III.Boundaries

1. Crossing boundaries

i. Between the edges: urbanity

"*Territorial boundaries are established by acts*"[1], argues N.J. Habraken. These acts refer to changes of accessibility: allowing or denying entrance or exit to or from a certain area. In previous chapters, some of the existing mechanisms of defining territorial boundaries were already mentioned: the very position of buildings on a lot (as a part of small-scale spacing mechanisms), the presence of walls, fences, hedges or other kind of greenery, the use of topographical changes, sets of multiple large distances to create a long territorial transition, applying signs, graphical indications or surveillance technology can define territorial boundaries. This mostly happens on a physical level, besides the construction of cognitive territorial boundaries, sometimes even invisible divisions within a certain area.

Figure III.1: West 10th street, Manhattan, New York City (USA): different territorial boundaries in two identical mansions: different configurations (doorsteps at the right mansion without fences, the left mansion with additional fence).

B. Hillier mentions the **complexity** of the concept of boundaries. According to him, logical distinctions made by drawing boundaries are also sociological distinctions, in that the distinction is made by a social being, whose power to make this distinction becomes recognised not only in the physical making of the boundary and the creation of the protected space but also in the logical consequences that arise from that distinction. "*The drawing of a boundary establishes not only a physical separateness, but also the social separateness of a domain, the protected space, identified with an individual or collectivity which creates and claims special rights in that domain. (...) social relations are engaged by bodily transformations*"[2]
Besides references to personal space boundaries or other more personal conditions of boundaries, Milos Bobic[3] pronounces a similar socio-territorial discourse. He starts with the argument that urban design is a "*no-conflict doctrine*": for that reason, people prefer defining boundaries in a clear way, to avoid territorial conflicts. As N.J. Habraken mentioned before, horizontal territorial relationships are unstable and seek to escape this condition. Besides acknowledging this basic need to define a proper territory, M. Bobic links a set of territorial boundaries with the concept of **urbanity**. The condition of urbanity would depend on the amount of exchange and boundary crossings between public and private areas. He quotes François Barré's vision on urbanity of the 1980s to explain this idea: "*Urbanity: encompasses both urban*

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1 N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p. 126

2 B. Hillier, "Space is the Machine", Cambridge University Press, Cambridge, 1996, p 23-24

3 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004

savoir-faire and urban savoir-vivre"[4] He mentions that this older interpretation intentionally referred to the duality of the original and subsequent meanings of the phenomenon, its historical roots and contemporary significance. However, he wishes to define the essence of this concept in a more practical way: urban planners seem to think that high concentration and clustering of metropolitan functions have the greatest impact at the development of urbanity. As a consequence, mentions M. Bobic, this condition is highly related to the economically privileged. Indeed, as Eduard Soja[5] argues, urbanity depends on a particular balance or coherence of a social structure: spatiality enables us to discover our sociality and historicity.

According to M. Bobic, urbanity is related to urban complexity, a "*conglomeration of differences*"[6]. He continues saying that urbanity, seen as a **public-private exchange medium**, improves vitality of the city, reduces commuting distances and even attracts new employment opportunities. Different agents define different types of urbanity, as no single form of urbanity belongs to one city. As N.J. Habraken mentioned, contemporary landscape is the result of processes of genesis and constant transformation, a continuous negotiation process, a dialogue between its inhabitants. M. Bobic even adds: "*In contemporary developments, where segregation and division are dominant characteristics, no social relationships can exist.*" Undoubtedly, Melvin Webber or Rem Koolhaas would disagree as they believe in less physical or geographical dependent social networks.

To stress his point, M. Bobic quotes Amos Rapoport: "*Whenever elements of the built environment are sharply divided (physically, visually or mentally), complex relationships among spaces, activities and people on the scale of community cannot occur*" [7] These references, besides associating the "between-the-edges"-condition with urbanity and defining it as its main *raison-d'être*, also proclaim the appearance of less sharply defined boundaries as an urban recipe for success. The spatial dogmatisation of this rule, however and the issue of how to define a set of territorial boundaries should be questioned and studied with more detail.

Figure III.2: Territorial boundaries and spacing mechanisms, Vallcarca, Barcelona, 2001
(picture by Pau Guerrero, part of lecture "Shortcuts" by Jorge Perea and Pau Guerrero, for Shelter Project, Gent, Belgium, 2001-2002)

"*Urbanity can never become institutional, designed. It is a question of freedom and interrelations, dependent on spatial changeability and social congruency of a community*"[8], argues M. Bobic. The city can be seen as a *tableau vivant,* a *"palimpsest",* as André Corboz[9] mentioned before. M. Bobic agrees: "*spatial morphology reflects spatial patterns and their socio-political structure*". The difference between domains, or territories as N.J. Habraken would call them, is synonym for the difference between what is under our control and our desire to control. The author mentions that every owner has tis own perception of his territorial

4 F. Barré, "The Desire for Urbanity", Architectural Design, nº 11/12, London, 1980, p 5-7

5 E. Soja, "Third Space, Journey to Los Angeles and other Real-and Imagined Places", Blackwell, Oxford, 1996

6 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 37-38

7 A. Rapoport, "The Meaning of Built Environment", The University of Arizona, Tucson, 1990

8 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 43

9 A. Corboz " Le Territoire Comme Palimpseste et Autres Essais", Paris, Les Editions de L'Imprimeurs, Collection Tranches de Villes, 2001.

needs. M. Bobic mentions the ideas of David Canter in "*The Psychology of Place*" and quotes: "*Depth and form of penetration of one domain into another depends on the character and form of their physical division. If there is no strict physical barrier, people will always extend their own domain by penetrating their neighbouring one. (...) The scale and way of penetration is dependent on the culture in question and on the physical character of the particular city environment (...)*" [10]

ii. Urban interface: relation between open space and building

Bill Hillier[11] defines open space as one urban whole, a continuous spatial system with social structure. The points, lines or (multiple) surfaces where that open space touches a building or a group of buildings can be seen as an urban **interface**. It is the defining limit between inside and outside, with sharp definition of borders or not. According to M. Bobic, this is the surface where public life condensates. However, we should take into account the following aspect: this line of division (or set of multiple lines) between open space and building not necessarily has to coincide with the territorial boundary, that is the division between areas with different accessibility. Not all physical boundaries are territorial boundaries, as mentioned in previous chapters.
The following references describe the case of coinciding characteristics.
Bobic sees **streets and blocks** as the basic elements of the urban system: street alignment as an interface representation. He quotes Amos Rapoport[12] who mentions that indeed the streetscape has spatial, social, cultural and educational values. Many other architects claimed continuous street alignment to be the ingredient that creates spatial and social coherence. Peter and Alison Smithson[13], as prominent representatives of the TeamX movement, defended the streetscape as interface: an element providing identity that is based on association. The TeamX movement, reacting against modern design principles, searched for the relation between form and social needs.

Figure III.3: Nigel Henderson: an interface scenario (originally in P.&A. Smithson, "Urban Structuring", Studio Vista/Reinhold, London 1967)

Some of the results of the Dubrovnik CIAM meeting in 1956 pointed out an important change: as opposed to what modern architects had argued, the street was not dead, but needed to receive more attention from designers and planners. With the presentation of Nigel Henderson's photographs of children playing in streets, a statement was made: the streetscape is a key element for urban exchange, a platform of social cohesion with multiple possibilities for its inhabitants.

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10 D. Canter, "The Psychology of Place", Architectural Press, London, 1977

11 B. Hillier, "Space is the Machine", Cambridge University Press, Cambridge 1996

12 A. Rapoport, "Pedestrians Street Use: Culture and Perception", in Moudon A., (ed), "Public Streets for Public Use", Columbia University Press, New York, 1991, p 80-92

13 P.&A. Smithson, "Urban Structuring", Studio Vista/Reinhold, London 1967

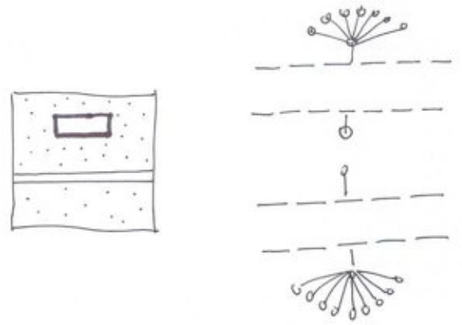

Figure III.4: CIAM principles: territorial scheme

P. & A. Smithson saw the streetscape as a medium of social expression that had to be designed at human scale. The street was seen within a hierarchy of house-street-neighbourhood-city which corresponded with different levels of complexity.
During the last half century different models of streets have been proposed: the preference for small scale, short streets by Donald Appleyard[14] or Gordon Cullen[15], as opposed to the integration value of streets as long sequences as mentioned by Bill Hillier[16]. Others like Jim McCluskey[17] have studied and proposed ideal proportions or thickness for streets in urban projects. M. Bobic mentions that buildings should be designed with the intent of structuring the open space between them: an on-site study of proportions provides ideal model of physical enclosure and defines the appropriate streetscape. According to the site-related spatial, social or culture factors, a set of distances can be designed to fulfil program and social needs. According to M. Bobic, it is a question of **edges** that define relations and/or conflicts. The author mentions four different levels of operation: periphery, between city parts, inside the city and on the scale of the relationship between city block and street. The last category is defined mainly by the indoor/outdoor relationship and by the confrontation between three sub-levels: city, block and house.

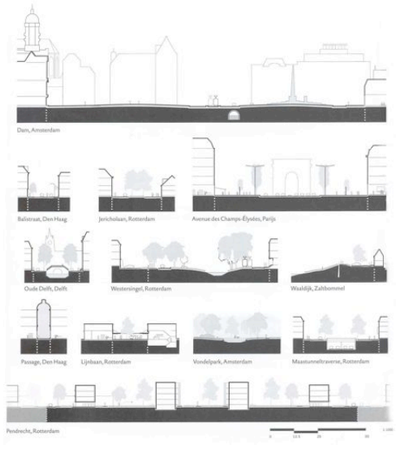

Figure III.5: comparative study of streets by H. Meyer, F. de Josselin de Jong, M.J. Hoekstra
(images from H. Meyer, F. de Josselin de Jong, M.J. Hoekstra, "Het Ontwerp van de Openbare Ruimte. De kern van de Stedenbouw in het Perspectief van de Eenentwintigste Eeuw" SUN, Amsterdam, 2006, p237)

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14 A. Jacobs & D. Appleyard, "Urban Fabric vs Urban Life", 1987, article in T. Legates, F. Stout 'The City Reader", Routledge Publ., London, 1996

15 G. Cullen, "The Concise Townscape" The Architectural Press London, 1961

16 B. Hillier, "Space is the Machine", Cambridge University Press, Cambridge 1996

17 J. McCluskey, "Road, Form and Townscape", Butterworth Architecture, Oxford, 1992

This structural set-up reminds us of the hierarchical levels N.J. Habraken defined within a bigger urban system. On the other hand, this statement is different of previously discussed theories that question the importance of traditional divisions between inside-outside or between public and private spaces.
To further illustrate his ideas, M. Bobic presents a time-space analysis of public space capacity of the Haarlemmerdijk in Amsterdam (Netherlands). He studied the distribution of activities within a mix-used commercial area: the activities were mapped according to their accessibility during the day. In a way, he tries to study morphology within a temporal framework.

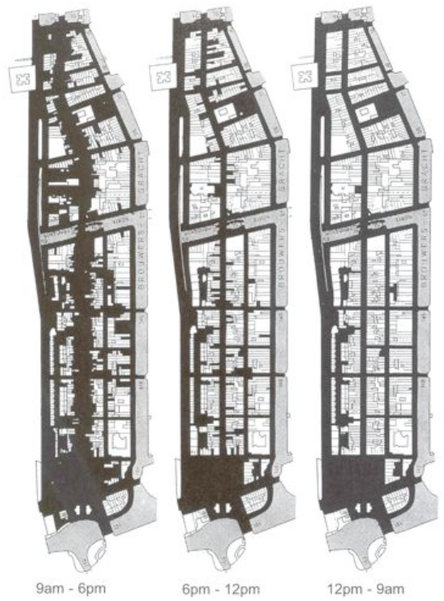

Figure III.6 : Amsterdam, Haarlemmerdijk: activity and accessibility respectively in between 9AM-6PM, 6PM-12PM, 12PM- 9AM
(originally published in M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 55)

The results of this study show that the very use of space, besides the access configuration, can add complexity to the city's morphology: M. Bobic calls this **temporary overlap of activity**.
However, an important note should be made in relation with this study: it searches to define the use of space, that is the configuration of present activities within the streets. Nevertheless, it does not take into account the **level of collectiveness** that is linked with those activities: a bank does not work in the same way as an outlet store that erased blocking boundaries as they want people to come in the most possible way: the reality of the urban project might be more complex as different filter tactics are applied in different territorial scenarios. Therefore this mapping can not be seen as a territorial study but as a spatio-functional study of the site. In other words, a missing element might be the indication of those access-restricting elements or limiting boundaries that rephrase accessibility for all activities. This study considers all shops, bars, facilities and restaurants, within their respective time fringe of opening hours, as 100% accessible, with no restrictions of boundaries. The importance of the different filter tactics is obvious in the discourse of territorial depth configurations.

iii. Streets as transactional spaces

At the end of the 1970's, Stanford Anderson[18] started making systematic analysis of streets. He made various case studies to compare the dimensions, character and functioning of streets to formulate some interesting conclusions. The author sees streets as multiple containers, solving rational problems and offering social interaction possibilities. From canalising many mobility issues to providing sets of communication devices, the streets define the rhythm and identity of the neighbourhood, the city or the region. It is exactly the scale flexibility that the author appreciates: streets can absorb domestic, urban or regional dynamics. S. Anderson mentions as well that the street is part of an ever-changing process, having a status of continuous transformation at the level of the construction, extension of modification of the constituting buildings or the very adaptation of the section, traffic intensity or cosmetics of the street. With his case studies, the author tries to establish some categories, based on accessibility and presents 3 **levels of interaction**: the public sidewalk, the extensions of the public sidewalk and the areas with restricted access. He maps and defines the right hierarchy for each urban device, operating on one or multiple levels. Thinking about a less longitudinal functioning of a street, he presents the concept of the "**transactional space**": the street as an urban system that works in a transversal way by dealing with the adjacent properties and buildings.

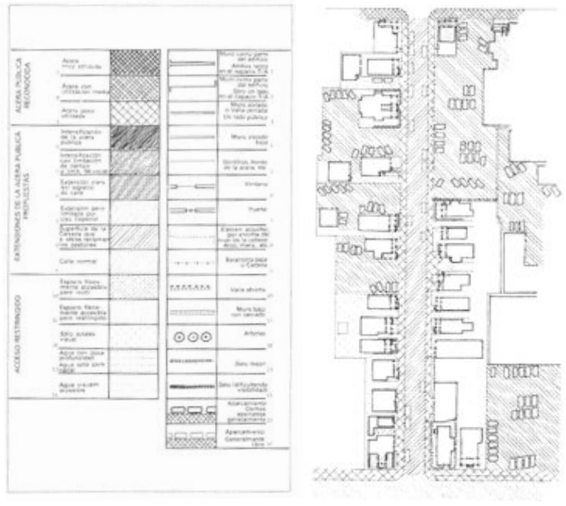

Figure III.7: S. Anderson: streets as transactional space and urban devices on different levels of interaction.
(original image from S.Anderson (ed), "Calles. Problemas de Estructura y Diseño", Gustavo Gili, Barcelona, 1981, p 383)

The author presents various case studies where he defines the different boundaries within the transactional space: he distinguishes the public areas from the private ones. The changing thickness of this boundary is explained as extensions of either one area or the other. According to S. Anderson, the street's functioning depends on a bipolar functioning of space: private versus public realm. Overlap scenarios are denominated extensions and according to the author, have no autonomy within the streetscape. We will question this statement later.

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18 S. Anderson (ed),"People in the Physical Environment: the Urban Ecology of Streets" in On Streets, ed. Stanford Anderson I-II Cambridge MIT Press 1978 or

S. Anderson (ed), "Calles. Problemas de Estructura y Diseño", Gustavo Gili, Barcelona, 1981.

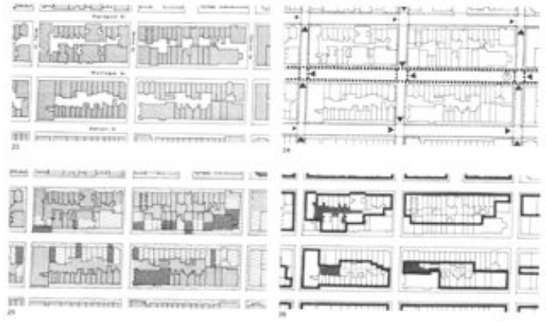

Figure III.8. S. Anderson: case study Brooklyn Heights: private/public distinction.
(original image from S. Anderson (ed), "Calles. Problemas de Estructura y Diseño", G. Gili, Barcelona, 1981, p 172)

Allan B. Jacobs[19] offers an equally ambitious study of streets and their functioning at urban level. The author surveyed street users and design professionals in relation with a wide array of street types and urban spaces around the world. The collection reveals his interest for human and social details that bring streets and communities to life. He discusses the importance of streets in creating communities and criteria for identifying the best functioning streets. The case studies go from medieval streets in Rome and Copenhagen to Venice's Grand Canal, from Parisian boulevards to tree-lined residential streets in American cities. A. Jacobs also looks at several streets that were once very fine but are less successful today, such as Market Street in San Francisco, identifying the factors that figure in their decline. A. Jacobs concludes by summarising the practical design qualities and strategies that have contributed most to the making of great streets.

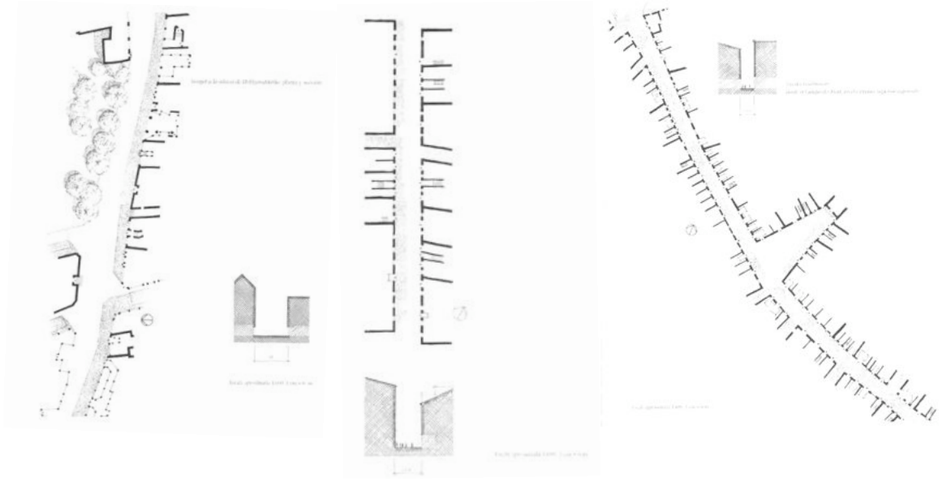

Figure III.9 : Allan B. Jacobs: various examples of "Great Streets"
(original images form Allan B. Jacobs, "Great Streets", M.I.T, 1993, p 42, p 153 and p 35)

The interesting part of this study is the relationship the authors see between the width, length or void dimension of the streetscape and the accessibility to the constituting buildings: interfaces are related to accessibility. The strength and success of streets is measured by the combination of a continuous access distribution at a regular rhythm with the right

19 A. Jacobs, "Great Streets", M.I.T Press, 1993

proportion of open space. Gaps within this access distribution reduce the amount of social control and the well functioning of the space, according to the author.
The discourse on streetscapes as an important morphological and typological boundary delimitation device is clarifying when studying models of proximity, permeability and territorial configurations.

iv. Façades and street alignments as territorial boundaries

Here, we look at some examples of urban theories or projects that define façades as morphological devices with territorial meaning as starting point.
At the end of the 19th century, Camillo Sitte[20] strongly criticised the preference for broad, straight boulevards or public squares that were arranged primarily for the convenience of traffic. He disapproved efforts to strip major public or religious landmarks of adjoining smaller structures regarded as encumbering such monuments. The author proposed to follow what he believed to be the design objectives of those whose streets and buildings shaped medieval cities. He advocated curving or irregular street alignments to provide ever-changing vistas. He pointed out the advantages of "*turbine squares*": civic spaces that were served by streets entering in such a way as to resemble a pin-wheel in plan.
He emphasised on a morphologically **continuous but irregular** definition of **street alignments**: according to his theory, territorial boundaries preferable had to coincide with the limits of a building. By doing this, he reinforced the façade as one of the most important design tools in urban planning.

