed a lack of deeper engagement or shared activities. These interactions remained superficial, suggesting a courteous but distant co-existence. This stands in stark contrast to the envisioned vibrant social life intended by the design of these communities.

The Underutilized In-Between Spaces: A Missed Opportunity and Discontent

Confrontation Of Results

The in-between spaces, originally designed as hubs for social interaction, fell short of their intended purpose. Residents in the City of 800 Dwellings viewed these spaces as limited and primarily used them for practical purposes. In the City of 1000 Dwellings, a concerning gap existed between perceived cleanliness and the observed reality. This mismatch suggests a potential disconnect between resident expectations and the actual functionality of the space.

Conflict and Disruption: The Downside of Individuality

The survey unearthed a troubling consequence of the observed preference for social isolation – conflicts arising from the use of in-between spaces. These conflicts disrupted neighborly relations, with residents often opting to avoid confrontation or involvement altogether. This finding highlights the potential negative impact of a lack of social interaction on the overall harmony and functionality of a community.

Limited Social Support Networks: A Reflection of Isolation

Despite reporting generally good relations with neighbors, residents expressed a lack of belonging and a reluctance to participate in collective maintenance activities. Social support networks observed during the COVID-19 pandemic further underscored this isolation, with residents relying minimally on neighbors for assistance. This minimal reliance suggests a weak sense of community and a lack of trust or mutual understanding among residents.

Beyond Physical Design: A Search for Deeper Causes

The limitations of physical design as a sole explanatory factor necessitate a deeper exploration of potential social, cultural, and psychological factors. Here are some potential areas for further research:

- **Social and Cultural Norms:** Investigate the influence of social and cultural norms on neighborly interaction and community engagement within Algerian society. Do cultural norms discourage close relationships with neighbors or emphasize privacy within living spaces?
- **Psychological Factors:** Explore the potential role of factors like privacy concerns, fear of conflict, or a general shift towards individualistic lifestyles. Are residents hesitant to engage due to concerns about privacy or a general social anxiety? Has there been a

Confrontation Of Results

societal shift towards a more individualistic lifestyle that may be influencing these social dynamics?

The initial assumption might have been that the physical design of the in-between spaces was the main reason for the residents' preference for social isolation. However, the research revealed a more complex reality.

The key findings are:

- Residents across both housing units (despite physical layout variations) preferred social isolation.
- Ownership status did not influence social interaction.
- Social connections remained superficial.
- In-between spaces were underutilized or had cleanliness issues.

These findings suggest that social, cultural, or psychological factors might be the main drivers of resident behavior. The research points towards areas for further investigation, such as social norms, privacy concerns, or individualistic tendencies.

A Multifaceted Reality

Our investigation revealed a multifaceted reality underlying the observed social disconnect within these collective housing units. While physical design variations existed, they did not appear to be the primary driver of resident behavior. Future research should delve deeper into the potential influence of social, cultural, and psychological factors on resident attitudes and behaviors within these communities. By gaining a more comprehensive understanding of these factors, we can inform the design and management of future collective housing projects, fostering a stronger sense of community and social connection among residents.

RECOMMENDATIONS

Based on this research ; I believe these recommendations could be a valuable approach to consider

We have two parts :

- ❖ Investigate other factors beyond spatial configuration:

Confrontation Of Results

While spatial features may not be the main driver, the study suggests the existence of other influential factors on neighborly behavior. Recommend exploring various aspects such as:

- Community history and cultural norms: How historical dynamics or established cultural practices within the communities influence social interaction.
- Management and maintenance of in-between spaces: Investigate the impact of factors like access, cleanliness, and activities hosted in these spaces on neighborly interaction.
- ❖ Explore the potential interplay of factors:

The study found no direct correlation between spatial features and sociability. Recommend investigating:

- Indirect or mediating effects: Explore if spatial features might influence other factors like sense of community, safety, or trust, which then impact social interactions.
- Moderating effects: Investigate if the relationship between spatial features and social interaction is influenced by other factors like residents' ages, family structures, or cultural backgrounds.

PERSPECTIVES

- **Adapting existing neighborhoods:** Explore how principles of co-living can be applied to existing neighborhoods,
- **learning from successful examples :** See if there are examples showcase how various strategies can be implemented to cultivate strong social connections within neighborhoods.
- **Replicating the study:** Conduct similar research in different communities with diverse demographics, cultural contexts, and spatial configurations.
- **Comparative analysis:** Compare findings from different studies to identify potential universal or context-specific factors influencing neighborly behavior.
- **Investigate the study with Other methods**

GENERAL CONCLUSION

General conclusion

General conclusion

Architecture has historically been used to reflect the art and culture of all civilizations that have inhabited on the entire globe. Which have indeed been capable of recognizing and reflect themselves and their beliefs via architecture, which is crucial in guaranteeing that space will be used efficiently and effectively, therefore meeting the requirements of society.

Although architects' products have a significant impact in the growth and advancement of a civilization, there are certainly adverse repercussions that arise as a result of their designs. In MacEwen's words, architecture is a social art, where successful practice is totally dependent on the active participation of non-architects .

Considering that architecture is an intervention in the existing socio-spatial conditions of a given place, Existing social ties can be reproduced, strengthened or reshaped by the intervention. At the same time," the influence is not one-way because architecture and society influence one other".

“Spatial configuration can be defined as a progressive process which connects the built environment and the human’s spatial experience and Behavior : how it constitutes itself and relates with human.”; While the social space constitutes the physical framework of the various interactions which take place there and that of the act of living.

Collectif housing is distinguished by the in-between spaces; those structures, around which the study subject is focused, correlate to a wide range of uses and behaviors, some of which are explosive. examining them in order to derive the impact of the spatial organization on the neighbors’ relationships and sociability is the primary priority, Furthermore to verify whether it's due to the community life skills that there is a lack of sociability amongst neighbors.

In islamic cities populated by more or less homogeneous social groups ; the neighborhood served as a social unit in general. Each neighborhood with collective services was a fundamental social cell of the city, a place of solidarity and mutual defense, the traditional city was originally founded on the basis of tribal and nomadic values. The Arab-Muslim cities were a structured, hierarchical networked entity conceived on the basis of alleys and dead ends, in which C.NOBERG.SHULZ sees the establishment of apparently irregular urban spaces but in fact organized in accordance with the schemes of Islamic civilization.

The Algerian families have been socially destroyed by the unbalanced colonial development

General conclusion

The in-between spaces proposed in these new neighborhoods were not convenient for the autochthonous population because they were designed for the French population with the same way of life and conditions of occupation of the spaces. And from here derived the first hypothesis with the idea that Designing social spaces in collective housing projects remains a real component, as long as it incorporates the quality of life, vital space, cleanliness, and security, enabling the development of a solidary culture, knowledge exchange, and a fight against individualism and isolation.

From the 1950s onwards, the French authorities implemented a process of adaptation of the family to a new type of housing, where the in-between spaces were not subject to any development to the present day.

The genesis of the notion in the long-term initially corresponds to the gradual transition from traditional society (with its forms of village or family communities in addition to the practices of public space) to modern industrial society (rise of family life folded back on the couple and of individualism).

In between Spaces would then possess characteristics of both realities (interior and exterior). A built space, on a human scale, with clearly established and controllable physical boundaries, It is understood here as that which is neither completely private nor completely public; The relationship between these two spheres guarantees the inhabitants a certain privacy and the possibility to interact with their environment.

Day after day. in-between spaces link spaces with varying purposes and, in most situations, function as a transition between public and private space. The problem of in-between spaces in which neighborhood relations occur has been constant for a long time now, from the Haussmannian island to the type of collective housing that is being produced in the Algerian space.

International Congress of Modern Architecture (CIAM) have documented the history of the concept of in-between space since its inception in the nineteenth century, following the questioning of housing, hygiene, and morality.

According to C. Moley, the roots of the issue of in-between spaces may be found in three dialectical themes in urban collective housing design: establishing a link between the city and housing, adjusting for the disappearance of the house, and trying to define a residential unit.

General conclusion

It is now evident why this "vision" of Algerian housing projects hadn't come to expectations: the priority placed on complementary spaces to housing may ensure healthy social connections and an improvement of living standards of life in residential areas.