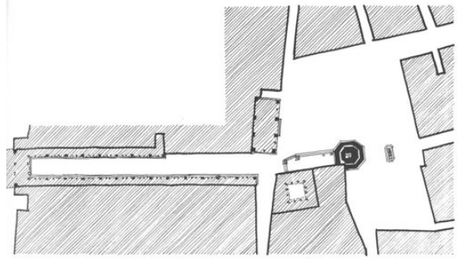

Figure III.10: Piazza San Signoria, Firenze, example of Camillo Sitte's "turbine plan"
(image from website http://www.ndsu.nodak.edu)

However, this theory limited the discourse on interfaces to a purely formal and morphological issue. The desire to reanimate medieval "irregular" street and square patterns dominated design principles. Some of the tactics to simulate organic capillary systems of public spaces, based on variety, revived in the late 20th century New Urbanism tendency.
With "*Townscape*", Gordon Cullen[21] defined his aesthetic approach in the designing of the picturesque urban quarters, enriching the vocabulary of urban designers, always seen as city dwellers. He defended the landscape as a series of related spaces, producing **serial visions**: visual qualities of a view dominate townscapes. His projects were extremely contextual approaches, reacting against visual qualities of modernist developments that represented a significant departure from the qualities of the context in which they were set. For the author, townscape is the art of giving visual coherence and organisation to the design of buildings, streets and spaces to make up the urban environment. The purpose is to take all the elements that go to create the environment and weave them together in such a way that "*drama is released*", defining a new sense of place.

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20 C. Sitte, "City Planning According to Artistic Principles" (orig. 1889), translation by G.R. Collins, C. Crasemann in Phaidon Press, London, 1965, p91-104, 105-112

21 G. Cullen, `Townscape', Penguin Books, New York, 1976

The concern about the quality of townscape has a strong formal background, as Camillo Sitte's previous urban theory, and focuses on a series of tactics of differentiating sequences. In both models, the ideal project defines an irregular complex morphology and uses a systematic vocabulary as a basic tool: the urban project is defined by physical enclosures, gateways, changes of levels, closed vistas, deflections, punctuation, narrowing, fluctuation or projection.
Gordon Cullen's serial vision has only one thing in common with the concept of depth and it is its interest in sequences and movement as a basic ingredient. Too conditioned design tactics as sequence planning, where the result is defined from the beginning by formal guidelines, gives far too narrow outputs and does not address real territorial issues. Access configuration and the successive crossing of boundaries, between areas with more collective use to more individual zones, affect experienced depth within a configuration, more than visual scenography variation. The systematic application of a certain model of interfaces should be studied taking into account not only physical but also territorial issues.

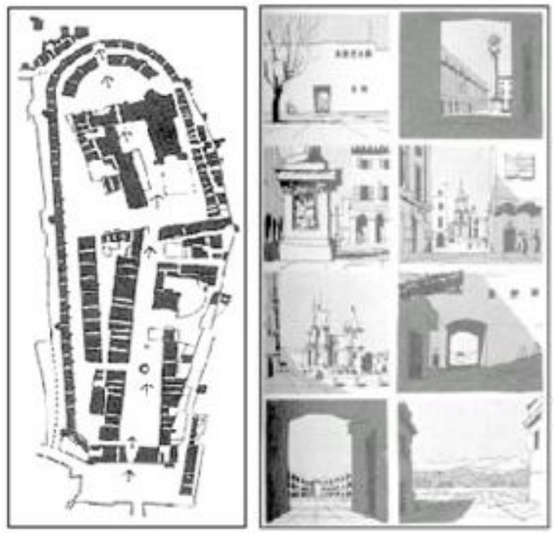

Figure III.11: Gordon Cullen's Serial Vision.
(original in G. Cullen, `Townscape', Penguin Books, New York, 1976)

Another remark should be made: within Townscape Planning, serial vision is only defended when sequences are changing continuously within one line of movement by default, that is when the sequence is long and varied. More regular sequences within configurations are seen as not efficient and without visual interest.
The previous theories took the idea of a continuous street alignment as a basic rule: no gaps were permitted within the planned urban scenography. Jane Jacobs[22] referred to the same strategy and warns for **discontinuous street-wall locations** as they would destabilise patterns of social control. (see later)
Other historic urban interventions prescribed continuous street alignment but, at the contrary, avoided irregular street patterns. In the case of 19th century Paris, long linear vistas, defined by an almost universal regular big scale alignment geometry, were created to transform the city. Above the existing irregular medieval street pattern and lot configuration, another layer was projected to create hug urban boulevards. Existing blocks were partly demolished, façades were reinvented to change the city's appearance and territorial structure. Baron Haussmann's interventions in Paris in 1853 are based the invention of a new interface pattern, representing upcoming new social classes in the 19th century.

22 J. Jacobs, "The Death and Life of Great American Cities" Vintage Books New York 1961

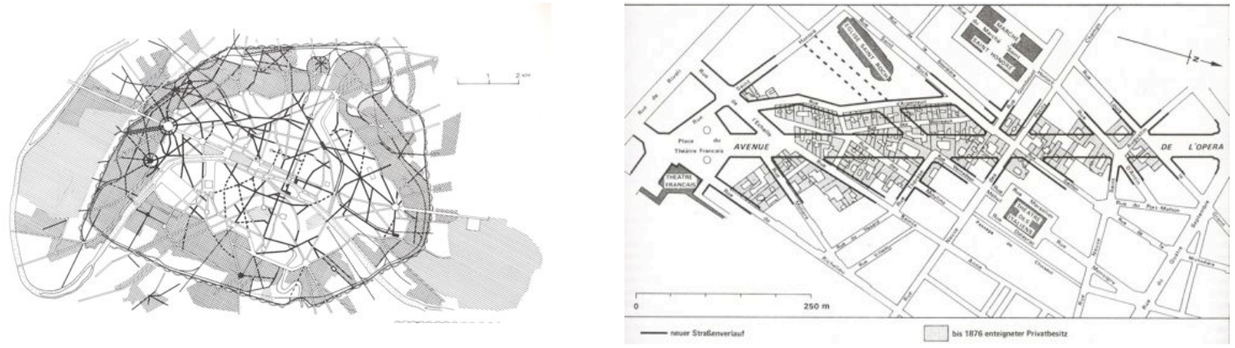

Figure III.12: Baron Haussmann's interventions in Paris, 1853
(original image from L. Benevolo, "Diseño de la Ciudad", Gustavo Gili, Mexico D.F: 1979, p 56 and p 59)

The imposition of the formal façade as interface disregarded the previously existing complex territorial structure of the urban fabric: alleys, passages, arched paths, private courtyards situated behind an irregular street alignment on a second access level, almost all disappeared after the intervention. In most cases, homogeneous flat territorial structures substituted previous models.

v. Street and building position

Trying to leave behind a strictly morphological approach, N.J Habraken lays out a systematic study of the relationship between street and house. "*The mansion standing free in its own estate may offer some visual connection with the public road. But the space between is open land. Even when landscaped, it is not shaped to extend either house or street. The entry gate marks the territory, not the house: the territorial claim is quite separate from the building. Sometimes there is only a post or a stone to indicate the boundary.*"[23]
He emphasises the territorial dimension of the interface: the model of accessibility it defines.

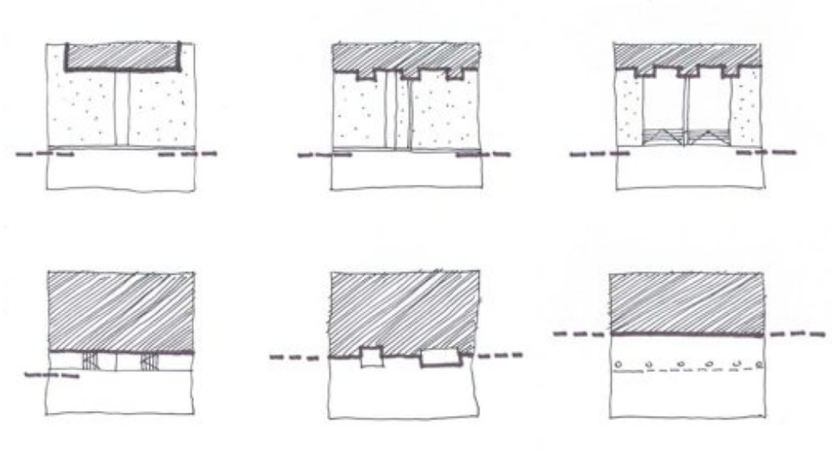

Figure III.13: Relation of territorial boundary with building position (discontinuous thick line indicates territorial boundaries)
(diagram made after fig. 9.2: N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p165)

23 N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p.164

He describes in the first scheme the case of the suburban house and its front yard, where the territorial boundary coincides with the limit of the garden. As a consequence, the distance from the fence to the façade of the house only increases physical depth, not territorial depth. According to the culture, this territorial boundary is physically stressed or not. In the following pictures we can see the appearance of walls, fences or greenery while in other cases, only a pavement changes indicates the division, as it is mostly the case in traditional North-American suburbs.
The diagram below illustrates the relativeness of absolute distance within territorial depth schemes: in both cases physical depth between house and street is similar while territorial depth in the examples is different: access is restricted or denied on a line in a different position. It is the very model of accessibility that defines real proximity, not physical distances that are only a tool within territorial strategies of spacing mechanisms. In these last cases, territorial boundaries do not coincide with façades position.

Figure III.14: Suburbs in Melbourne, Australia

Figure III.15: Suburbs in Miami, Florida, USA.

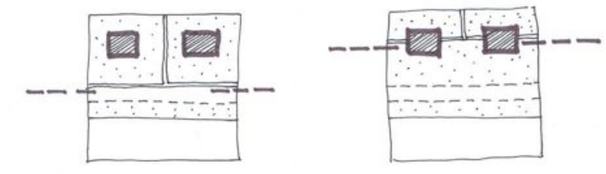

Figure III.16: comparing territorial schemes of suburb example in Melbourne and Miami.

The third scheme of N.J. Habraken's study of relation of territorial boundary and building shows the example of the British "terraced" house with an "area" between sidewalk and building. The territorial boundary coincides in this case with the start point of the "areas". The following diagram refers to the earlier mentioned Dutch canal house, where an intermediate zone is created with stairs to provide access to the split-level set up of the house. The fifth case however shows the scenario of coinciding boundaries: inside/outside limits or the building façade coincide with change of territorial value. The last case refers to Northern Italian arcades, such as those in the city of Bologna (Italy), with the territorial boundary located behind the line of the façade.

vi. Urban interface: territorial boundaries not coinciding with formal façades

As said before, urban interface is often seen as synonym for the division between open space and buildings. However in some cases, territorial boundaries do not coincide with the division between built and open spaces: territorial divisions are sometimes located in the interior of a building, or in an outdoor space. Besides that, the idea of collective spaces, as mentioned previously, affirms this idea: the mentioned integration of public and private use within a certain space, puts the interface discourse on another, more complex level. The urban interface can represent much more than the inside-outside relationship, it can define as well territorial values, that refer to models of accessibility. Interfaces can be **simple walls** or screens with holes, but can also appear as **urban mille-feuilles**: more or less permeable complex, flexible (as the boundaries can move in time) and ever-changing territorial filters. The last case not necessarily refers to the division of open space and a building.

Figure III.17 : map of Rome, plan Gianbattista Nolli, 1748 (original map from http://nolli.uoregon.edu/default.asp)

The maps of Gianbattista Nolli of the city of Rome (1748) show this in a very clear way: the author indicated the not accessible space (read: private space) in dark grey. The accessible spaces however were left in white: showing interiors of churches or other public buildings were access was not restricted. In other words, the division inside/outside did not coincide with the division private/public. For this reason, this map of the city of Rome can be seen as one of the first territorial maps in history as it allows reading of accessibility at urban scale.

The main question remains how and till which level the divisions between different domains are formalised: in some cases a clear demarcation of boundaries is desired or needed. In this case, sequences can be long or short, but with always a clear definition of the break lines. In other cases a set of territorial overlaps can or should structure the urban landscape: we talk about soft divisions. A third possibility can be the case of a more ambiguous definition of territorial boundaries, not to be confused with the idea of territorial transition and overlap scenarios.

vii. Urban interface: clear demarcation

Jane Jacobs[24], as well as Oscar Newman[25], Stanford Anderson[26] and Donald Appleyard[27] ask for a **clear demarcation** of boundaries between public and private properties as a prerequisite for a lively and safe environment. Jane Jacobs, in her frontal attack on the traditional planning establishment that she called elitist and too much based on top-down decision-making, proposes an urban model based on **social control** of streets and sidewalks. She acknowledges the multiple function of streets and sidewalks and sees them as the most vital organs of the city. She studies the way we can control the streets to make them more safe: "*Public peace may not depend on police.(...) It depends on an intricate, almost unconscious, network of voluntary controls and standards among the people themselves, and reinforced by them!*"[28] She refers to three main qualities that are needed to guarantee safe streets: first the idea of "*eyes upon the street*", a visual control system exercised by the "*natural proprietors*" which asks for a direct orientation of the building towards the street. In that way, blank or blind façades or back sides can be avoided. Second, the city's sidewalks should have a continuous use: streets should be defined taking into account a constant profile on the ground floor of adjacent buildings. She asked for a substantial quality of stores, bars and restaurants, together with public spaces, all along the sidewalks. The last quality depends on a **clear demarcation between public and private spaces**: J. Jacobs argues that cities work better and are safer when its inhabitants can easily read the divisions between public areas and private ones. We could interpret J. Jacob's theory as an attempt to bring proximity to a higher design level: she defends a streetscape that is defined and controlled in a spontaneous way by the inhabitants, which depends on proximity: especially because she emphasises the visual control of the street. The needed set of distances is characterised by short views and by **contact space**, related to human scale as discussed before. Besides that, this idea embodies a reinforcement of continuous street-wall locations as a successful recipe: gaps should be avoided in sequences. The requested clear demarcation of public-private areas defines a series of varied depth sequences, mostly short ones, stressing the limits of each area.

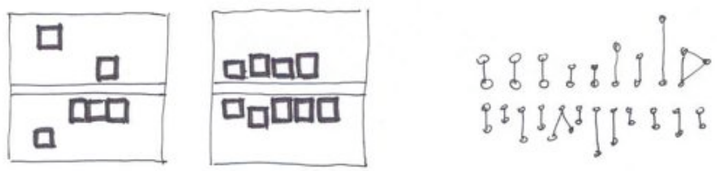

Figure III.18: Jane Jacob's accessibility model

Allan Jacobs and Donald Appleyard wrote an urban design manifesto[29] with a similar tone to the previous theory. They react against vast anonymous areas developed by giant public/private developers and ask themselves how to conserve

24 J. Jacobs, "The Death and Life of Great American Cities" Vintage Books New York 1961

25 O. Newman, "Defensible Space", Macmillan, New York, 1972

26 S. Anderson, "On Streets", MIT Press, Cambridge, 1978

27 D. Appleyard, "Liveable Streets: Protected Neighbourhoods", University of California Press, Berkeley, 1981

28 J. Jacobs, "The Death and Life of Great American Cities" abstract in T. Legates, F. Stout 'The City Reader", Routledge Publ., London, 1996, p 105

29 A. Jacobs, D. Appleyard, "Towards an Urban Design Manifesto" in the Journal of the American Planning Association, 1987, reprinted in R.T. Legates, F. Stout "The City Reader", Routledge Publ., London, 1996, p 164

urban fabric of cities and how to encourage liveable urban environments. They mainly focus on "*urban experience*", like Steen Eiler Rasmussen, Kevin Lynch or Jane Jacobs pretend, and try to define a humanised vocabulary of urban design. They defend social concerns more than strict morphological issues and define new goals for urban life. Liveability, constituted of a high level of comfort, the guarantee of privacy and the necessity of contact, is obviously the main goal. Besides that, they stress identity and control of clearly defined public and private areas. The public realm is very important to them, as it fosters social participation, creates tolerance and avoids social exclusion. Integration of activities, conditioned mostly by proximity, must define more liveable environments. They envision a city as the result of "*many, many separate, distinct buildings with complex arrangements and relationships*"[30]. They prefer buildings enclosing public space, rather than sit in space and order a detailed study of proportions of open space and buildings. Public interaction is linked with public spaces, as the authors argue: public space should be a meeting place.

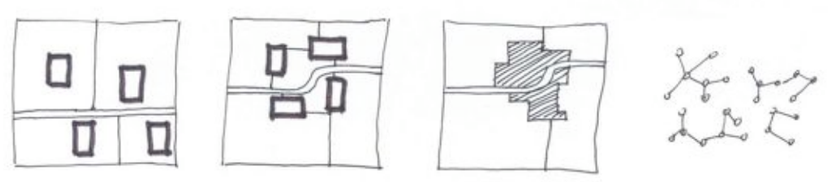

Figure III.19: Allan Jacobs and Donald Appleyard's accessibility model: preferred scenarios in 2nd and 3rd scheme.

Their manifesto should be read as a desire to design urban environments based on **models of enclosure**, in its morphological and territorial understanding. The preference for this model provides the territorial set-up a deeper structure: sequences are longer but because of the very configuration of the project with a high proportion of collective space. In other words, the territorial structure always obtains a typology of central space that has a collective use, while in the case of J. Jacobs this space was a more linear space, an offset space parallel to the street. Within this model, a clear demarcation is suggested in between public and private areas.

M. Bobic quotes René Boomkens[31] to exemplify the necessity for more abrupt definitions of boundaries: "*An urban confrontation between the individual and the collective is necessary for a civic society.*" Without this kind of territorial conflicts, there would be no real society, according to the author. He defines the transition between public and private as an intermediate atmosphere that is difficult to put a name on. He calls it a "*world of thresholds and in-betweens*", from which the fertility of the confrontation depends on the city.

Within this category of clearly marked boundaries, M. Bobic makes a difference between first, the **strict separation**, in other words a short sequence with abrupt and clearly marked changes of publicness and second, the **gradual territorial transition**, which represents a longer sequence with a well planned successive increase or decrease of intimacy, without taking into account overlap scenarios.

Figure III.20: the case of clear demarcation of boundaries with no overlap area. Outskirts of Bratislava, Slovak Republic.