The individual only exists through the social group of which he or she is an integral part and from which he or she is inseparable, a social group which is often more of a community than a society in the modern sense of the term or which remains a holistic society.

Sociological investigations by several researchers have revealed a range of discomforts associated with housing, such the deterioration of social ties, the dominion of anonymity, isolation, and insecurity among its residents.

The reality of bonding in today's cities is characterized by the loss of social relationships between family members and society at large: It can be expressed by the weak relations between the inhabitants of the city in general, and between the neighbors in particular, and this is the most striking scene that can be seen by any observer of social phenomena in any civil society; Housing provides a rich foundation for the fulfillment of social needs. Designing for a large number of people means preparing for fulfilling and memorable and healthy neighborly relationships;

The residents find themselves in a common usage space, each with their own background, their own way of perceiving, reacting, and living, attempting to appropriate a single place with a different configuration from the old one. The neighborhood is in this sense an opportunity for the tightening of social relationships that provides a way to communicate daily concerns". Which lead us to the second hypothesis suggesting that an absence of sociability, awareness of sharing life skills is at the root of all current issues between neighbors in Batna collective housing projects; concerning the passive appropriation of in-between spaces within the framework of collective living.

The objectives of this study if the spatial organization of the in-between space influences friendliness and neighbor interactions; would be to show a systematic procedure for the creation of user-friendly in-between areas; The search for a new spatial form that represents a socio-cultural framework that is acceptable for modern purposes and behaviors; Improving community life through inhabitant in-between space.

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Appendices

Appendix 1

Enquête sur les espaces partagés et leurs impacts sur la sociabilité

Université Batna 1 Département d'Architecture et

Bonjour, Madame, Monsieur, Je suis Touba Benterki une doctorante en architecture, nous effectuons une étude auprès des habitants de la cité 1000 logements Bouzourane /Batna. Nous vous demandons de bien vouloir répondre aux quelques questions suivantes.

Nous vous remercions vivement de votre participation

- Identification de logement

1. Bloc n°

2. Appartement n°

3. À quel étage habitez-vous ?

1. RDC 2. R+1 3. R+2 4. R+3 5. R+4
 6. R+5 7. R+6 8. R+7 9. R+8 10. R+9

4. Quel type de logement occupez-vous ?

1. F2 2. F3 3. F4 4. F5

5. Quel est votre statut d'occupation de la maison ?

1. Propriétaire 2. Locataire

6. la date d'occupation de logement

- Identification de l'habitant

7. quel est votre genre ?

1. Masculin 2. Féminin

8. quel est le genre dominant au sein de votre logement ?

1. Masculin 2. Féminin

9. Quel est votre age ?

1. 20-30 2. 30-40 3. 40-50
 4. 50-60 5. +60 ans

10. Situation familiale

1. Célibataire 2. marié avec enfants
 3. Marié sans enfants 4. Veuf
 5. Autre

11. Si 'Autre', précisez :

12. Votre niveau d'instruction

1. Aucun 2. Primaire 3. Moyen
 4. Secondaire 5. Universitaire

13. Quelle catégorie socioprofessionnelle occupe le chef de famille ?

1. Fonctionnaire 2. fonction libre 3. retraité
 4. sans travail 5. autres

14. Si 'autres', précisez :

15. Quel est votre position sociale ?

1. basse 2. Aisée 3. haute

- Proportion de rencontre

16. Entretenez-vous des relations avec vos voisins de bâtiment ?

1. Oui 2. Non

17. Par rapport à vos voisins de bâtiment est-ce-que vous les connaissez

1. Tous 2. La plupart 3. Environ la moitié
 4. Quelques uns 5. personne

18. Considérez vous votre relation avec vos voisins

1. Faible 2. Moyenne 3. Forte

19. Quand vous vous croisez, saluez-vous votre voisin ?

1. Oui 2. Non

20. Vos relations avec vos voisins sont-elles

1. inexistantes 2. conflictuelles 3. Amicales
 4. de courtoises 5. d'entraide 6. Autres

21. Si 'Autres', précisez :

22. avez-vous des amis parmi vos voisins de bâtiment ?

1. Oui 2. Non

23. Si oui, Combien de voisins du bâtiment considérez-vous comme amis ?

1. 1 2. 2 3. 3 4. 4
 5. 5 6. 6 7. 7 8. 8
 9. 9 10. 10 11. +10

La question n'est pertinente que si voisin/ami = "Oui"

24. Vos rencontres occasionnels avec vos voisins, sont elles

1. 1 fois/jour 2. 1 fois/semaine 3. 1 fois/mois

Appendices

Jours et horaires de rencontres

	1	2	3	4	5	6	7
25. matinée	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. 12h-14h	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Après-midi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. 18h-21h	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dimanche (1), Lundi (2), Mardi (3), Mercredi (4), Jeudi (5), Vendredi (6), Samedi (7).

29. Ou vous rencontrez vos voisins ?

- 1. À l'entrée de l'immeuble
- 2. aux escaliers
- 3. au palier de repos
- 4. devant les portes des logements
- 5. dehors
- 6. autres

30. Si 'autres', précisez :

31. Partager -vous vos talents et intérêts avec votre voisin de palier ?

- 1. Oui 2. Non

32. quele type d'intérêts

- 1. Plats faits maison
- 2. Plantes médicinales et huiles essentielles
- 3. Nettoyer le bâtiment
- 4. Sortir ensemble
- 5. Enseigner les enfants
- 6. prêts
- 7. aides(mariage/ décès)
- 8. autres

La question n'est pertinente que si Partage des intérêts = "Oui"

33. Si 'autres', précisez :

- pratiques et usages de l'espace intermédiaire

34. les parties communes dans le bâtiment(L'entrée du bâtiment/le hall de l'entrée/les escaliers/l'ascenseur/près de L'entrée de votre logement/la terrasse/la cave) sont-ils utilisés seulement par les voisins ?

- 1. Oui 2. Non

35. Si non, qui autre peut les utiliser?

- 1. voisins de la cité 2. étrangers
- 3. femmes de ménage 4. vagabonds
- 5. autres

La question n'est pertinente que si l'usage des parties communes = "Non"

36. Si 'autres', précisez :

37. Ya-t-il des transformations faites au niveau des espaces intermédiaires ?

- 1. Oui 2. Non

38. si oui, lesquelles ?1

La question n'est pertinente que si transformations = "Oui"

39. Ya-t-il des pratiques faites dans les espaces intermédiaires internes (l'entrée de l'immeuble/ le hall/ les escaliers/ l'ascenseur/ les paliers de repos/ les terrasses)?

- 1. Oui 2. Non

40. quelles pratiques ?

- 1. Fête 2. funérailles
- 3. l'aïd 4. Séchage du linge
- 5. rangement des objets

La question n'est pertinente que si pratiques = "Oui"

41. Y'a-t-il d'autres pratiques que vous voulez faire et que l'organisation spatiale vous empêche ?

- 1. Oui 2. Non

42. Si oui, lesquelles

La question n'est pertinente que si autres pratiques = "Oui"

Comment évaluez-vous la fréquence de jeu de vos enfants dans chaque espace

	1	2	3	4	5
43. à la maison	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. au palier de repos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. aux escaliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. près de l'entrée du bâtiment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. près de la porte du logement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Jamais (1), Rarement (2), Occasionnellement (3), Assez souvent (4), Très souvent (5).

48. Vos voisins stockent-ils leurs anciens meubles, échelles, cartons, vélos... dans les parties communes internes (escaliers/ paliers de repos/ les terrasses/ l'entrée de l'immeuble/ près de leurs portes) ?

- 1. Oui 2. Non

49. Sont-ils des objets qui gênent le passage ?

- 1. Oui 2. Non

50. Comment réagir face à cette situation?

51. Lorsque vous êtes à l'intérieur de votre domicile, vous arrive-t-il de sentir la fumée de tabac provenant de logements voisins?

- 1. Oui 2. Non

52. Vos voisins vous gênent lors de l'utilisation de leurs terrasses, balcons ?

- 1. Oui 2. Non

Appendices

53. quel type de gêne?