30 A. Jacobs, D. Appleyard, "Towards an Urban Design Manifesto" in the Journal of the American Planning Association, 1987, reprinted in R.T. Legates, F. Stout "The City Reader", Routledge Publ., London, 1996, p 173

31 R. Boomkens, "Een Drempelwereld: Moderne Ervaring en Stedelijke Openbaarheid", Nai, Rotterdam, 1998

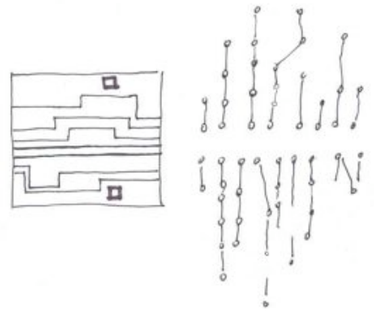

Figure III.21: gradual territorial transition with clear indication of boundaries

We associate a territorial transition (as a gradual change of publicness to privateness) with a higher number of included territories but without overlap. We earlier mentioned B. Hillier and J. Hanson's idea of **aggregation** and **accumulation of boundaries** that defines this territorial scenario. It is important to make a distinction with the category of overlap territories that are defined by a lay-over of areas of collective use. We previously related this to B. Hillier and J. Hanson's concept of subdividing cells and **integration**. This means that sequences defined by a transition, however with clear indication of boundaries, can possess besides territorial limits, many divisions without territorial meaning. The last ones obtain a symbolic or social dimension rather than referring to ownership or level of collectiveness.
Some more possible depth sequences can be defined within the same category (see later).
The clear demarcation of territorial boundaries is the most popular design strategies: from gated communities to restrictive access in shopping malls, from fencing to well planned technologically equipped entrance sequences, recent tendencies prefer explicit territorial scenarios, as explained before.

viii.Urban interface: soft division as overlap scenarios

Other models seem to search for a less clear demarcation of public and private areas and start blurring boundaries within a sequence. William Whyte[32] shows with the video "*Public Spaces/Human Spaces*" the patterns behind space use: he monitors with time-lapse cameras the functioning of 16 squares and 3 small parks in New York City to extract design guidelines. He ends up suggesting practical guidelines like not to separate circulation from seating areas or to use 3 blocks as the maximum distance from a park. The most important recommendation might be however the attention that should be paid to the relation between square or park and the surrounding streets. He refers to physical and visual distances that should be in proportion with the dimension of the open public space. He adds that a separation of soft and hard surface areas is positive for the reading of a space: he calls this **demarcation the social line of spaces**. He stresses the definition of the outer boundaries of those spaces: just like Frederick Law Olmsted he defends the idea of an interior park and an outer park, the last one coinciding with the surrounding streets. In other words, he describes the need for a soft division between the streets as an urban system with squares and parks. His findings oppose the use of walls and fences around public spaces. "*Walls make spaces not feel safer: it makes them isolated and gloomy*". He continues, "*a good space beckons people in, and the progression from street to interior is critical in this respect. The transition from street to interior in critical in this respect. The transition should be such that it is hard to tell where one ends and the other begins*" He trusts instinctive tools of inhabitants to read functioning of public spaces. A similar transition is proposed from streets to private areas: the functioning of urban fabric depends on the existence of **overlap territories**: besides the inclusion of one territory into another, the very boundaries are soft and seen as a field, less as a sharp demarcation line.

32 W. Whyte, "City: Rediscovering the Center", Anchor Books, New York, 1988

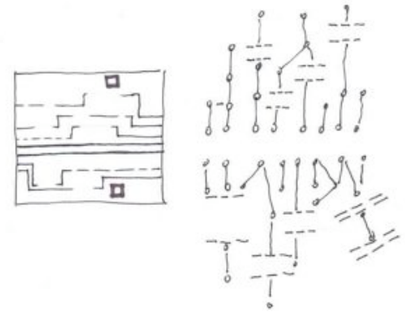

Figure III.22: William Whyte's accessibility model

N.J. Habraken[33] defends the use of **overlap** as a valid territorial strategy: we mentioned the idea of territorial overlap in previous chapters. However, the author is more specific in the definition of soft transitions as he links it with access possibilities that produce territorial meaning. Territorial overlap is more than a soft transition between public and more private areas. He defines it as a literal overlay of different access systems, as shown in some Middle Eastern urban fabrics, where cases of houses connecting to two different gated dead-end streets are frequent. We need to take into account whether certain areas are accessible or not, to be able to decide if territorial overlap occurs. It is not enough to study the public or private use based on a feeling or a vague experience. It means that the property of a house is included in more than one bigger territory, offering dual orientation with overlapping boundaries in a systematic way.

The soft demarcation of boundaries as territorial overlap has historical references: the Greek used the *stoa* as an interface typology of overlap. This covered space in between a set of identical columns worked as an in-between space with collective use: it was constructed as an overlap zone in between the private indoor space a public outdoor space. It should be mentioned that this area, according to N.J. Habraken has no territorial meaning, as it does not restrict access by means of doors or gateways. However, we could read the multiple columns as a repetitive system of open doors you can walk through. This *stoa* had multiple functions: it protected the people from rain and sun, kept people at a distance when it was applied in between a meeting room and a public square: it was the perfect filter area to define selective entry. Indeed, we could read the overlap zones as just another step in the gradual transition from public to private areas, different to the previously territorial transition, based on harsh boundary demarcation that does not allow territorial interpretation.

Figure III.23: Athens, "stoa" in Greek temples as the transition between public and private spaces

33 N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p.176-177

In "*The Design of Public Space*"[34] Han Meyer, Frank de Josselin de Jong and Maarten Hoekstra explain the case of the old Dutch cities, where no clear demarcations were made between public and private spaces. The public street was seen as an extension of the private property. By law, owners of that private property were obliged to clean their respective extension on public domain. That very part of the street was used to dry and bleach laundry, the buying and selling of merchandise, the growing of pigs or geese, the installation of toilets, etc. The authors describe there was no need to separate strictly the private domain: during the 15th century, records show that the doors (if there were any) stayed unlocked or even open. This could be seen as an overlap area with soft boundary definition, as a certain area had a clear collective use, independently from the property structure. They describe how during the 16th century formal laws were made to uniform pavement, façade materials and colours, trying to define a spatial coherence or unity. This meant the beginning of the overlap zone as a formal zone: it became institutionalised and conditioned. The element of the "*stoep*" was invented: the systematic construction of a nearly higher situated pedestrian area limiting the private property to define and restrict the mentioned overlap zone. Adding a gate to this "*stoep*" would have meant a transformation of the overlap scenario into a territorial transition based on clear boundary demarcation, which did not happen.

Figure III.24: view of "stoep" in Amsterdam, 1867 (picture by Jacob Olie, 1867, file from wikimedia website)

During centuries, this sidewalk as a linear area parallel to the building façade, going from proximately 1 to 5 meter, defined most Flemish and Dutch cities streetscapes and acted as a very dynamic urban interface. Again, it needs to be mentioned that according to N.J. Habraken's theory, this area has no real territorial meaning, as it does not restrict access within the configuration.

Within the same study, the authors mention that during the Middle Ages, public space was one continuous field, without pavement, reaching till all surrounding façades. No space systematisation was applied to restrict use or access to a group of citizens. However, with the increasing intensification of traffic during the 19th century with an exponential growth in the half of the 20th century, almost all overlap zones disappeared. The other reason of disappearance has to do with the increasing preference for explicit space codification: all territorial ambiguity was avoided. A more rational division of space occurred to canalise different modes of traffic and movement. On the other hand, modern architects, as they applied the strict separation between vehicular and pedestrian movements, at the same time defined huge green areas, empty zones, in between building blocks, most of them could be seen as **buffer spaces** or **sequential gaps: increasing spacing dynamics** into the project as a modern device. This buffer space between the "*towers in the park*" was conceived as a giant urban void of public property. This concept tried to avoid small scale depth sequences, related with traditional streetscapes.

34 H. Meyer, F. de Josselin de Jong, M.J. Hoekstra, "Het Ontwerp van de Openbare Ruimte. De kern van de Stedenbouw in het Perspectief van de Eenentwintigste Eeuw" SUN, Amsterdam, 2006

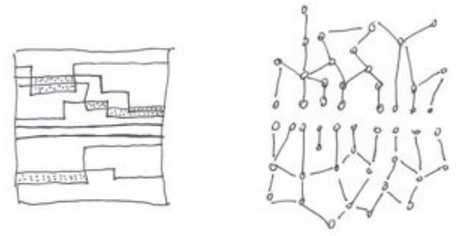

Figure III.25: overlap: territorial scheme

The end of the 20th century generated an increasing **desintegration** of the use of sidewalks, in a way seen as a decrease of territorial depth, as the scale of operation increased proportionally. This meant the application of big scale discontinuous depth sequences, a phenomenon that caused the previously mentioned reactions to go back to traditional models in the 1970s and 1980s.
The previously mentioned tactics of increasing depth (see chapter I) do not always depend on explicit boundary delimitation: the cited case of Valparaiso illustrates a coherent system of overlapped territories without adding fences, gates or other ways of explicit boundary delimitation: in this case, the added in-between territory and its boundary is **suggested by configuration**, by subtle topographic changes as an **integrated design device**.

Figure III.26: An example of overlap and invisible territorial boundaries in Valparaiso, Chile. Territorial depth is the result of the very relation and position of in-between spaces, territorial boundaries (gates) can be considered invisible though increasing depth: territorial interpretation is allowed within the set-up.(diagrams made after photographs in situ, Valparaíso, Chile, 2002)

ix. Urban interface: ambiguous definition

Another way of defining boundaries can be a more ambiguous approach: besides the previously mentioned tactics of stressing boundaries, well planned territorial transitions or explicit overlap strategies, a **vague definition** of boundaries is another important contemporary territorial phenomenon. Many attractive words describes this condition of free definition of territorial depth: terrain vague, abandoned voids, urban no-man's-lands... These concepts not only refer to the vague definition of activity within a site but besides that, formulate a more open territorial question. Boundaries are open for interpretation, for personal or collective appropriation and are ambiguously defined: you never know for sure who is owning or who is controlling access on a particular site or in a building.
The location of these areas is never characterised as prime location. Sometimes, this way of setting up territorial balance is linked with geographically decentralised areas, far away from traditional commercial planning strategies. The (dis)location reduces social, economic and political pressure on the site's functioning. As there is no clear control of access, no real social control is guaranteed within the area: these areas or building complexes are often considered unsafe.

Figure III.27 : Badalona beach, 2001: ambiguous definition of territorial boundaries
(picture by Pau Guerrero, part of lecture "Shortcuts" by Jorge Perea and Pau Guerrero, for Shelter Project, Gent, Belgium, 2001-2002)

The ambiguous definition of boundaries can be read as the **non-permanent physical definition** of boundaries: no walls, fences, gates, demarcation lines are defining property limits, neither exists an indication of different ways of using space. There is no visible or clear definition of boundaries in its original territorial status. Sometimes, those very sites never obtain clear demarcation of boundaries and only absorb temporal demarcation or volatile access control.
Ambiguous definition of territorial boundaries can also be the result of activities **changing in time**: a shopping street can change territorial structure by the hour as boundaries are tested and changed in a systematic way. Restaurants can appropriate part of an outdoor space without really defining explicitly boundaries, even if this is becoming a less popular phenomenon recently.
Other sites obtain clear boundaries eventually: as N.J. Habraken mentioned[35], territory with horizontal relationships is unstable and tends towards the formulation of vertical territorial relationships: after a while, access will be denied or provided, with permanent or more volatile physical tactics of demarcation or by changing human behaviour to achieve similar results.
Ambiguous demarcation is often seen as a preliminary step in the urbanisation process: it is often considered an **area in stand-by**, waiting for its potential to develop. Contemporary critical architectural theorists, artists or sociologists however are claiming the need for acceptance of this ambiguous condition as being not temporal: more critical attitudes favour a cease-fire on these particular sites, as they are the last places that allow free appropriation and as they might embody the city's future possibilities.

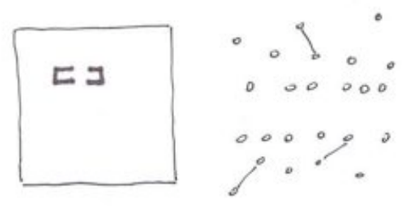

Figure III.28: ambiguous definition of boundaries: territorial scheme

A. Madanipour describes boundaries as a means of communication, as an **interface**, a **threshold** and possessing an ambiguous character. According to the author, boundaries are made ambivalent so social encounters are encouraged. He adds: "*The more ambiguous and articulate the boundary, the more civilised a place appears to be*"[36] He suggests the use of semi-

35 N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p.141

36 A. Madanipour, "Public and Private Spaces of the City" Routledge London 2003, p 64

permeable boundaries in urban design projects. Architects like Aldo Van Eyck will turn this threshold tactic as one of the most important design strategies (see later: case studies of collective space)

x. Multiple boundary, multiple understanding

In his study on urban interfaces, M. Bobic quotes Jonathan Hill[37] who describes 5 basic types of user's creativity: taking into account accidental or intentional interventions, by an individual or co-ordinated by a group of people, developed from or reinforced by certain habits. The following types can be seen as ways of understanding territorial boundaries. **Mental** changes often allow a different understanding of the built environment. The author mentions **bodily** experience as a second type of intervention, as a movement in juxtaposition to the space. The most obvious type of human creativity is the **physical** dimension: this means a rearrangement of a space or a form to organise space control. Another mentioned way of understanding boundaries might be the **constructional** dimension: the fabrication of a new space or a new form. The last one defines a more **conceptual** framework: use, space or form intended to be constructed. Indeed, these types broaden our definition of boundaries that can obtain the previously mentioned dimensions.
Within his theory on non-verbal communication, Amos Rapoport [38] described the appearance of **fixed, semi-fixed and non-fixed or informal features** to define environmental meaning. These categories, based on Eduard Hall's study[39] on urban "**proxemics"**, offer another possibility to understand demarcation tactics from a broader perspective. We could apply these categories to filter tactics: walls, hermetically sealed fences, a line of greenery or topographic changes could be seen as fixed demarcation tactics. The pattern of appearance though might be more interesting than the individual application. Systematic repetition of fences or garden walls might explain the very nature of a neighbourhood. Semi-fixed elements like garden furniture lay-out, provisional division panels or screens define territorial control in a non-permanent way: it can easily change over time, even with certain limitations. This category of features allow less absolute control of space. Informal or non-fixed features are related to human occupants, their shifting spatial relations (see later: proxemics patterns), their body position, expressions, gestures, eye contact or body volume as a clear act of non-verbal communication.
These references allows M. Bobic to rephrase the concept of interface: "*Interface is a surface serving as the common boundary of two bodies in space, or a common boundary or interconnection between systems, equipment or human beings. It is essentially a space, or field of transition wherein the processes of interrelations occur.* "[40]

xi. Individual or collective urban interfaces

M. Bobic distinguishes two main types of interfaces, based on the way they are functioning: individual or collective interfaces. He sees interfaces as elements providing transition and exchange between public and private domains, that can have an individual or collective use.
First, the individual interface is defined as a configuration that controls the relationship between a single building and a public space. This means it is spatially attached to the building, like the doorway in the frontage of a house. He mentions the examples of the "*Dutch stoep*", as we studied before, the "*British area*" or the "*New York City stoep*". The author stresses the personal appropriation possibilities these elements offer: in these cases, inhabitants often add their personal touch by painting, decorating or looking for minuscule modifications of the recipe. He calls these good examples of "*maximum*

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37 J. Hill, "The Use of Architects", in Urban Studies, vol. 38, nº2, Cambridge, 2001, p 351-365

38 A. Rapoport, "The Meaning of the Built Environment" University of Arizona Press 1982

39 E.T. Hall, "The Hidden Dimension" Doubleday/Anchor Books New York 1966

40 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 66

integration of public space and building with no strict division between public green and building entrance"[41]. Second, collective interfaces provide deeper and more complex configurations. He illustrates with a description of several clustered buildings with a shared communal open space, in which another territorial layer was added. N.J. Habraken would call that increased territorial depth. It implies an urban set-up, besides architectural inventions and provides often a gradual transition or overlap between public and private spaces.

M. Bobic adds that mostly individual interfaces are added to collective ones, adding complexity to the urban lay-out.

Following that, the author lists the different agents of interface morphology. He starts with the plotting-out principle that provides various patterns and possibilities for access distribution. The way we (re)distribute property, that is, the way we project geometric models on existing territories, engages in a set of territorial conditions. He adds width of lot coverage, street type, profile and content, type and inner structure of a building, etc. He emphasises on the very position of the building on a lot to define territorial depth and refers to N.J Habraken who describes 4 types of front yards: the large garden, the deep front yard, the small yard and the shallow yard, all defining different depth values and types of spacing mechanisms. M. Bobic insists on studying all agents in a simultaneous way, to see the project as an urban matrix.

Figure III.29 : (Left) Chester (UK): example of collective interface versus (right) London (UK), Belgrave Road: individual interface

To conclude, the author lays out 7 different typological classes of interfaces: integrated, overlapped, confronted, associated, inserted, extended and suspended interfaces.

As example of the **integrated interface**, M. Bobic describes the London Mews, being streets lined by low-rise terraced houses located inside a housing block. He refers to courtyards, side yards, entrance patios, courts and arcades. "*The spatial configuration occurs as a result of subdivision of the city pattern when public space conditionally penetrates into the block perimeter. Such an interface poses the ambiguity between the indoor and outdoor space*"[42] Integrated surface implies the presence of a mixture of different scales, as the author mentions. Usually two distinct levels are present: collective and individual level. Despite territorial integration within the block territory, a visual and psychological division between the three domains (public, private, collective) is maintained.

41 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 70

42 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 89

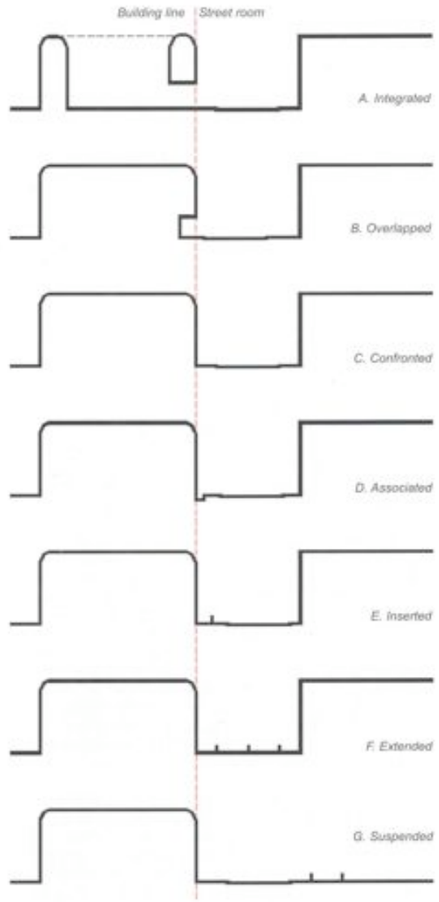

Figure III.30: interface types according to their position with building line (cross section)
(image orinially published in Milos Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 87)

Figure III.31: London(UK), Kensington neighbourhood: mews: integrated interface

The series of **overlapped interfaces** can be illustrated by the Milan collonade, the Chester rows, the case of a carport, an Italian Palazzo's loggia, an alcove, a niche or a space under a residential building. Overlapped interface types appear when the two domains are overlaid on each other behind the building line, so that public space extends beyond the perceivable street room and, at the same time, beneath the buildings. The two domains, public and private, share territory and take profit from their complex spatial relationship, as M. Bobic mentions. Despite physical or visual penetration of the public space under the building, the territorial division on the ground level is clear.

Confronted interfaces can be frontages, doorways, holes in the wall, all defining a very strict division between two territories, where public and private meet in direct juxtaposition. We can see the perfect coincidence of territorial boundary and building frontage.

"*When elements of the building penetrate into the pavement, and thus, into private territory, they have a subordinate status, yet the private and public domains have to coexist both spatially and socially*"[43]. This is the category of **associated interfaces**. The author refers to "*stoeps*", edging, texture change, raised platforms, sidewlak cafes, overhangs, Paris cafes, etc.

Deep front yards, small front garden, shallow front yard, "*British areas*", porches or large gardens belong to the typology of **inserted interfaces**. "*Any size of private territory used to distance a building from the public space acts as an insertion between the two. This area can be used as a yard, drive or garden, or for house building extensions such as garage or shop. The depth of the transition territory or the distance from the pavement controls the level of proximity, which can be strengthened by additional elements and specific configurations*"[44]

The **extended interfaces** are the result of a claim of one building or group of buildings that sometimes extend outwards, from private deep into public territory. In this case, an extension of building and residential domain is present on the urban scale. M. Bobic illustrates this with the example of the crescent (a row of terraced houses laid out in a segment of a circle, like the Egerton Crescent in London), the square, the alley, the "*woonerf*" (an environment where traffic is limited or excluded: a Dutch invention defined by a traffic rule stating that pedestrians may use the full width of the street within its area), the public lawn or even a street market.