- 1. La fumée du barbecue
- 2. Le séchage des vêtements
- 3. Jeter de cigarette
- 4. Mettre la musique à fond
- 5. Secouer et étendre les tapis
- 6. autres

La question n'est pertinente que si l'utilisation des terrasses et balcons = "Oui"

54. Si 'autres', précisez :

55. Vos voisins respectent-ils la propreté de l'espace commun ?

- 1. Oui
- 2. Non

56. Si non, D'après vous, Pourquoi ?

La question n'est pertinente que si propreté de l'espace commun = "Non"

57. avez-vous déjà été en situation de trouble de voisinage ?

- 1. Oui
- 2. Non

58. Comment vous avez réagi?

- 1. Informer le voisin qui l'a causé
- 2. Appeler la police
- 3. Parler avec les voisins pour trouver une solution
- 4. autres

La question n'est pertinente que si situation de trouble de voisinage = "Oui"

59. Si 'autres', précisez :

60. Pensez-vous qu'il est autorisé de transformer les parties communes internes en parties privatives ?

- 1. Oui
- 2. Non

61. Avez-vous déjà les transformer ?

- 1. Oui
- 2. Non

- Savoir vivre en communauté

62. Y'a-t-il un règlement intérieur qui fixe les droits et les obligations pour la cité ?

- 1. Oui
- 2. Non

63. est-il respecté par les habitants ?

- 1. Oui
- 2. Non

64. concernant les travaux relatifs aux parties communes, qui est le responsable ?

65. Quelles sont les démarches en cas de travaux urgents ?

66. Avez-vous été aidé par un voisin durant le confinement ?

- 1. Oui
- 2. Non

67. Si oui, en quoi vous a-t-il aidé?

La question n'est pertinente que si aidé durant le confinement = "Oui"

68. Etes-vous satisfait du respect de votre intimité ?

- 1. Pas du tout satisfait
- 2. Plutôt pas satisfait
- 3. satisfait
- 4. Plutôt satisfait
- 5. Tout à fait satisfait

69. Si vous remarquez des gens suspects ou un mouvement anormal dans votre espace extérieur, vous sentez-vous concerné ?

- 1. Oui
- 2. Non

70. vous vous-sentez

- 1. Pas du tout concerné
- 2. Pas concerné
- 3. Indifférent
- 4. Concerné
- 5. Très concerné

71. Lorsque vous êtes absent de chez-vous, vous faites confiance à vos voisins pour la sécurité du logement

- 1. Pas d'accord du tout
- 2. Plutôt pas d'accord
- 3. d'accord
- 4. Plutôt d'accord
- 5. Tout à fait d'accord

72. Souhaiteriez-vous changer certaines choses dans votre voisinage ?

- 1. Oui
- 2. Non

73. Si oui; Qu'est-ce qui pourrait être changé dans votre zone de voisinage?

La question n'est pertinente que si changement = "Oui"

- La conscience commune

74. Participez-vous aux activités d'entretien, de propreté ou de décoration dans votre immeuble ?

- 1. Oui
- 2. Non

75. si non, Pourquoi ?

La question n'est pertinente que si Participation aux activités d'entretien = "Non"

Appendices

76. Quels sont les problèmes dont souffre votre immeuble?

1. Problèmes de l'eau
 2. problème de bruit
 3. la propreté
 4. le vandalisme associé aux enfants
 5. autres

77. Si 'autres', précisez :

78. Quand il y a des problèmes avec les voisins, à qui vous adressez vous?

1. OPGI 2. police 3. responsable du quartier

79. Les querelles de voisinage dans la cité s'occurrent

1. Jamais 2. Rarement
 3. Occasionnellement 4. Assez souvent
 5. Très souvent

80. Le taux de vol dans votre batiments

1. Jamais 2. Rarement
 3. Occasionnellement 4. Assez souvent
 5. Très souvent

81. Que pensez-vous du degré de sécurité dans votre bâtiment

1. Fort 2. Moyenne 3. faible

Comment évaluez-vous les éléments suivants

	1	2	3	4	5	6
82. L'entrée du bâtiment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
83. Le hall d'entrée	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
84. Les escaliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
85. L'éclairage de la cage d'escalier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
86. La propreté du bâtiment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Pas du tout satisfait (1), Plutôt pas satisfait (2), satisfait (3), satisfait_ (4), Plutôt satisfait (5), Tout à fait satisfait (6).

- La perception de l'espace intermédiaire

87. Que représente l'espace intermédiaire ?

1. Espace de transition
 2. espace sombre insécurisé
 3. espace de rangement
 4. espace de rencontre
 5. Espace de jeux
 6. espace générateur de conflit
 7. autre

88. Si 'autre', précisez :

Comment trouvez-vous le statut des espaces suivants

	1	2	3
89. L'entrée de votre immeuble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
90. les escaliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
91. le hall d'entrée	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
92. le palier de repos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
93. la terrasse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

privé (1), semi-privé (2), public (3).

94. Comment trouvez-vous l'usage de L'espace intermédiaire interne de votre bâtiment?

1. Très dense 2. Dense
 3. Peu dense 4. Pas dense
 5. Pas du tout dense

95. Quel est le principal type de matériau qui recouvre le bâtiment?

96. Quelle est la couleur des matériaux qui recouvrent l'intérieur du bâtiment?

- L'appartenance et la sécurité

97. Dans quelle mesure le sentiment d'appartenance à la communauté est-il fort dans votre immeuble ?

1. Extrêmement fort 2. assez fort
 3. Fort 4. Faible
 5. Extrêmement faible

98. Y a-t-il des espaces non sécurisés dans votre batiment ?

1. Oui 2. Non

99. Si oui; Quel espace jugez-vous le moins sécurisé ?

1. L'entrée d'immeuble 2. les escaliers
 3. le hall de l'entrée 4. la palier de repos
 5. la terrasse

La question n'est pertinente que si des espaces non sécurisés = "Oui"

100. à quel moment de la journée s'augmente la sensation d'insécurité?

1. Le jour (7h-19h) 2. La nuit (19h-7h)

Appendices

101. A partir de quel espace vous sentez-vous chez-vous ?

- 1. L'entrée de la cité
- 2. L'espace extérieur de la cité
- 3. L'entrée d'immeuble
- 4. le hall de l'entrée
- 5. les escaliers
- 6. L'entrée de votre logement
- 7. autres

102. Si 'autres', précisez :

103. Êtes-vous satisfait au sein de votre cité ?

- 1. Oui
- 2. Non

104. Qu'est ce qui vous ennuie?

- 1. Le voisinage
- 2. l'organisation spatiale de l'espace intermédiaire

A quel degré vous ennuie votre bâtiment?

	1	2	3	4	5
105. Voisinage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
106. Manque d'éclairage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
107. Bruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
108. Saleté	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
109. Regroupement des jeunes au pied d'immeuble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
110. Manque de sécurité	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
111. harcèlements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Extrêmement ennuyeuse (1), Très ennuyeuse (2), ennuyeuse (3), moins ennuyeuse (4), non ennuyeuse (5).

112. Comment qualifiez-vous la nature des relations sociales dans votre bâtiment?

- 1. Isolement, réduites
- 2. solidarité
- 3. conviviales
- 4. le vivre ensemble
- 5. une vie communautaire
- 6. conflit

Vous pouvez cocher plusieurs cases (5 au maximum).

3. INDICATIONS SPATIALES

120. Est-ce que les espaces intermédiaires dans votre bâtiment présentent des menaces pour la sécurité et la sensation de chez-moi?

- 1. Oui
- 2. Non

121. si oui, lesquelles ?

- 1. Des marches cassées
- 2. Des marches encombrées d'objets
- 3. Des surfaces endommagées
- 4. Des escaliers difficiles d'accès (se pencher pour monter ou descendre)
- 5. manque d'éclairage
- 6. porte ouvert à tous
- 7. autres

La question n'est pertinente que si Les menaces = "Oui"

122. Si 'autres', précisez :

113. avez-vous déjà remarqué des actions inappropriées dans l'espace intermédiaire interne ?

- 1. Oui
- 2. Non

114. Si oui, Lesquelles ?

- 1. Les problèmes causés par des gens bruyants
- 2. La consommation d'alcool
- 3. La vente ou à la consommation de drogue
- 4. La criminalité
- 5. Les actes de vandalisme
- 6. Les graffitis

La question n'est pertinente que si des actions inappropriées = "Oui"

115. Au cours des dernières années, avez-vous été victimes d'un crime dans votre bâtiment?

- 1. Oui
- 2. Non

116. Si oui; lesquelles ?

- 1. Vol
- 2. vandalisme
- 3. agression
- 4. intimidation
- 5. harcèlement sexuel

La question n'est pertinente que si crimes dans votre bâtiment = "Oui"

117. -Quels sont les besoins qui ne sont pas satisfaits dans votre bâtiment?