Figure III.32: woonerf in Rotterdam, traffic excluded, micro-climates defined in public space
(image from H. Meyer, F. de Josselin de Jong, M.J. Hoekstra, "Het Ontwerp van de Openbare Ruimte. De kern van de Stedenbouw in het Perspectief van de Eenentwintigste Eeuw" SUN, Amsterdam, 2006, p219)

The last typology of interfaces is the **suspended interface**: whenever facilities are permanently or temporarily implemented on the other side of the street, while remaining dependent on the other location within the building. He explains the example of the allocated unit (cafe terraces), or communal gardens (only accessible for certain neighbourhood inhabitants).

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43 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 105

44 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 111

Finally, M. Bobic makes a list of architectural and landscaping features used to define territorial configurations: gates, arches, staircases, balconies, awnings, bay windows, large street windows, murals, "*porticos*", canopies, fire cases, high garden walls, dwarf walls, iron railings, fences, hedges, creepers, etc.

Bobic's study of interfaces emphasises on the social, spatial and cultural dimensions of this urban design tool. "*Contemporary building culture stands in contrast to combined ideas of Richard Sennett and Johannes Habraken*"[45]: urban interfaces should be studied and designed taking into account a wider framework than the strictly architectural or spatial one. He explains that R. Sennett sees public space as a dynamic and violent domain, generating conflicts and tensions and because of that, the built environment is the consequence of restrictive planning and defensive design strategies. He refers to N.J Habraken's cultural order of understanding to reinforce the broader understanding of the concept. He states "*Territorial division reflects intentions of culture in power and results from political and economical powers in charge. Determined through the plan, the purpose of the plan is the division of territory in to built and non-built areas*".

He concludes with a quote by Aldo Van Eyck: " *When is architecture going to breath, both in and out, as men are still doing*?"[46]

Bobic's study on interfaces has a great value when studying models of proximity, permeability and territorial depth. A theoretical framework is set up to understand, compare and evaluate different forms of public-private exchange. However, the discourse often takes only two domains for granted: the public one as opposed to the private one. In previous chapters we studied new patterns of space use and re-established public-private space relationships. Non-contextualism, the phenomenon of collective spaces, structural sequential gaps or metaphoric voids within an urban sequence, as well as the multiplicity of depth configurations, makes it each time more difficult to narrow down this complex subject of urban interfaces into clearly differentiated typologies. Besides that, very few social implications of allowing or denying access are present in this discourse on territorial interfaces.

xii. Gates and locks

N.J. Habraken dedicates a detailed study on **gates** as an important typology of (territorial) boundaries. "*The gate simultaneously engages form and territory. It encloses and connects physically defined spaces. The way in which settlement draws boundaries will determine whether or not it has territorial meaning*"[47] According to the author, even when the gate does not constitute an actual entrance into territory, its form conveys protection, separation, exclusion, or the beginning of another space. He adds that exploring the roles a gate can play between form and territory, reveals the multiple interactions between forms of enclosure and control of space. He presents a **matrix of gates** that is on one hand defined by inside/outside relationships and on the other hand by horizontal (i.e. between neighbours), vertical (i.e. between public and private space) or the lack of territorial meaning.

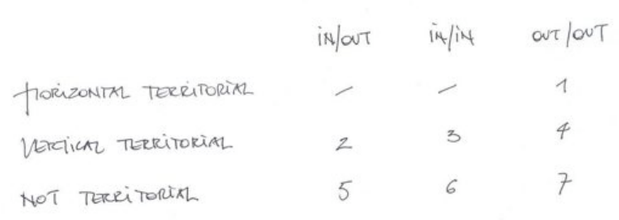

Figure III.33: The matrix-study of gates
(diagram made after fig. 10.2: N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p215)

45 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 138

46 M. Bobic, "Between the Edges", Toth Publishers Bussum, 2004, p 138, p 140-141

47 N.J. Habraken, "The Structure of the Ordinary" MIT Press Cambridge 1998, p.182

The matrix allows to define 9 theoretical and 7 real typologies of gates. For example, the first case may refer to gates in between two neighbour's gardens, as both domains are situated in outdoor space and a horizontal territorial structure is set up between them. An example of the second type of gates might be a front door of a dwelling, as it defines an outside/inside movement and causes a vertical territorial configuration. The next one could be situations in the workplace or define the division of someone that sublets an apartment. The fourth case can be illustrated by a gate that gives access from a square to a private garden or to a courtyard house. The fifth one leads us to the example of doors opening onto a balcony. The next one, defined by inside/inside relationship and no territorial meaning, serves purely symbolic purposes, as for example pocket doors between a parlour and a dining room in old Victorian houses. The final type is similar to the previous one, even if we refer to an outside/outside relationship: we could refer to monuments like Arc de Triomphe in Paris, France or the Moon Gate in Beijing, China.

Figure III.34: matrix of gates, example nº 4: gated collective gardens, Amsterdam: Western Towncities Zuidwestkwadrant
(image from H. Meyer, F. de Josselin de Jong, M.J. Hoekstra, "Het Ontwerp van de Openbare Ruimte. De kern van de Stedenbouw in het Perspectief van de Eenentwintigste Eeuw" SUN, Amsterdam, 2006, p237)

The presented study of gates offers us an interesting view on the meaning of gates: the distinction by territorial layering linked with inside/outside references structures the use of gates and provides some distance within the discourse on boundaries. Gates are indeed important filter tactics within an urban depth configuration.
"*The individual requires barriers*"[48]: Serge Chermayeff and Christopher Alexander link privacy with the "breakpoints" within a depth sequence. "*Each different joint has its own special form. Terms like baffle, barrier, buffer, screen, filter, transfer point, lock, junction or terminal serve to distinguish them roughly*"[49] A. Madanipour[50] would agree, as he claimed that the integrity of domains and the efficiency of transfer between them is the crucial issue in organisation.
According to Serge Chermayeff and Christopher Alexander, what matters in urban design is who interferes, doing what and when and how that happens. They add that the condition where the integrity of each of the adjoining domains must be preserved, in spite of the traffic between them, immediately brings to mind the familiar canal **lock** which separates two different water levels, or the air lock which allows movement between areas of different air pressure. They suggest these locks to be the base for hierarchical planning, allowing access according to the positional level within the set-up.

48 S. Chermayeff, C. Alexander "Community and Privacy" Doubleday & Co Inc. USA 1963, p71

49 S. Chermayeff, C. Alexander "Community and Privacy" Doubleday & Co Inc. USA 1963, p 251

50 A. Madanipour, "Public and Private Spaces of the City" Routledge London 2003, p 251

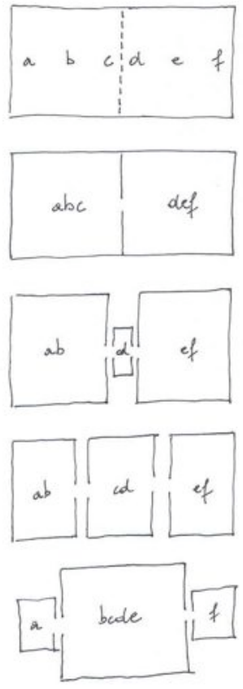

Figure III.35: Locks emerge as a realm and activity zone
(diagram after S. Chermayeff, C. Alexander "Community and Privacy" Doubleday & Co Inc. USA 1963, p 252)

This last approach has a more basic or even naive understanding of territory demarcation but its value lies in the early recognition of the importance of break point, joints, filter tactics that modify substantially the depth of urban sequences. It makes possible how to explain the idea of the joint's **weight consideration**: more than absolute distances, these breakpoints modify the experiences of physical or psychological depth of an urban configuration.

xiii.Defining and crossing boundaries: prototypes

In "*Density Dilated*"[51], Mary-An Ray, Roger Sherman and Mirko Zardini explore new ideas of density in various theoretical and practical residential hypothetical projects in Los Angeles. They see the demarcation of property limits as one of the main issues in housing projects. However, they mention that the visibility of the boundaries is more important than the specific geographical references themselves: the boundary almost obtains a **symbolic quality**.
The authors predict a transition from the traditional detached family house to the urban house: a typology with new overlaps and mixes, with an effort to reconcile the idea of privacy with the quest for a greater density of the built-up area. They describe **tactics of efficiency** and **tactics of augmentation** to densify existing low dense residential areas. The first series of recommendations, also called "*building-in*", refer to consolidate and appropriate existing spaces. This can happen by recovering un- or under-utilised space or by increasing the efficiency of space, mostly by programming overlapped use within the houses. As a result, outward signs of suburban densification would still appear unchanged, what they detect as very important for the inhabitants. The area would then no longer have the luxury of space to allow functions to stand clearly apart. In a way, we could read this as the promotion of **collective use of space**, next to a mix

51 M.A., Ray, R. Sherman, M. Zardini, "Density Dilated", Lotus Quaderni Documents, Milano Elemond S.p.A, 1999

of activity in a a polyvalent space. Besides that, spaces of a more generous scale are suggested. The authors suggest more **partial or ambiguous distinctions** between spaces by filtering, layering and overlap.

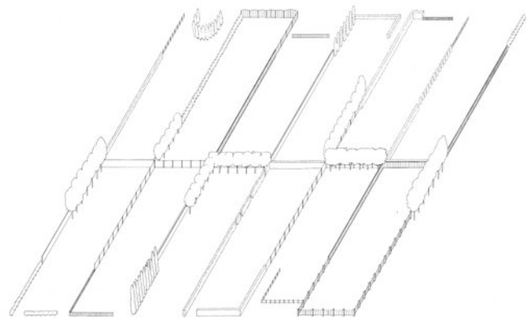

Figure III.36: Jen Schab, aspects of single family houses: property boundaries after sets of applied spacing mechanisms.
(drawing originally in M.A., Ray, R. Sherman, M. Zardini, "Density Dilated", Lotus Quaderni Documents, Milano Elemond S.p.A, 1999, p16)

The second series of tactics are strategies of augmentation, also called "*building-out/over*". Building out means filling up the underused spaces (of suburbia) while building over refers to adding, sometimes literally upon that fabric. They suggest removing distinctions between house and property, diminishing the spatial interval that secures the psychological autonomy of neighbouring structures. In other words, try to avoid the free-standing model of residential projects.
They denounce the loss of private open space and solar exposure caused by the expansion of the individual home and suggest building over: exploit the complexity of sectional relationships that are non-existent in the first generation growth. The argue that density leads the city dweller to recover the ability to be simultaneously aware of both the wider public and the immediate private contents of space.
They study design aspects of the single-family house and point out the most important needs or desires: they start with acknowledging the inhabitant's desire to distinguish property boundaries that have to be made visible by themselves. (see figure) Another aspect is the mutual penetration of public and private zones which regulates the visual and physical depth of the private property.

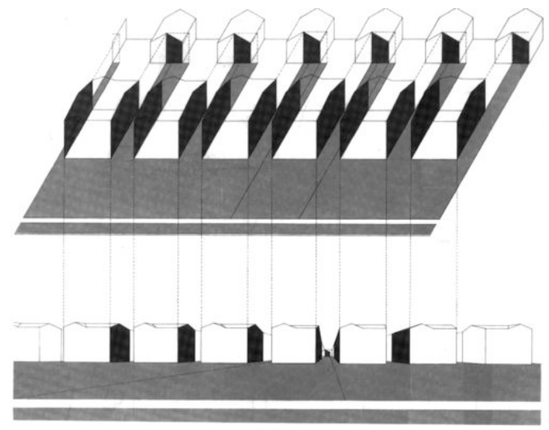

Figure III.37: interpenetration of public and private zones as an important aspect of single family housing
(drawing originally in M.A., Ray, R. Sherman, M. Zardini, "Density Dilated", Lotus Quaderni Documents, Milano Elemond S.p.A, 1999, p17)

They mention the importance of backyard additions, adaptation of the house to topographical conditions, ornamental elements, the appearance of façade or front yard etc.
They present a series of prototypes that deal with these aspects, mainly related to the issue of boundary demarcation. One of the prototype projects, a developed concept by C.O.A., deals with different units to come up with a **new set of distances**. They make a comparison between the traditional configuration of a repetition of building lots where each individual property has an entrance lane for pedestrian use (and another one that is for the car, parked behind the main volume of the house) and their prototype lay-out. In this proposal, different coherent systems of access are combined and integrated, trying to recover unity of open space: fragmentation of open space is fought by configuring systems of open space that each one of them answers to different **rules of proximity, permeability and visibility**. In this case, it is important to clearly mark the boundaries of the property: ambiguous demarcation is apparently avoided in this proposal. The consequences for the reading of depth and extracting models of accessibility are quite interesting. Not only do the architects propose a lay-out, based on dual orientation and increased systematisation of open space, they also incorporate a system of territorial overlap scenarios in between the different planned volumes of the dwelling. This allows multiple reading within the depth configuration.

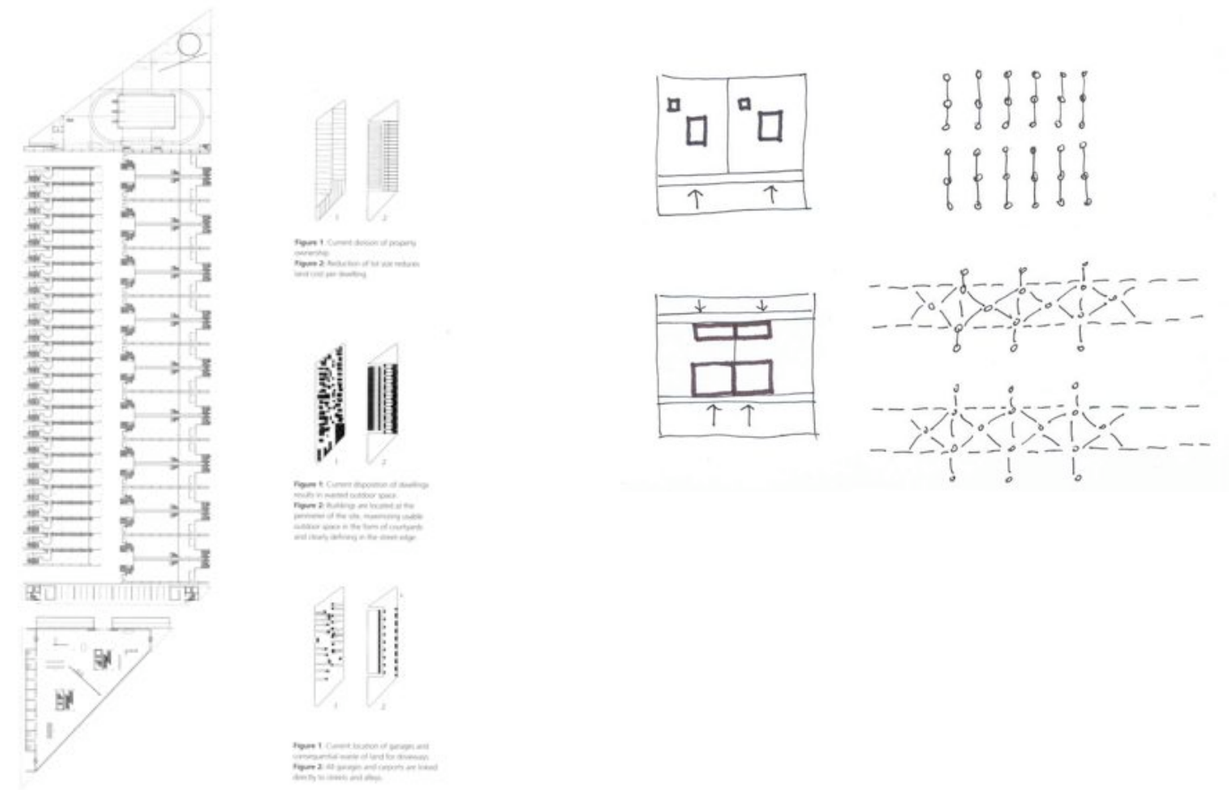

Figure III.38: prototype by C.O.A. and related territorial schemes
(plans on the left originally in M.A., Ray, R. Sherman, M. Zardini, "Density Dilated", Lotus Quaderni Doc., Milano Elemond S.p.A, 1999, p54.)

However, the most significant change in comparison with the compared tradition planning model in this project is the increased territorial depth in all sequences. Shared spaces are integrated within the planned domestic movements to assure deeper structures.

Mary-An Ray, Roger Sherman and Mirko Zardini also stress the idea of **flexible boundaries**: they describe a series of possible appropriation strategies people use to extend or re-organise their home, stretching the dimensions of territorial boundaries.
The acceptance of boundaries as relatively dynamic features is important: permanent property limits are tested constantly, as N.J. Habraken mentioned before, and start a never-ending process of territorial negotiation with social implications. Offering the possibility to inhabitants to define, personalise, question or modify territorial, physical or visual boundaries is a basic condition for the project's success.

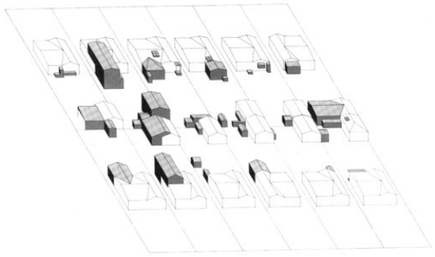

Figure III.39: flexible boundaries allowing stretched programs
(drawing originally in M.A., Ray, R. Sherman, M. Zardini, "Density Dilated", Lotus Quaderni Documents, Milano Elemond S.p.A, 1999, p34)

xiv.Interface and communication technology

Recent communication and information technology might affect the understanding of boundaries: Scott Page and Brian Philips question the relationship between reorganised forms of community, physical urban space and **information technology**. They refer to Merriam-Webster for a definition: "*interface is a surface forming a common boundary of two bodies, spaces, or phases; the place at which independent and often unrelated systems meet and act on or communicate with each other*". [52]
They mention that "*form based traditions of urban design were rooted in a city where social and economical relationships were built on proximity and vernacular traditions.*" As new territories of urbanism have emerged, they claim a change of attitude: urban design should be interface design, taking into account hardware and software or the possibilities of new information technologies.
"*The idea of interface provides a way of seeing new territory for urban design which integrates -a view which sees the link between the city and the computer as a membrane- a flexible, mutable, design concept which can accommodate the complex dynamics associated with urban processes including elements of social, political, infrastructural and physical form. From this perspective, we generally refer to an urban interface as a medium through which input and output are gathered and represented to impact urban flow, perception and physical space. (...) Times Square represents the pinnacle of this appliqué, but numerous examples are evident including Shibuya Station in Tokyo, and the vault shaped video screen roof of Fremont Street in Las Vegas...*"[53]
Indeed, the increased importance of new communication technologies asks for rethinking the idea of interfaces. References are no more exclusively prescribed by physical artefacts: the virtual dimension of new technologies adds another layer to the discourse. Added complexity might be the direct result of this phenomenon, as opposed to an often criticised reduction of complexity as urban hardware and software are compatible and complementary. Internet and other wireless technologies do affect models of proximity and accessibility. However they do not substitute them completely and irreversibly, as sometimes is argued. Depth configurations might be stretched or shortened by software interventions, however, we still maintain an equivalent bodily and physically equivalent aside. Another series of filter tactics is added to the discourse on models of accessibility, proximity and territorial depth.