118. Avez-vous l'intention de déménager ?

- 1. Oui
- 2. Non

119. si non, pourquoi ?

- 1. Manque d'argent
- 2. attaché au quartier
- 3. attaché aux voisins
- 4. y a pas mieux

La question n'est pertinente que si Avez-vous l'intention de déménager ? = "Non"

123. Y a-t-il des défauts de conception des espaces intermédiaires dans votre bâtiment?

- 1. Oui
- 2. Non

124. si oui; lesquelles ?

125. Si vous aurez l'opportunité de participer au changement de l'espace intermédiaire interne pour que vous puissiez sentir chez vous, vous changerez quoi?

126. -la distance entre le mur et le garde corps ; est-elle suffisante pour passer sans être gênés?

- 1. Oui
- 2. Non

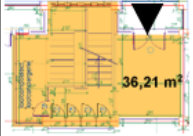
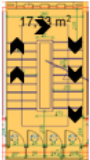
Appendices

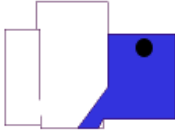

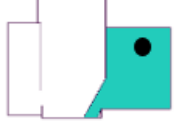



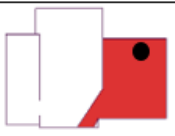

Appendix 2

1. 1000 housing unit /Batna

The generator point chosen is the main entry of the block (●)

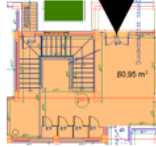
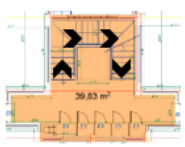
Bloc A







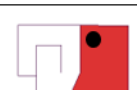

Type bar	Bloc A	GROUND FLOOR	Current floor
			

Degré de l'isovist	étage	RDC	E tage courant
Isovist 90°			
Isovist 120°			
Isovist 180°			
Isovist 360°			

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Bloc B





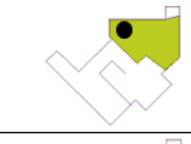



Type bar	Bloc B	GROUND FLOOR	Current floor
			

	floor	GROUND FLOOR	Current floor
Isovist degree			
Isovist 90°			
Isovist 120°			
Isovist 180°			
Isovist 360°			

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Bloc C









Type Angle	Bloc C	GROUND FLOOR	Current floor
			

Isovist degree	floor	GROUND FLOOR	Current floor
Isovist 90°			
Isovist 120°			
Isovist 180°			
Isovist 360°			

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Bloc D



Type Angle	Bloc D	GROUND FLOOR	Current floor
			









floor	GROUND FLOOR	Current floor
Isovist degree Isovist 90°		
Isovist 120°		
Isovist 180°		
Isovist 360°		

Appendices

2. 800 housing unit /Batna

Bloc E

Type barre	Bloc E	GROUND FLOOR	Current floor
			

	Floor	GROUND FLOOR	Current floor
Isovist degree			
Isovist 90°			
Isovist 120°			
Isovist 180°			
Isovist 360°			

ملخص

لطالما تربع تحسين رفاهية الأفراد على رأس هرم الأولويات في البحث العلمي، ولقد شكلت مسألة الإسكان مصدر قلق كبير للمجتمع وأفراده عبر مراحل تطوره، حيث تتأثر جودة الحياة بنوعية العلاقات الاجتماعية والبشرية التي يمكن وينبغي خلقها، وكذا المساهمات الفردية لكل مستخدم، وإذ يُعد العيش بحرية في محل الإقامة والمشاركة في الحياة الاجتماعية مطلبين رئيسيين للمستخدمين، يظهر جلياً في الأونة الأخيرة أن السكان قد يجدون صعوبة في بناء روابط صحية مع جيرانهم، وتفاعلات دائمة قوية. أدى ذلك لظهور اهتمام متزايد بالعلاقات الاجتماعية في السنوات الأخيرة، حيث قُلت الدراسات التي تبحث بالتحديد في التأثير الفعلي للفضاءات البيئية على تلك العلاقات، كما لم يُكتب سوى القليل عن مواضيع مماثلة في الشأن ذاته، ولا تزال هناك العديد من الأسئلة التي لم يتم الإجابة عليها بهذا الخصوص.

فباتت الفضاءات البيئية تُثير تساؤلات مُلحة في مختلف المجالات، شأنها شأن العمران والهندسة المعمارية وعلم الاجتماع، مما يعكس حضورها القوي في ذاكرة أفراد المجتمع، حيث تكمن الإشكالية الجوهرية في فهم أسباب التناقض الواضح في استخدام هذه الفضاءات، خاصةً في سياق السكن الجماعي حيث تطرح الدراسة أسئلة هامةً تهدف إلى تحليل تأثير خصائص تصميم هذه الفضاءات على سلوك المستخدم وذلك بهدف تحديد مدى تأثيرها على رفاهية الأفراد على المستويين الاجتماعي والمكاني.

يستكشف هذا البحث العلاقة المُتبادلة بين الفضاء والمجتمع، مُركزاً على تأثير تصميم المساحات الفاصلة الداخلية على علاقات الجيران. ويُقدم لمحة شاملة عن التحقيقات النظرية حول مفهوم الإسكان خاصةً الجماعي، مع تحليل نقدي لمفهوم الفضاء الفاصل في الوحدات السكنية وتأثيرها على التماسك الاجتماعي.

وتستعرض الدراسة نتائج تحليل دراسة حالتين شملتا 800 و1000 وحدة سكنية في مدينة باتنة بالجزائر، مُتبعاً أبعاداً مُتعددة، وقد تمّ استخدام طرق عديدة في البحث، شملت التحقيق الميداني والتحليل النمط-مرفولوجي والتحليل البصري، لفهم العوامل الحاسمة التي تُرتبط بنزاعات الجيران داخل المجمعات السكنية وتعززه. وقد اتاحت البيانات الميدانية فحصاً دقيقاً للحوافز الكامنة وراء سلوكيات الأفراد الفردية وتفضيلهم للعيش المُستقل داخل بيئة جماعية.

الكلمات المفتاحية: السكن الجماعي، الفضاء البيئي، نزاع الاستخدام، التواصل الاجتماعي الرفاهية، باتنة.

Abstract

Enhancing individual well-being has long been a top priority in scientific research, and housing has been a major concern for society and its members throughout its development stages. Quality of life is affected by the type of social and human relationships that can and should be created, as well as the individual contributions of each user. While living freely in one's residence and participating in social life are two main user requirements, it has become increasingly apparent that residents may find it difficult to build healthy relationships with their neighbors and maintain strong, ongoing interactions. This has led to a growing interest in social relations in recent years, as studies specifically examining the actual impact of interstitial spaces on these relations have been scarce, and little has been written on similar topics in this regard, with many unanswered questions.

In-between spaces have become a pressing issue in various fields, including urban planning, architecture, and sociology, reflecting their strong presence in the collective memory of society. The core problem lies in understanding the reasons for the clear contradiction in the use of these spaces, especially in the context of collective housing. This study raises important questions aimed at analyzing the impact of the design characteristics of these spaces on user behavior in order to determine the extent to which they affect individual well-being at both the social and spatial levels.

This research explores the reciprocal relationship between space and society, focusing on the impact of the design of internal In-between spaces on neighbor relations. It provides a comprehensive overview of theoretical investigations into the concept of housing, particularly collective housing, with a critical analysis of the concept of In-between space in housing units and its impact on social cohesion.

The study presents the results of a case study analysis of two housing complexes comprising 800 and 1000 housing units in the city of Batna, Algeria, using a multi-dimensional approach. Multiple research methods were employed, including field research, typo-morphological analysis, and Isovist analysis, to understand the critical factors associated with and reinforcing neighbor disputes within housing complexes. The field data allowed for a close examination of the underlying motivations behind individual behaviors and their preference for independent living within a collective environment.

Key words : Collective housing ; In-between space ; Usage conflict ; sociability ; Well-being; Batna.