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52 S. Page, B. Philips, "Urban Interfaces, Designing in-between", in Crossover, Architecture, Urbanism & Technology", 010 Publ., Rotterdam, 2006, p 67

53 S. Page, B. Philips, "Urban Interfaces, Designing in-between", in Crossover, Architecture, Urbanism and Technology", 010 Publ., Rotterdam, 2006, p 68

2. Changing territorial phenomena, changing boundaries

i. Increasing interiorisation and inverted use of space

Some recent urban territorial phenomena are linked with changing boundaries in contemporary projects. Increasing **privatisation** and **interiorisation** of urban space generates new territorial configurations. As a consequence, the transformation of urban models that were based on a simple transition from public outdoor space to private indoor space into more complex layered depth structures has become an important contemporary phenomenon. The successful appearance of shopping malls, office parks, technopoles or leisure centres have all one thing in common: the use of a series of **interior collective spaces** as specialised communication hubs. A cluster of building blocks is arranged around a well organised, continuous void, mostly conceived as an interior space, associated with collective use of space. The traditional public or collective streetscape is now often interiorised in the urban project. That collective interior space moves part of the strength, intensity and energy of traditional streetscapes and changes territorial balance within contemporary landscape. The traditional street is often reduced to a more sterile container which main function became mobility, mostly dependent on cars. Other parts of that original public space are now dedicated and segregated for use of parking, storage or other service facilities. Moving from the street till a particular shop, office or activity room, we no longer notice the traditional stratification of public-building-private (see scheme) but we see the emergence of an additional level within depth hierarchy. Privatisation and interiorisation increased the depth value of urban projects. Indoor and outdoor references lose their fixed connotation with what used to be public or private space: they became independent notions as privatisation and interiorisation of urban space increased. Outdoor public space became indoor collective space, generating an intermediate level in territorial hierarchy.

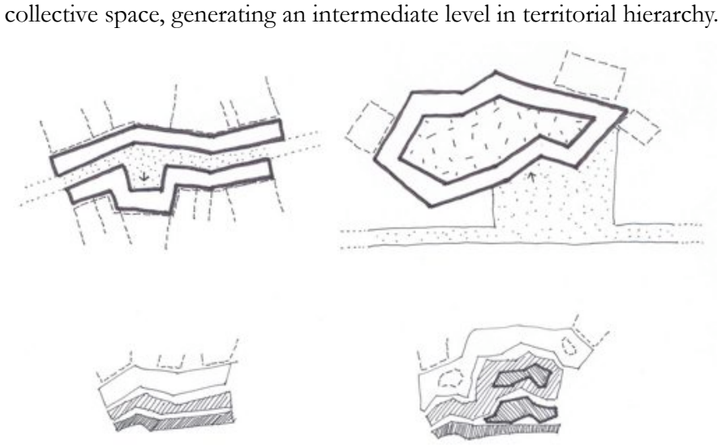

Figure III.40: process of interiorisation and privatisation of space: the case of a traditional shopping street and the case of a shopping mall. Emergence of a territorial level in the depth sequence.

A comparative study between a traditional shopping street and an urban shopping mall shows a clear transformation of depth configuration: the traditional depth model shows a clear distinction of boundaries with often a temporal situation of overlap scenarios, as shops appropriate part of the street's sidewalks. In this case, territorial limits coincide with physical interface, being the system of continuous window displays, admitting overlap scenarios defined by the shop's opening hours. Considering the shopping mall, territorial distinction is clear and territorial transition replaces overlap scenarios by using a set of (artificial) collective circulation spaces, all movements well controlled and planned. In other words, collective space is not a synonym for territorial overlap scenarios, it can be part of collective space. The mentioned interiorisation phenomenon could be called **inverted space of use**, defining other ways of delimiting territories. We

could say that a single boundary became a **multiple device** as more boundaries need to be crossed. Considering this change of territorial configuration, 2 possible scenarios are detected: first, the interior façades of the complex building are becoming more transparent, while the exterior façade of those building complexes often obtains a more abstract character: less openings (windows or doors) are provided outside, as circulation depends on the interior space. The second possibility describes exactly the opposite: the apparent more complex urban membrane (the mentioned interiorisation makes you walk through more filters to reach the core of the building), needs compensation: the building's façades become more transparent. Both possibilities can be detected in contemporary (commercial) projects.
Besides that, even in more traditional commercial streets, the more (functionally specialised) projects depend on easy and inviting access of the public, the more **transparency** is required for exterior skins. In many commercial projects, there often is a replacement of (glass) doors by warm-air curtains, changing models of permeability and proximity.

Figure III.41 : Mulberry Street, Manhattan, New York City (USA), shopping street ca.1900 versus L'Illa Diagonal Shopping Mall, Barcelona (Spain) (image from NY Times, July 2009)

ii. Increasing hard boundary delimitation and increasing spacing mechanisms

Recently, an increasing intensification of defining boundaries is detected as a global phenomenon: obsession about security and relating fortification tactics with higher social levels, stimulates more obvious ways of delimiting boundaries, especially in residential areas. (see as well later chapter: social and cultural conditions) Besides that, initial overlap scenarios like open driveways to residential projects, suddenly become fenced front-yards as part of a territorial transition: territorial boundaries are pushed forward in this case (see figure). In a way, part of the exterior front yard becomes a sequential gap within the territorial configuration as it looses its potential collective use within the neighbourhood.

Figure III.42: The example of a residential neighbourhood in Toronto (Canada): systematic use of gates to close off initially open driveways of residential projects: the phenomenon of gateism. (images from www. bricoleurbanism.org)

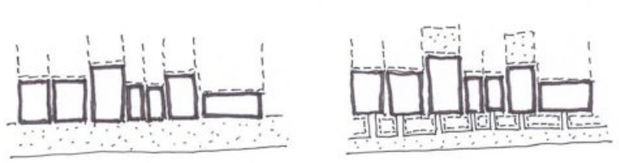

Figure III.43: emergence of a territorial level or changing position of a territorial boundary: transformation of residential area: creation of buffer areas as sequential gaps in between the façades and the street and increasing delimitation of private areas in backyards.

Similar cases can be found in renovation of old farm houses, that since the 1980s has become a very popular real estate product especially in Central Europe, where the back and front façade seems to be inverted after loosing its original productive agricultural character and later renovation: previous interior utility spaces, related with production, became representation spaces, again seen as buffer spaces between the intimate part of the house and more collective areas of surrounding streets. Here it is the newly defined character of the buffer space that creates territorial distance and often invites harder territorial delimitation.

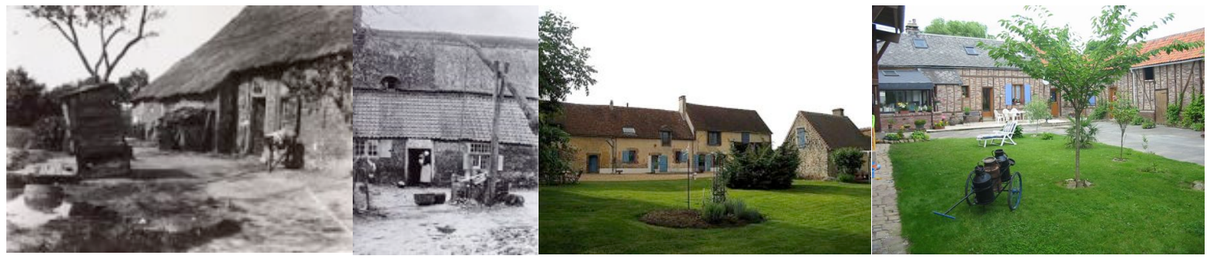

Figure III.44: Examples of Flemish farms and their recent transformations (images above: situation beginning 20th century and below: recent situation. Changing spacing mechanisms and inverted use: productive interior open space became representational sequential space, possessing an increased level of public exposure and inviting gateism.

This common phenomenon can be seen as another change in defining territorial boundaries: the very delimitation of boundaries changes, as this now representational spaces are fenced, as well changed the character of the open spaces in front or behind the residential building, changing territorial configurations.
However, when there is no space to create the mentioned buffer spaces or to invert them, windows and doors in façades get extra protection by adding fences in front of them and as a result, obtain a harder territorial meaning.
All this is the result of previously mentioned extreme interest in the private sphere and growing individualism, where increasing cocooning tactics result in an intensification process of space, trying to avoid any spontaneous relation with public space.
Depth configurations seem to change and sometimes obtain an inverted profile, changing the way of delimiting boundaries. The traditional sequence from outdoor public front-stage scenarios to indoor private backstage configurations loses strength as a result of privatisation and interiorisation processes. Now, different combinations exist and a general increase of hard territorial delimitation is detected while the strict territorial depth value almost stays intact.

Figure III.45: The repeated appearance of fenced windows in C/del Baluart, Barceloneta, Barcelona (Spain): territorial intensification

iii. Changing boundaries of parks and squares

Besides processes of inverting use of space, other recent territorial phenomena can be detected: the renewed attention paid to the boundaries of public gardens, parks or square's, generating new depth models within the contemporary landscape. Two different scenarios of dealing with the limits of the public realms can be pointed out: one tactic reinforces fencing techniques while another series of interventions forces transparency policies. To place this evolution in the right framework, a systematic (historic) review of public parks and squares needs to be done.

Starting with ancient models of open urban space, the square Djemaa el Fna in Marrakech (Marroc) is well known for its 24/7 lively atmosphere and varying popular events, located in different parts of the former bus station square. The square is edged along one side by the Marrakech souk, the traditional North African markets which serves both the common daily needs of the people of the city and the tourist trade. On other sides are cafe terraces to escape from the noise and confusion down in the square, and on yet other sides are hotels and gardens. Narrow streets lead into the alleys of the medina quarter, the old part Marrakech, characterised by the courtyard building typology (see before: territory), as a common characteristic of the Arab Mediterranean urban fabric.

The square's main feature, besides the irregular geometry, is the overall accessibility and its **capillary limit definition**: access from the medina or the souk to the square is not restricted by walls or fences, changing topography nor vegetation buffers. Neither does geometry define in an abrupt way the beginning or end of the square. It is a continuum of open space, an overall accessible space that contains different activity zones with different character. The whole obtained the status of shared space with a vague distinction of private and public territories. In this case, we could say that access is only conditioned by a changing morphological sequence, a varying width of streets and alleys that start or arrive in the square. Similar cases of public squares with an exclusively **morphologic boundary definition** with can be found in many medieval urban fabrics, like Siena (Italy), Barcelona (Spain) or even outside the Mediterranean context, like Brugge (Belgium) or Köln (Germany). Depth is experienced mainly because of the changing rhythm of width and longitude of the configuration: no restrictions of access are imposed within the urban sequence of approach.

Other newer examples show a morphological definition of public squares with a more obvious form of enclosure, showing a more regular geometry: in the case of some Parisian squares, the rectangular form of the square contains the open space and the gradual entrance to the square, as detected in the previous example, is reduced to a more sudden transition as the urban façades of the square gain importance.

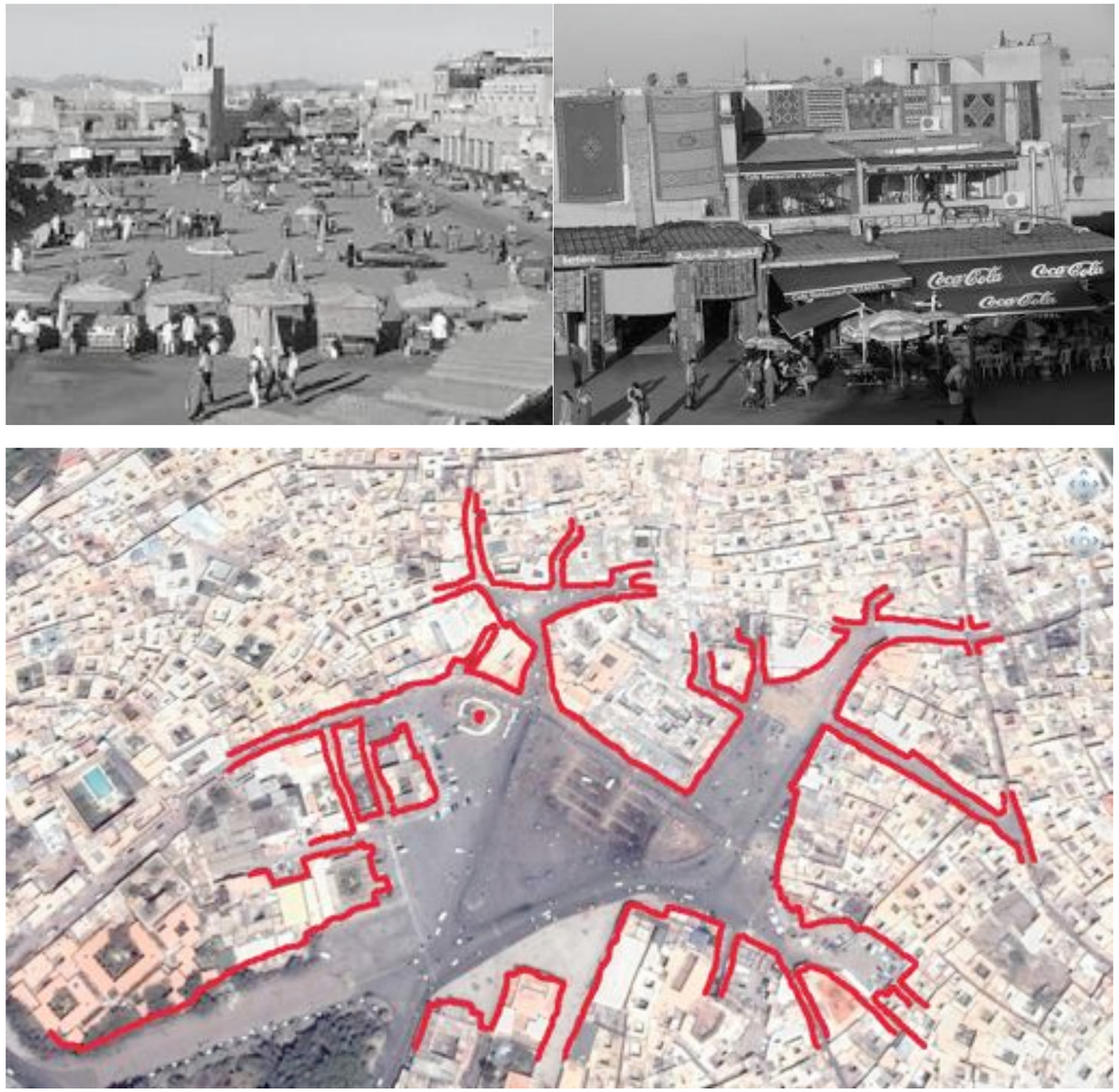

Figure III.46 : location of the Djemaa el Fna square in Marrakech (Marroc): capillary structure results in open space.
(image from Google Earth)

The unity of the urban interface, stressed by the systematically applied porched walkways and uniform building height has a certain permeable character and introduces territorial overlap as there are no fences or other restrictive elements that condition access to that part of the square. The urban fabric behind the formal façade of bourgeois residences and the two symmetrical located royal palaces, are characterised by the French courtyard typology, coherently with a more regular geometrical set-up than the previous example and with restricted access to its residents.

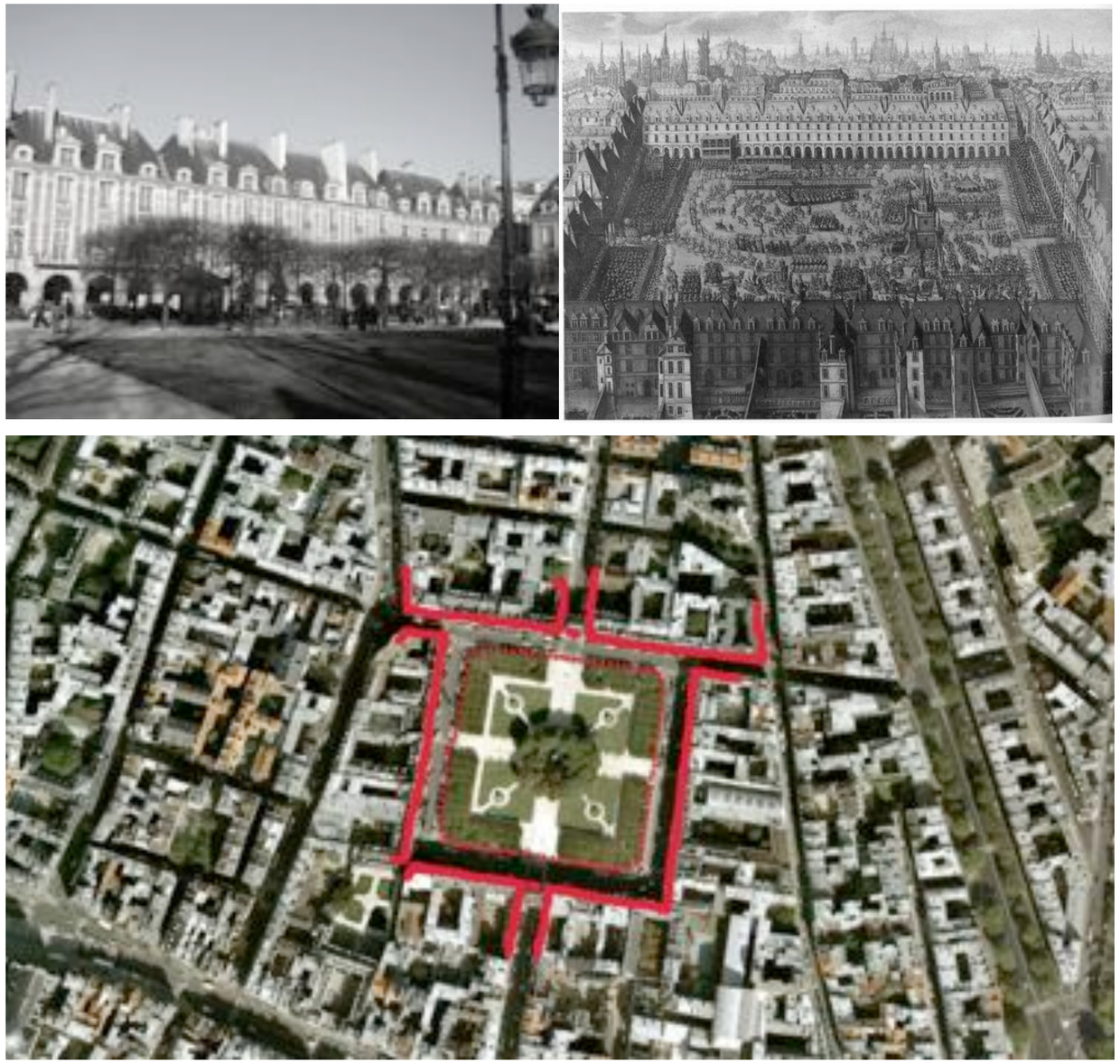

Figure III.47: Left: Paris (France), Place des Vosges, orig. Place Royale, 1605-1612, king Henri IV, built after the square Champ à Seille, Metz, XVII century. Right: picture of actual square. Relation with surrounding urban fabric.
(image from Spiro K.: "The city shaped. Urban patterns and meanings through history." Bulfinch Press Book. Boston-Toronto-London, 1991, p)

Nevertheless, the square as an open space itself became a space of **enclosed territories**: overall access gets substituted by restricted access, defined by fences and vegetation walls. As opposed to the previous example, depth sequences are not exclusively defined by morphology, that is varying or regular street-wall location but some complementary tactics are added to control the space. It is interesting to detect micro-climates within the huge open space, inviting each time different users to appropriate the urban space. In this case the resulting open space can not be considered a continuum: several filter elements are controlling territorially the urban space.

This last design tactic of restricting access to public spaces became most popular, especially during the 20th century. Fencing public space is now a widely accepted and prescribed control mechanism, especially since the increasing perception of urban unsafety in general. This phenomenon describes the first mentioned scenario of dealing with the limits of the public realm.

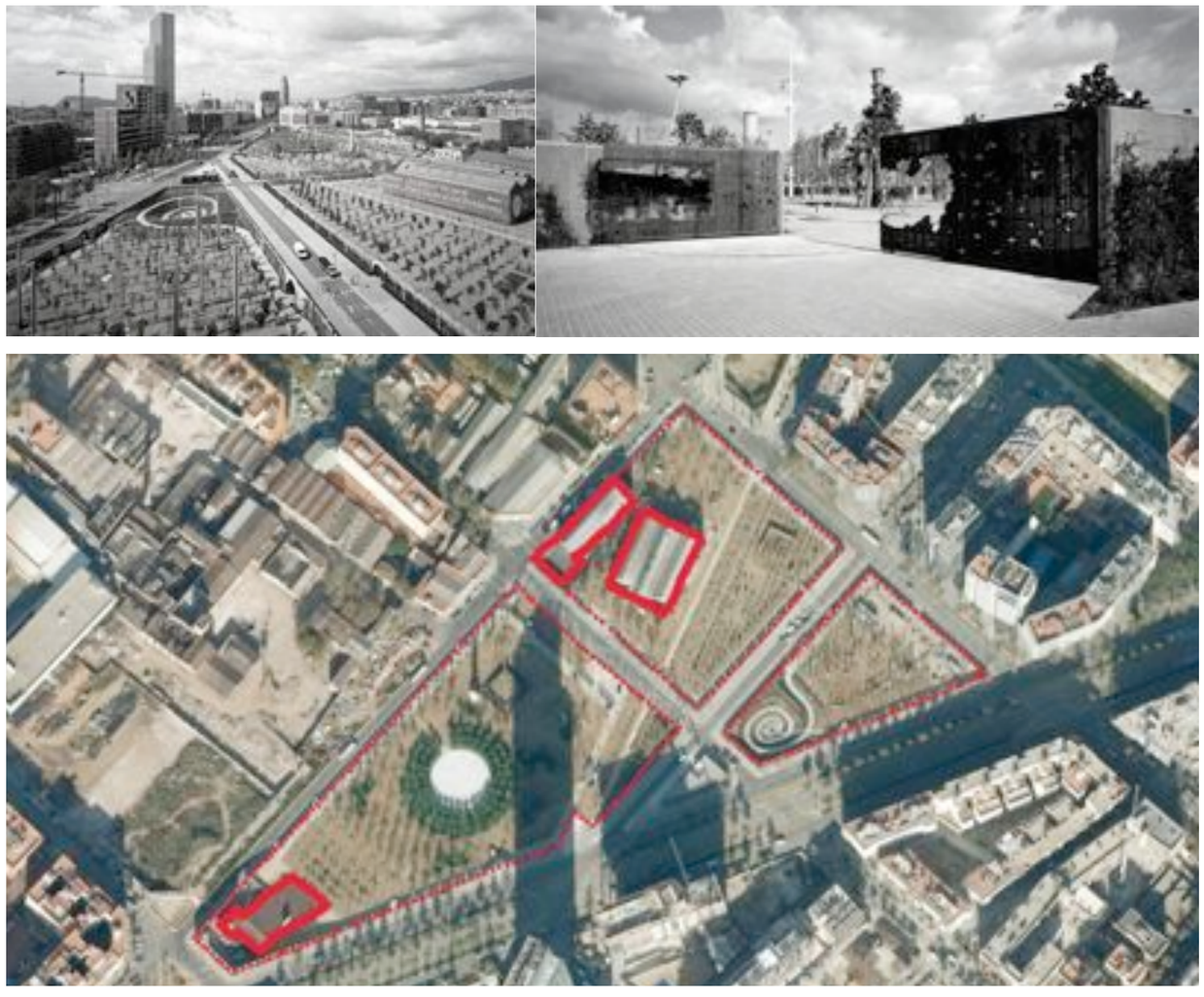

Figure III.48: Parc Central Poblenou, Barcelona (Spain), 2006-2008, design by Jean Nouvel

Recent urban designs for public space take this tactic to a next level, where an artificial boundary for parks or squares is constructed while the morphologic references of the surrounding buildings have no more influence on enclosure and depth configuration. An example of this extreme application can be found in one of Barcelona's latest parks: the Parc Central del Poble Nou in Poblenou, designed by Jean Nouvel. The project for the public park is defined exclusively by newly constructed gates and walls, creating deeper territorial structure in urban space (the gates close at night). The park is conceived as an autonomous spatial unit that constructs its new territorial levels, independent from the surrounding building. Boundaries are stressed or even exaggerated to accomplish a sense of "public privateness", an urban oasis in the metropolitan noise. The project is very controversial in a city where public space was synonym for overall accessibility and collective domain. The restriction of access, put to an extreme in this project, is provocative, considering the recent real

estate developments in the Poblenou area with space privatisation as a result. Above all, a visit to the project generates deep territorial sequences in which boundaries are sharply defined, avoiding overlap configurations.

iv. Transparency and visual overlap

The second scenario of a new dealing with boundaries of squares and parks seems to go in the opposite direction as the previous examples. In these urban projects, existing walls, gates or other physical territorial divisions are reduced or demolished and then substituted by more transparent limits. Nevertheless, those very parks and squares maintain the original territorial enclosure, only those divisions obtain a softer and more friendly appearance by offering **transparency** towards the interior. An example of this case are the newly constructed fences around the public garden of the Palau Robert mansion at the crossing of Passeig de Gracia and Avinguda Diagonal (Barcelona). The previous walls that had been defining the garden's private ambience during more than 100 years, were suddenly replaced by a decorative fence, permitting visual control over the once private garden. Even if territorial depth maintained the same value, as accessibility of the park had not been modified, the result is a relatively flat experience of depth and a certain loss of its original character and silence. Similar gardens or parks have experienced a modification of its surrounding perimeter by systematically substituting ancient walls by metal decorative fences. Official design guidelines of the local governments seem to encourage enclosed public spaces, with restricted but not exclusive access.

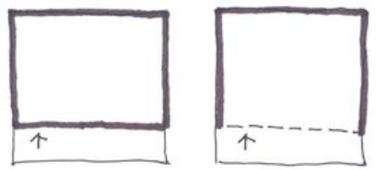

Figure III.49 : territorial scheme: substitution of walls by transparent fences: no variation in territorial depth

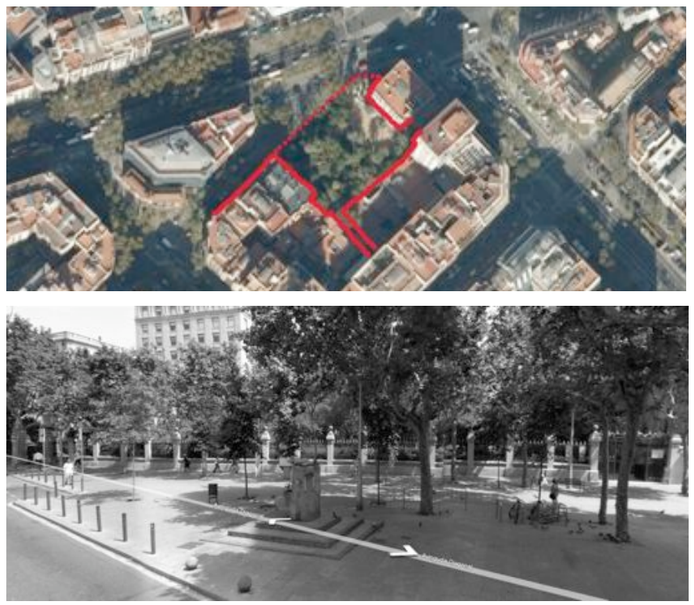

Figure III.50: examples of walls replaced by transparent fences: garden Palau Robert, Barcelona (Spain)

Figure III.51: examples of walls replaced by transparent fences: public garden at C/de Brusi, Barcelona (Spain)

This last case, in which the access is indeed exclusive for some users, defines another model of defining public space's boundaries. An example could be Gramercy Park in Manhattan, NYC (USA) or the fenced parks in the Kensington neighbourhood in London (UK), where only the residents of the surrounding buildings have access to a fenced park. In this case, territorial depth is higher, as any shared use of this place is forbidden: you need a key to enter the park. However, the park's territorial control mechanisms introduce the concept of visual overlap: the park is overall within the view of all people passing by, even if they have not the possibility to enter the space. In this case, visual control and the strict exclusive access guarantees a certain feeling of public safety. Social dimensions however, might be not as positive.
The avoidance of territorial overlap because of fear for territorial conflicts is often compensated by an increasing visual overlap. These recent phenomena of dealing with boundaries of public space result in few changes of territorial hierarchies but change the very image it can produce: some area may look as if it is more accessible while this might not be the case and, together with the mentioned processes of interiorisation and space privatisation, invite a critical reflection on the social implications of access schemes (see later).
Paul Virilio[54] mentions in "*The Overexposed City*" certain **changes in the concept of the boundary**: the author detects the transformation of the palisade into a screen interface. He notices that continuity no longer breaks down in space, but that it breaks down in time.

54 P. Virilio,"The Overexposed City" in "The Lost Dimension", Semiotexte, New York , 1984, publ. 1991

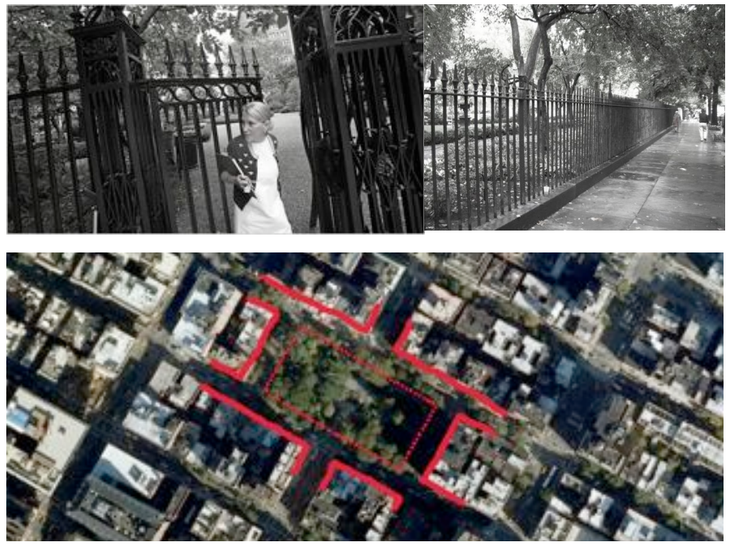

Figure III.52: Gramercy Park, Manhattan, NYC (USA): territorial enclosure, based on transparent fences. Access strictly restricted to neighbourhood residents. The case of visual overlap and absence of territorial overlap.

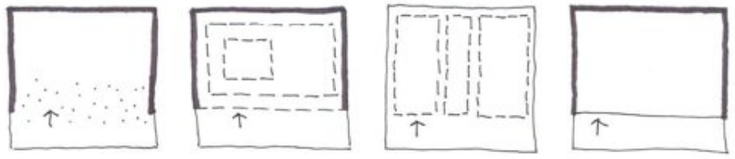

Figure III.53: territorial schemes of Djemaa el Fna square, Marrakech (Marroc), Place des Vosges, Paris (France), Parc Central Poblenou, Barcelona (Spain) and Gramercy Park, Manhattan, NYC (USA): different depth models with configuration variation of boundaries

Intramural-extramural opposition collapsed, according to the author, because of transport revolution and development of telecommunication technology. As a consequence, this introduces **new distances**, with less face-to-face encounter: in a way, it is more difficult to separate people by physical obstacles. We could read this as distances becoming more relative than before, less the complete disappearance of physical obstacles.
As P. Virilio presents an overview of the "overexposed city", he argues that classical depth of field has been revitalised by the depth of time of advanced technologies: "*The screen abruptly became the city square as the crossroads of all mass media*"
This radical theory is reviewed by Wark McKenzie[55] in "*Cruising Virilio's Overexposed City*" where the author, based on the idea of overexposure, detects an extreme rational organisation of space that generates an economy of time. This leads, according to the author, to new types of enclosure: "*spatial difference of the boundary has been superseded by the temporal differences of the frequencies with which information passes through a city permeated by networks*". In other words, the montage of information in time supersedes the boundary or form in space, unlike post-modern thinking.
Indeed, these mentioned changes affect the way we organise and control space. However, these mentioned changes might unveil a partial view on reality, as physical boundaries still complement technologic ones, conditioned by time.

55 W. McKenzie, "Cruising Virilio's Overexposed City", in Arena nº83, 1988

3. Filter tactics: physical, visual and territorial boundaries

i. Illustrating case studies

Boundaries appear on a physical, visual, cognitive and territorial level. To test this theory of multiple interface delimitation, various illustrating case studies are used. The location and area definition of those case studies depend on the nature and variety of configurations. The first area is located in Brooklyn, New York City (USA) and defined by a street in a neighbourhood that is known for its multiple image: on one hand, the still present big scale factories and storage buildings define a industrial setting at the border of the East River. On the other hand, the area is know for its residential character as it became popular a neighbourhood for East-European immigrants during the 19th century. Big scale is mixed with small scale properties, pictoresque wooden houses stand next to glass façade real estate buildings. Industry, storage and commercial activities complement housing and civic or religious facilities. Bicycles and pedestrians share streets and sidewalks with heavy-weight trucks and SUV's. The 19th century absence of planning regulations that define systematic ways of boundary delimitation, turn this area into an interesting illustration of the variety of configurational scenarios. The chosen area is defined by North 5th Street, running from the South-East interior part of the area towards the North-West side, along the East River.

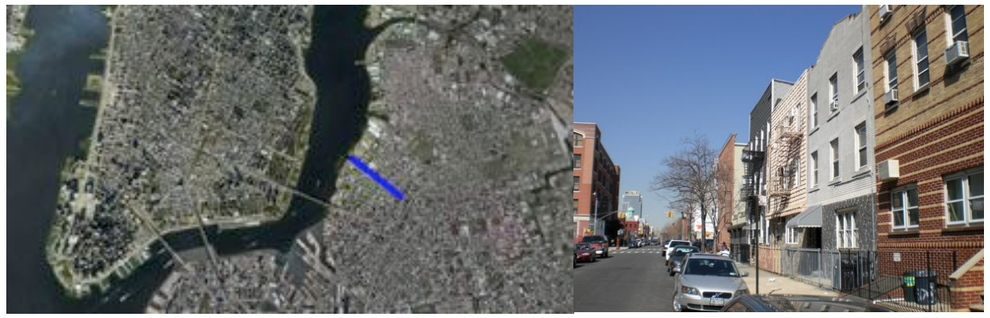

Figure III.54: Indication of North 5th Street, Williamsburgh, New York City (USA) (image google Earth)

Figure III.55: The Village of Williamsburgh, (now) New York City (USA): 1827 lay-out of the street grid. Map of the Village of Williamsburgh, Kings County; As laid out by the Commissioners, appointed by the Legislature in 1827. In 1802, real estate speculator Richard M. Woodhull acquired 13 acres (53,000 m²) near what would become Metropolitan Avenue, then North 2nd Street. He had Colonel Jonathan Williams, a U.S. Engineer, survey the property, and named it Williamsburgh in his honor. Williamsburgh rapidly expanded during the first half of the 19th century and eventually seceded from Bushwick and formed its own independent city. The deep drafts along the East River encouraged industrialists, many from Germany, to build shipyards around Williamsburgh. Raw material was shipped in, and finished products were sent out of many factories straight to the docks. Several sugar barons built processing refineries.At one point in the 19th century, Williamsburgh possessed 10 percent of the wealth of the United States and was the engine of American growth

The population was heavily German but many Jews from the Lower East side of Manhattan came to the area when the Williamsburgh Bridge was completed. Williamsburgh was a financial hub rivaling Wall Street for a time.
(reduced image from the large Map in the possession of the Trustees of the Village. Surveyed by D. Ewin. New York, Engraved & Published by H. McDowell, 1833.)

The second illustrating case study is located within the Poblenou region in Barcelona (Spain), a former industrial and residential area, defined by its recent urban transformation. These changes in character, activity, mobility and scale are the result of laid out plans for the district to locate part of the housing facilities for the 1992 Olympic Games and of the more recent 22@-project that tries to inject new information and communication industries within the former industrially based region. The selected area can be seen as a double street-axe that includes a Cerdà-based street, Carrer d'Àvila running from Glòries to the waterfront and second, the linked Avinguda del Bogatell, a system of open spaces originally not planned within the Cerdà-grid and constructed as a part of the mentioned Olympic strategies. Both streetscapes represent a specific model of space production: the first one still based on industry, storage and working-class residential zones, even if the 22@ projects tries to add new activities within the street. The second streetscape is directed towards middle-class residences, huge public spaces and many civic and leisure facilities. As a result of this multiple character, boundary delimitation and territorial configurations are different, this time as a result of intentioned plans way at two different moments in history of urban growth of the city.

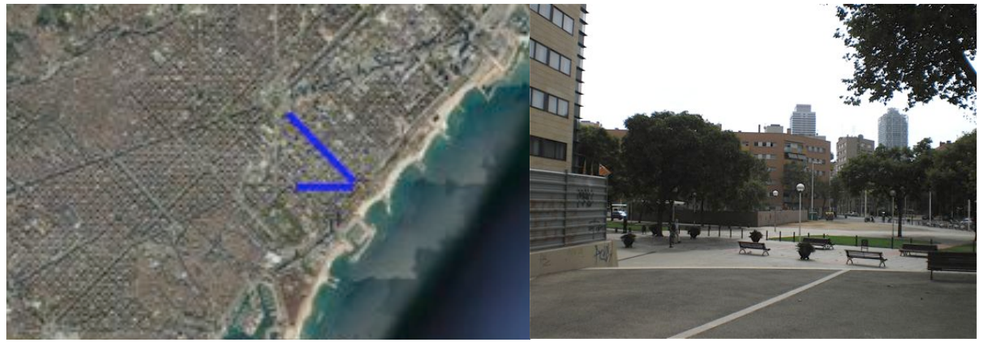

Figure III.56: Poblenou case study, Barcelon (Spain) (image google Earth)

Figure III.57: Poblenou region in the Cerdà extension plan, map 1859.
(image from archives Institut Cartogràfic de Catalunya, ref. RM.84360, 1859)
Poblenou is an extensive neighbourhood (Sant Martí district) that borders the Mediterranean sea to the south, Sant Adrià del Besòs to the East, Parc de la Ciutadella in Ciutat Vella to the West, and Horta-Guinardó and Sant Andreu to the North. It is technically part of the Eixample, its

layout having been drafted by Ildefons Cerdà, although the historic centre of the neighbourhood (which was once a town entirely separated from Barcelona) predates the grid. During the Industrial Revolution of the 19th century, Poblenou was the epicenter of Spanish industry, earning it its sobriquet of the "Catalonian Manchester". Surrounding the extensive cluster of factories stood mostly working class residential areas. After a period of decay, the neighbourhood has undergone a dramatic transformation. Many of the areas that have been developed—including the Vila Olímpica, the Diagonal Mar area, and the Fòrum area—arguably comprise their own neighborhoods. Completing its original, unfinished plan, The Avinguda Diagonal now stretches from Plaça de les Glòries to the sea. The massive 22@ plan sets to convert Poblenou into the city's technological and innovation district, as well as to increase leisure and residential spaces.

The third illustrating case study is defined by a street in the Barceloneta neighbourhood in the city of Barcelona (Spain): Carrer del Baluart starts right next to the Estació de França and ends at the Barceloneta beach. The area is characterised by a double urban structure: on one hand we find the popular atmosphere in the dense interior part of the neighbourhood, exhibiting a basic, local and lively urban settlement. On the other hand, the penetration of a more commercial, tourist and residential upmarket tendency quickly transforming the neighbourhood from the exterior boundary of the area till its very core. As it is the case in the other illustrating case studies, this selected area permits a multiple reading of urban space and introduces some other, more informal, ways of appropriating space, contrasting with more traditional territorial delimitation of properties.

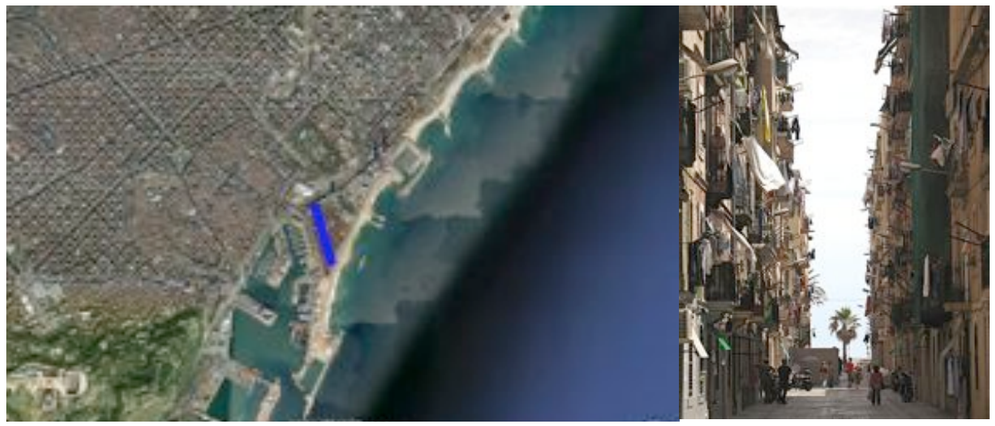

Figure III.58: Barceloneta, Barcelona (Spain) (image google Earth)

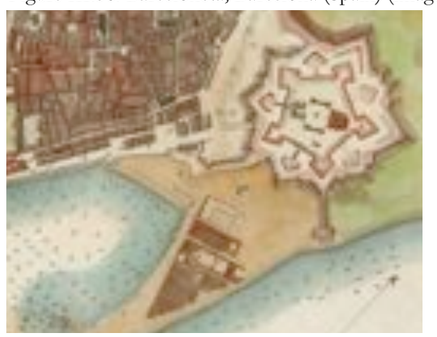

Figure III.59: Barceloneta, 1806 Barcelona (Spain) (nieghbourhood indicated at the bottom of the map)
(original map by Moulinier, 1806, from archives Institut Cartogràfic de Catalunya, RM.19425)

La Barceloneta is a neighborhood in the Ciutat Vella district, constructed during the 18th century for the residents of the Ribera neighborhood who had been displaced by the construction of the Ciudadela of Barcelona, ordered by Felipe V. The neighborhood is roughly triangular, bordered by the Mediterranean Sea, the Muelle de España of Port Vell and the El Born neighbourhood. The urban structure of the neighbourhood is defined by a rectilinear layout of streets and islands of regular houses. The housing typology was the origin of plant and houses for rent with access to two streets that they might have optimal ventilation. Over the years, and because of real estate speculation, this structure

has disappeared and building heights are much higher than those who settled in origin, in addition to the partition of the original house into halves and quarters of the floor. During the nineteenth century the area knew an important industrial development with large factories, now disappeared. Barceloneta is now known, apart from the authenticity of the dense popular neighbourhood, for its sandy beach and its many restaurants and nightclubs along the boardwalk.

ii. Filter tactics

Territorial boundaries can be defined by **morphology**: the very façade of a building can explicitly indicate the beginning or the end of individual or collective territories. As said before, the construction of **walls, fences or gates** can be as efficient to define aggregated, overlapped or included territories. Besides these more obvious filter tactics, **topographical changes**, from a small step or threshold till more important level changes can delimit a property, sometimes complemented by **landscaping** features: hedges, lines of trees or groups of bushes. In the same way, even a change of pavement indicate a territorial transition or overlap scenario. Distance itself, as a part of more complex **spacing techniques**, can help to define territorial configurations: longer distances less encourage to enter unknown territories while short distances often need more explicit delimitation. Other regulating devices can be elements of **space systematisation**: the organisation (concentration) of pedestrian movement or vehicular traffic can help to define boundaries: a busy sidewalk, combined with offsett-designed bike-lanes and parallel parking areas can efficiently work as a filter tactic, creating additional boundaries.
Change of activity or types of space users, like we see in some streets where suddenly the commercial activity ends or a different type of public appropriates the street, can perform as a boundary, gradually or abruptly delimitated. Occupancy and the responsible authority for it, affects the way we read and act on territorial limits. In a similar way we can detect changing human behaviour or the appearance of a different social group in an area as a territorial boundary.
Recently, the use of **technological devices** became more popular: CCTV and infrared detection systems define territories. In the same way, changes of **lighting recipes** change the reading of territorial configuration: this became a tool applied many times by companies or governments to regulate accessibility of squares, streets, beaches or private properties. **Security guards** or patrols seem to have a similar effect of defining boundaries: the more exclusive a property or a shop, the more important is the present of people allowing or denying access.
The last category might be the **psychological associations** we have with certain territories that influences its accessibility: according to our cognitive perception of urban space, we change our behaviour or movement patterns.
We should mention the importance of the difference between visual parameters defining boundaries and strictly physical ones, as they not always coincide: a wall between two territories can exist but be out of visual reach for its inhabitants which reduces its value to a more symbolic level. In other cases, explicitly defined boundaries may not have physical dimension, as they depend on technology, light or changing human behaviour.
As mentioned before, we pay special attention to the filter tactics with territorial meaning, that is the ones that change the level of access to a certain area or building. Besides physical and visual filter tactics, territorial boundaries seem to acquire a higher importance in urban systems.

iii. Boundaries defining physical, visual and territorial distances

The mentioned case studies can be used to illustrate the possible territorial scenarios. All cases can be used to re-read and compare the physical, visual and territorial dimensions of the monitored streetscapes. The illustrating case studies take the centre of the street as the main axe from which proximity and depth is studied. The objective is to illustrate and relate models of proximity with different cases of boundary delimitation and extract patterns to theoretically frame the concept of depth as a matrix of many urban design parameters.

The case of North 5th Street in Williamsburgh is very peculiar: walking through the street, one detects an interesting variation of defining boundaries: within one street almost all previously mentioned filter tactics are applied in a non-systematic way. It looks as if each user, inhabitant or owner was provided with the freedom to delimit the intimate or collective territory in his/her own way. No overall planning strategies seem to be at the base of the street as a territorial configuration.

Observing the figure/ground map of the street and its direct surroundings, we detect a rather irregular morphological set-up, unlike the early 19th century laid-out street grid. Besides the streets and sidewalks, many other spaces in different sizes are left open, waiting for construction, to host parking accommodation or to provide gardens or courtyards. Many open spaces can be seen as a part of spacing mechanisms to provide a more private character to a property or building. The properties and buildings situated on the South-eastern part of the street seem to be defined by a smaller scale and present a much more capillary structure than the Northwest part, dominated by industrial activities and storage facilities, even if at the very end some new housing blocks are constructed. The streetscape is mostly defined by aggregated territories, small ones at one end and bigger ones at the other. One territory is situated next to the other, without any specific height or set-back regulation: each single building, independently of its use or scale, seems to position itself freely within the delimited territory. Some buildings show set-back of more than 10m, containing a private front-yard, while the façade of the neighbouring house is situated strictly coinciding with the property limit. Other buildings seem to have occupied part of the sidewalk to guarantee a higher level of privacy. Besides that variation, width of the lots as well varies and shows no regular pattern.

Figure III.60: (left) Figure/Ground map showing open spaces in area around North 5th , (middle) Map of open space with no restricted access (coinciding with streets, sidewalks and squares of public property), (right) Map of open space with restricted access (after going through sets of territorial filters, collective space)

Considering the street a territorial "*live-configuration*", it is needed to map accessibility in a coherent way: how do boundaries define where one can enter or not, or in other words, what is the territorial configuration of this linear cluster of aggregated, integrated (or included) and overlapped territories?

To achieve this, we can draw a map of the available open space within the area where there are no restrictions whatsoever to access different territories: that map would coincide with the traditional concept of public space. This map shows a more regular pattern of space production, as it is based on the 19th century planned grid, defining clearly the neighbourhood's sidewalks and traffic areas. Compared with the open space map, here we detect more constant width of spaces as the streets define a regular rhythm of organising space. However, there not seems to exist one determining line that regulates or describes the relation between the area of unrestricted access and the other part that does have restricted access: in this case, there are many different parallel lines, producing move-forward, move-backward actions in the game of territorial configuration. Street-wall location is not defined by one line but by a set of multiple parallel lines.

A closer look at the interface configuration shows a great variety of filter tactics, dealing with individual and collective territories. The Map describing the Street Alignments and the indication of the cross sections illustrates some different recipes of delimiting boundaries.

For example, cross section 2 indicates a system of physical, visual and territorial distances to define the in this case domestic territory: the depth, as observed from the street towards the more private interior areas, is defined by boundaries of different kinds. A small step indicates first the difference between the street itself and the more protected sidewalk, stressed by the appearance of a tree line. Next within the sequence, a fence appears that seems to indicate the start of another territory: the fence with its gate represents a first restriction of access: only the different owners of the apartments within the building can enter this outdoor space (with a key even) before entering through the front door which represents, besides the outdoor/indoor division, another territorial boundary. Before reaching that door however, a set of stairs allows you to get to the level to enter the building. Once the inhabitants or visitors get inside the common hall, another restriction is made in between the different residents of the apartments situated on the different floors in the building. It is the very combination of all mentioned filter tactics that defines the depth sequence: some are physical, like the steps, fence, doors or trees while others need to be tested at transparency or visual exposure. One can easily look over or through the fence and control visually the next territory while in other cases this visual control is avoided explicitly. In this case the boundaries with territorial meaning are the fence with the gates and the indoor separating door as these are the filter tactics that really reduce the collectiveness of use of space: each time you cross a territorial border, this means a reduction of accessibility, a selection of admitted or wanted public. The diagram shows the different distances related with open space, with no restricted access or the areas of restricted access. The difference between the last two areas is indicated as “differential collective space”, in this case strictly located between two territorial boundaries.

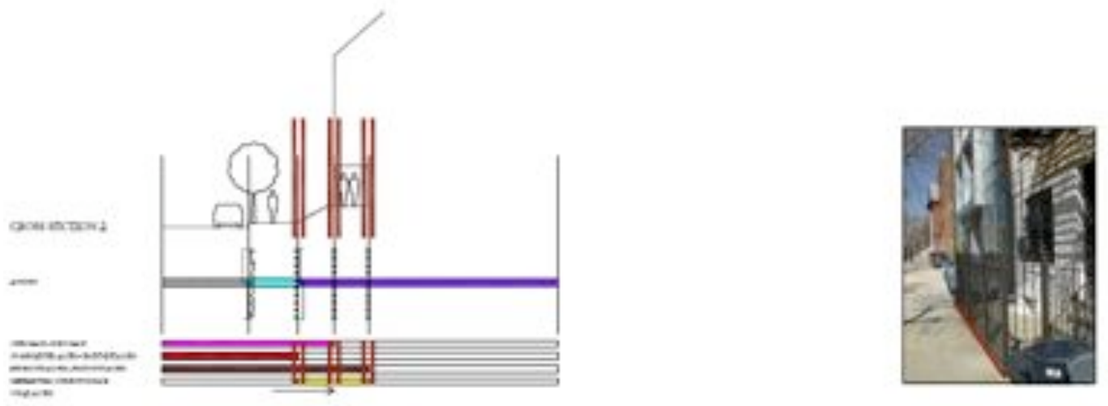

Figure III.61: Cross section 2

Another example is cross section 4 where a multi-family house is located with a rather large setback from the street, separated by a fence with a gate. In this case, the territorial boundaries are the external fence, the exterior front door and the internal door between the common hall and the individual apartments. Here, physical distance is important to define depth, while thresholds and tree-lines differentiate the more collective part of the sequence. Visual distance is large but no obstacles are used to guarantee higher levels of privacy. In this case, differential collective space seems to be proportionally larger than in the previous case, even if this does not increase the absolute value of territorial depth.

Figure III.62: Cross section 4

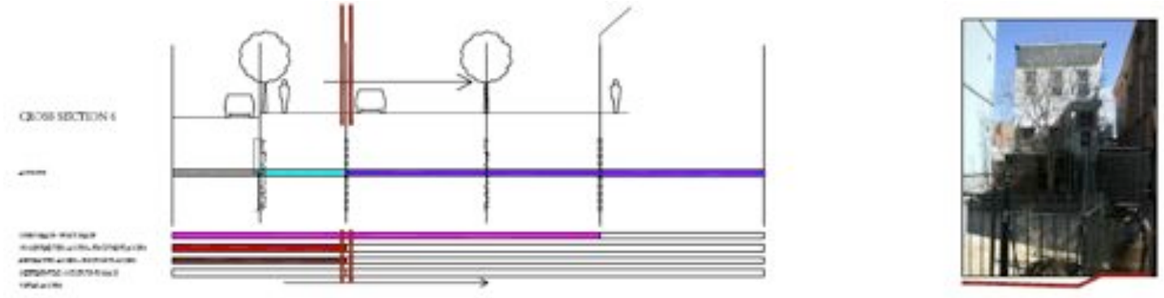

Figure III.63: Cross section 6

We could compare this with cross section 6, where we have a similar physical set-up but with different territorial meaning: here the house is a single-family home which reduces the depth value. The territorial boundary is defined only by the outdoor fence, situated close to the street, delimiting an individually used territory. As a consequence, we detect no differential collective space as there is no difference between the distance related to space with or without access restriction. Another difference is the appearance of trees and lower vegetation that limits visual exposure from the street.
Cross section 7 illustrates another case where multiple entry possibilities are presented to enter the apartments situated on different floors: from the sidewalk one can walk up some stairs to reach the individual front door of one of the apartments, or walk down a few steps to arrive to a similar entrance. Neighbours do not seem to share staircase nor hall: selection is made before entering the territory of restricted access. Looking at the diagrams of applied distances, we detect an area of differential collective space that in this case is not situated between territorial boundaries: we call this an **overlap scenario**. If the staircase would have had a surrounding fence with locked gate, the differential collective space would have been again situated between territorial boundaries, producing part of a **territorial transition**: a systematic reduction of accessibility, defined by territorial boundaries.

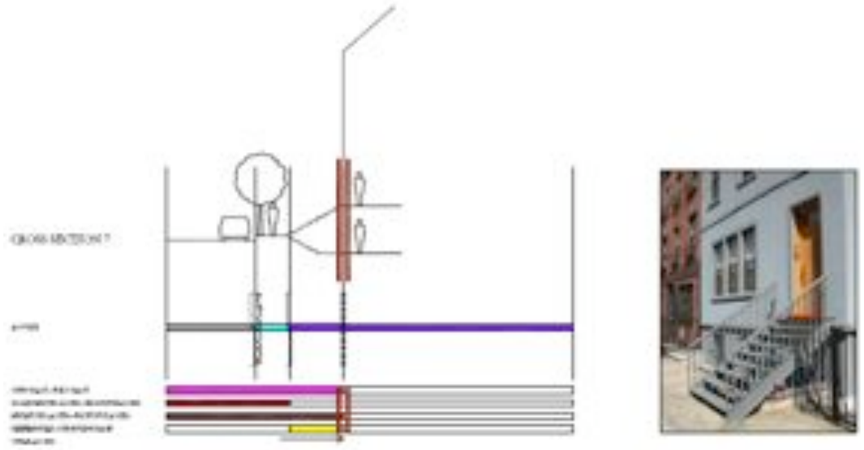

Figure III.64: Cross section 7

Some similar results can be found in cross section 13, even if the territorial configuration here becomes multiple and more complex: at the level of the ground floor apartment, a fence with a gate appears to define the individual territory before you reach the entrance door. The upper floors of the buildings in this case are occupied by several families which means that when you walk up the steps toward the door, there still isn't any real restriction of access: the door leading to the common hall is the applied filter tactic. In other words, one morphological configuration describes several territorial scenarios: the one for the upper floors that contains an overlap scenarios while the ground floor apartment is different. Here, the extreme visual exposure the front garden has, converts that space as well in an overlap area but in the introverted way.

The complexity and multiple access possibilities of included or aggregated territories is shown in cross section 15 where the perpendicular position of a multi-family building creates several territorial scenarios, most of them based on territorial transition, that is the planned sequence from few access restrictions to areas of increasing reduction of collectiveness within the approach sequence. Other scenarios show minimum depth and a simple configuration, as all distances coincide, even the visual access diagram, as it is the case in cross section 17.

Figure III.65: Cross section 17

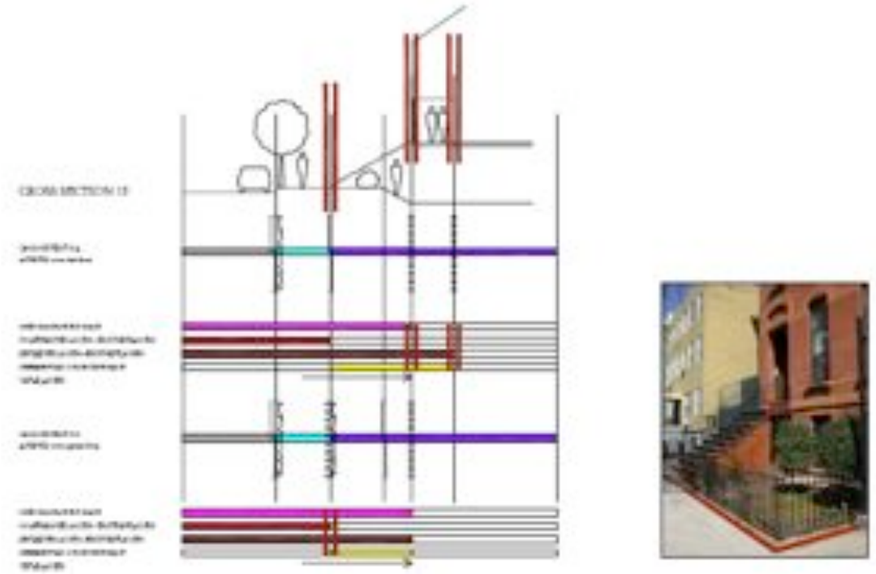

Figure III.66: Cross section 13

The activity map of the area shows the different uses in all buildings and its respective access points. Besides residential program, some religious, commercial, civic and industrial activities are located within the same street. Cross section 11 illustrates the position of a church: the dominant building is situated with a small setback from the street and separated from the unrestricted open space with a fence and a gate. Once inside this territory, one needs to walk up some stairs before entering the main hall of the building after which real access is provided to the members of the religious community. As the activity of the building already incorporates a collective spirit, this second territorial boundary is indicated differently, as it represents another value of territorial restriction.

All commercial activities are indicated as collective spaces of restricted access and indicates in plans and sections as **time-dependent differential collective space**.

It is interesting to see how physical, visual and territorial distances vary, cross or overlap in the different territorial configurations. Some scenarios even present cases of dual orientation, where a territory of restricted access is related at more than one side.

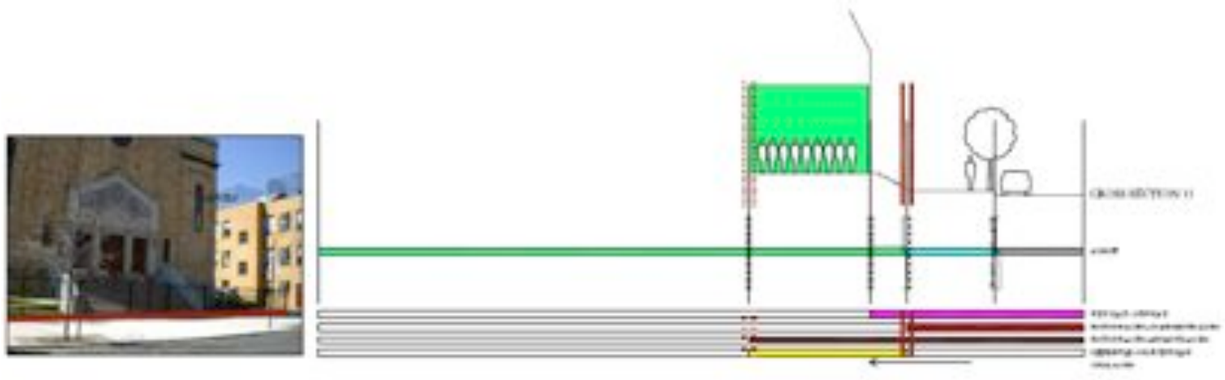

Figure III.67: Cross section 11

Besides the not intentionally planned combination of territorial scenarios, it is interesting to see how the more recent projects avoid the overlap scenarios and almost exclusively plan the entrance sequence on territorial transitions with explicit delimitation of boundaries. Technological devices are added to control properties.

Taking all these filter tactics into account and mapping the space that includes all this areas with restricted access as an acknowledgement of collective space, we find a variant of the Nolli mapping technique (see before). However, this document is based on the idea of collective space, including more areas of collective use, even if this is on private property. It shows more than publicly accessible areas and does more than blurring the indoor/outdoor distinction. Here, an area is drawn that indicates every step in the sequence of reduces collectiveness in the street as territorial configuration. The North 5th Street case shows an extremely small-scale referred configuration with at the same time huge continuous and constant façade penetration and some more fragmented small cuts in the more intimate territories. Not only physical setbacks but above all the territorial setback characterise the streetscape and offer a highly varied rhythm. This scenario allows high levels of flexibility in time and many options for personal appropriation of in-between spaces. This irregular, small scale interface appearance however is not continuous all over the length of the street: the industrial area shows big scale and rougher territorial adjacencies, coinciding with the more recent residential real estate developments.

Visual diagrams for the neighbourhood show a similar irregular and small scale profile, offering sometimes a glimpse of inaccessible territories within the same streetscape. Visual control of the streetscape is examined through screening the configuration for visual connection within a 50m radius of the present entrances to the buildings or properties. This systematic representation allows an easy reading of the "**active boundaries**" in the street, that is where boundaries are visually (and socially) are controlled between residents and visitors. The final diagram shows a very discontinuous pattern of active boundaries: some areas obtain an extremely high level of visual control while others (especially in the more industrial part), can be read as physical or even territorial boundaries but without the back-up of social control as the visual exposure diagram does not reach the very entrances situated on the very boundary.

The illustrating case study within the Poblenou region in Barcelona shows a completely different scenario: the figure/ground map shows an extremely high proportion of open space in the part of the Avinguda Bogatell and a contrasting low proportion of open space in the Carrer d'Àvila. Avinguda Bogatell, an urban strip from Carrer Marina till the half circle-based residential building at the waterfront, shows a series of semi-open building blocks that still inherited the chamfer-based rigidness of the Cerdà plan but at the same time force an urban boulevard as a sequence of open public spaces. However, the laid-out varied program of housing and related facilities does not sustain this morphological Leitmotiv: many spaces look abandoned and out of scale. The transition of spaces is highly irregular but above all, with very few indications of street alignments: the diagonally crossing of the Cerdà block orientation produces many forced cutting through urban fabric and morphology based on sharp geometrical games. However, urban coherence can be read by seeing the avenue as a group of courtyard-based urban projects of relatively high programmatic compactness. The structure of property is irregular and varies in size while street alignment is conditioned to one single boundary line which explain the rather strange looking resulting morphology. As opposed to the previous case, here an overall design strategy is applied to the whole area: an urban public avenue based on linear geometry feeds a system of interior courtyards with restricted access. Many facilities are laid out as huge free-standing buildings on even bigger fenced territories, carefully aligned to shape the urban avenue. The other part of the area that represents a more original situation of the Poblenou region, Carrer d'Àvila presents a different profile: here the figure/ground relationship is defined by Cerdà's regular grid, even if some smaller scale, pre-rational spaces appear to compensate the bigness and rigidness of the mentioned 19th century rational planning. Huge lots, still oriented and geometrically defined by property structure or ancient agricultural subdivision schemes, are combined with small scale properties, following the same principles. Industrial buildings appear as huge wide buildings of several levels as part of an urban block or as an aggregation of small narrow lots of industrial halls, sometimes sharing a common loading dock and entrance. Within the same street, housing appears sometimes as an enormous building block while in other occasions fits in the configuration as a set of single small-scale attached dwellings for a working class public.

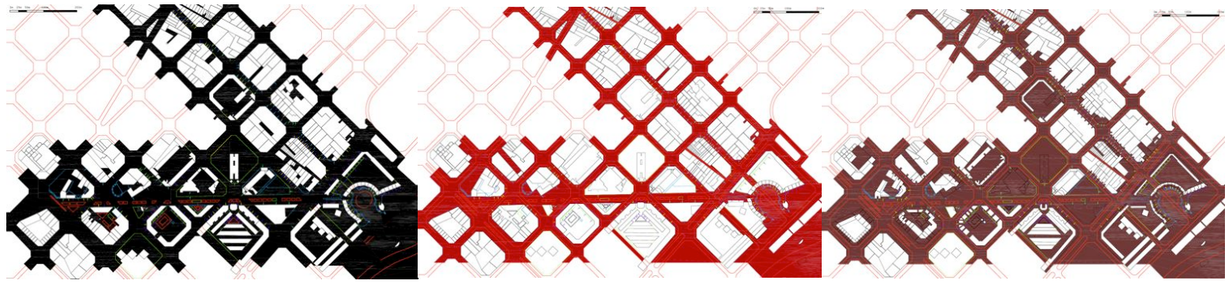

Figure III.68: (left) Figure/Ground map showing open spaces in area around Avinguda Bogatell , (middle) Map of open space with no restricted access (coinciding with streets, sidewalks and squares of public property), (right) Map of open space with restricted access (after going through sets of territorial filters, collective space)

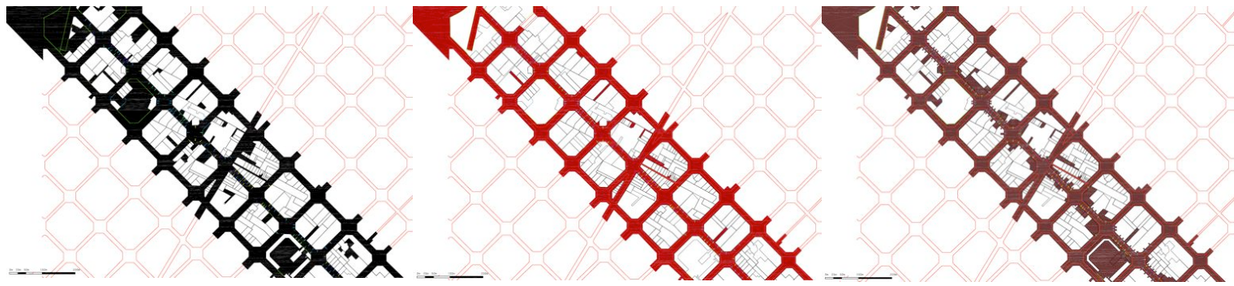

Figure III.69: (left) Figure/Ground map showing open spaces in area around Carrer d'Àvila , (middle) Map of open space with no restricted access (coinciding with streets, sidewalks and squares of public property), (right) Map of open space with restricted access (after going through sets of territorial filters, collective space)

The map of open space with no access restriction shows in the case of Avinguda Bogatell a clearer diagram, with a structure easily recognisable. This very drawing seems to be the base of all interventions, more than real collective space mapping that does not present the same legibility. Carrer d'Àvila allows a similar easy reading of public property: repetition of geometrical devices helps to understand functioning of this facet of the area. The rhythm get interrupted with the crossing of the street with Carrer Pere IV, introducing a change of orientation within the urban system.
The Street alignment scheme introduces a strong contrast between both streets: the avenue has no clear reference for building façade position, besides the cutting off parts of the block to allow generous dimensions for the public space, while the other street does own a strong set of building lines the buildings seem to obey. The ending parts of the morphological sequence both have very special characteristics: Glories and its system of open spaces to the North and the buildings embracing the Mediterranean waterfront at the Southern part.
Cross sections 3 show sets of (relative) physical, visual and territorial distances that seem to cover the main idea of the Olympic intervention within the former industrial area. The section refers to a residential building block around a courtyard with restricted access to its residents. The diagram explains the **dual orientation** the project has: the apartments can be reached form the street side through a common hall that allows visual connection with the interior courtyard or through that very courtyard that contains as well a parking space and a common swimming pool. We could almost detect the case of **territorial overlap** as the entrance halls are situated between two different territories. However, in none of the possibilities, real spontaneous overlap scenarios or multiple territorial reading are incorporated: the project is based on explicitly defined boundaries laying out pre-defined movement patterns. Cross section 5 shows a similar case as the same architect of the project used an identical design strategy. (see later chapters about these blocks and the relation with collective spaces).

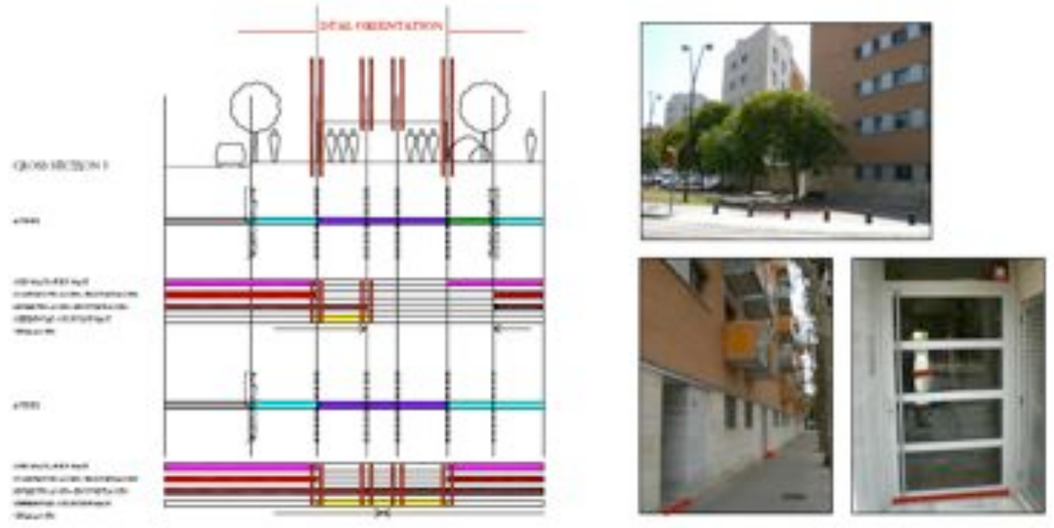

Figure III.70: Cross section 3

Cross section 2 shows the case of a residential project that completed another urban block within the area and defines an outdoor open courtyard. Morphologically the project tries to define a continuous street wall and orients all entrances to the project at the street side, reducing the structural qualities of the courtyard to a simple urban park not being part of the project's territorial transition. Special attention was given to the building façade's transparency that allows people that walk on the avenue to get a glimpse of the interior courtyard, coinciding with the resident's entrance hall. Here, morphology indicates dual orientation while the real territorial organisation is not dually set-up and we can certainly not detect cases of territorial overlap. Part of the ground floor activity is commercial, seen as a time-dependent collective space and as a consequence, indicated as differential collective space in sections and drawings.

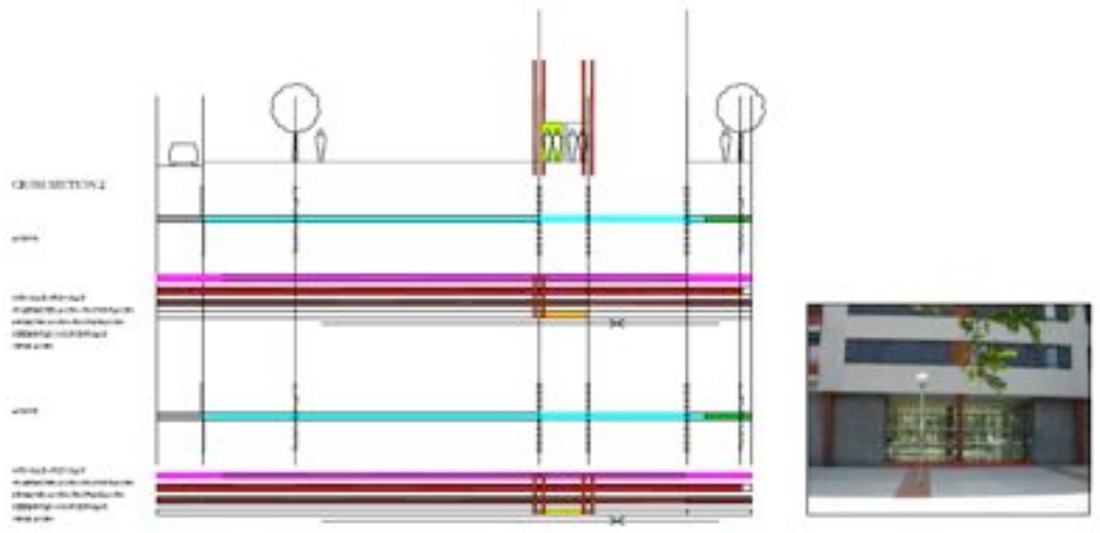

Figure III.71: Cross section 2

The cross section 1 explains a very interesting case: during process of analysis the territorial configuration and the amount of boundaries changed, illustrating more general phenomena of territorial behaviour within the area. In the beginning, an open interior courtyard facilitated access to a series of apartments: from the street, one had to walk down some steps to enter a more domestic area that lead towards a fence with a gate. Once inside this territory, one approached a front door that connected with a common hall, distributing all owners or residents. Diagram 1 shows the set of physical, visual and territorial distances, defining a configuration based on territorial transition. However, by the end of the analysis of the neighbourhood, suddenly an extra boundary appeared: a new fence was constricted just before the steps took you downstairs: the doorbells and names of the owners now appear on the fence itself. In this case territorial depth was increased by adding another territorial boundary, in this case a visually permeable fence. The level of territorial transition was increased while overlap scenarios were explicitly avoided within the area. Landscaping elements were used to restrict visual depth when arriving to the more intimate part of the territorial sequence.

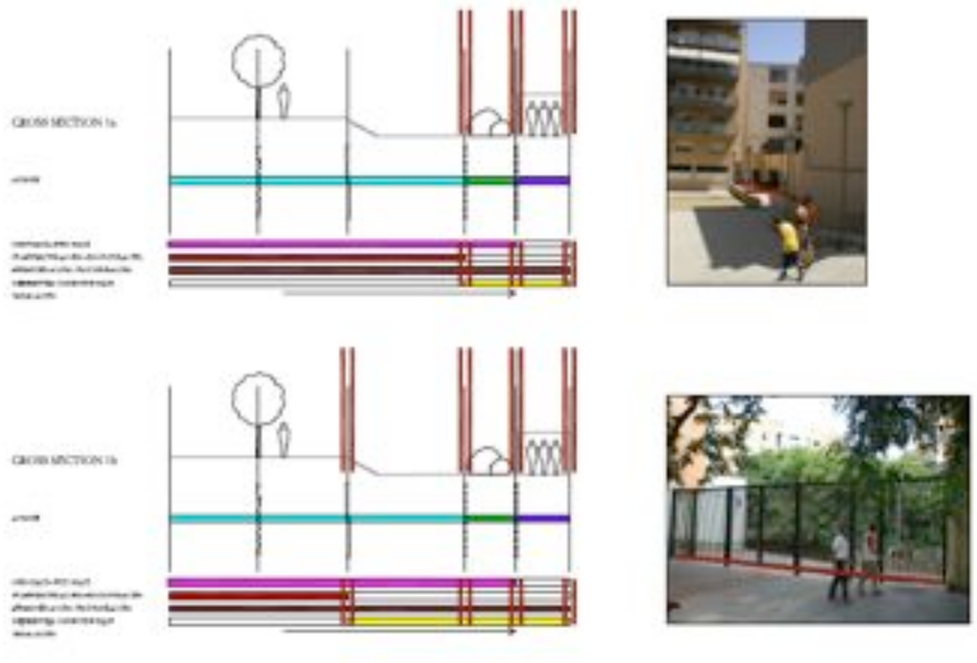

Figure III.72: Cross section 1a/1b

The activity map of the area indicates the variety of functional program and related size within the area. The cross section 4 illustrates the case of an education facility, its territory perfectly defined by a continuous fence with only one entrance, oriented towards the avenue. In this case, the offset-space is used as outdoor playground for the children at the school, as a part of time related differential collective space.

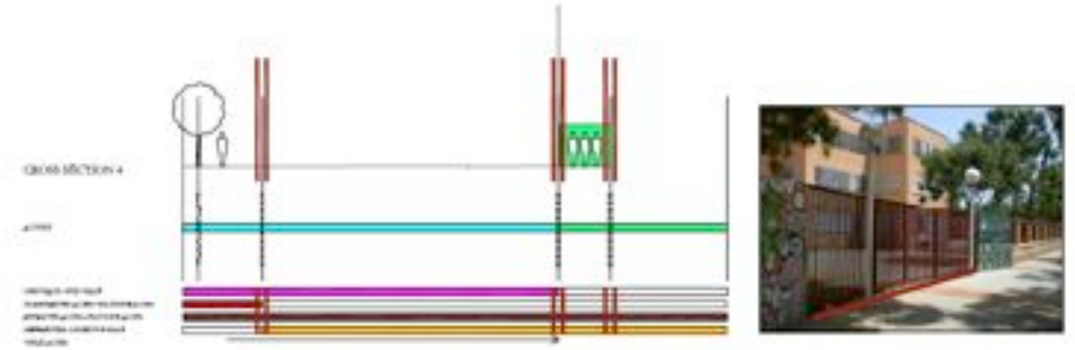

Figure III.73: Cross section 4

Where Avinguda Bogatell meets the Poblenou waterfront, the urban avenue turns into a *pasarela* that leads toward the higher situated formal and public courtyard of the half-round residential building group. Here, as can be seen in cross section 8, a case of territorial overlap can be detected as a topographic change differentiates in a subtle way the not restricted space from the space with access restrictions.
Within the Carrer d'Àvila part of the area, cross section 10 explains a very common territorial scenario for the Poblenou region: it shows the entrance and loading dock facility of an industrial building, in this case used by only one company. Mostly, the huge gate stays open and allows a visual and collective control of the entrance area, even if the activity itself and the bigness of the space creates a clear territorial boundary.

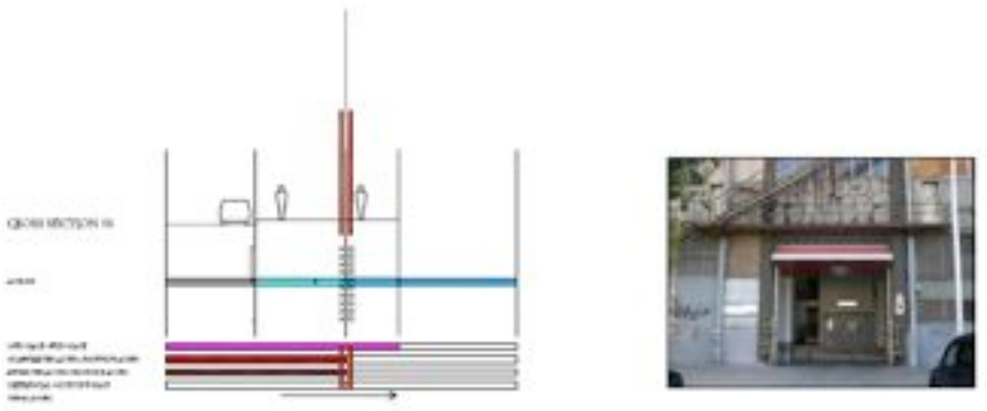

Figure III.74: Cross section 10

Other industrial buildings show a setback from the street wall and provide a space for outdoor storage or parking area, mostly limited to owners or workers. Gasoline stations, garages, storage buildings use setbacks, fences or walls to define territorial boundaries, even if in some cases this needs to be extremely permeable as the activity depends on access by customers. Cross section 14 shows another typical territorial scenario for the Poblenou region: here access is shared by different companies by using a large corridor/passage. This outdoor space can restrict access during closing hours but in the other case, shows an interesting mix or physical, visual and territorial configuration, breathing a real authentic atmosphere for the area. The territorial structure is deep, mostly influenced by the huge physical distance to arrive at the very core of the industrial building. Other cross sections, like nº 13 or nº 16, show a more flat territorial structure with a coinciding limit for restricted and not restricted open space.

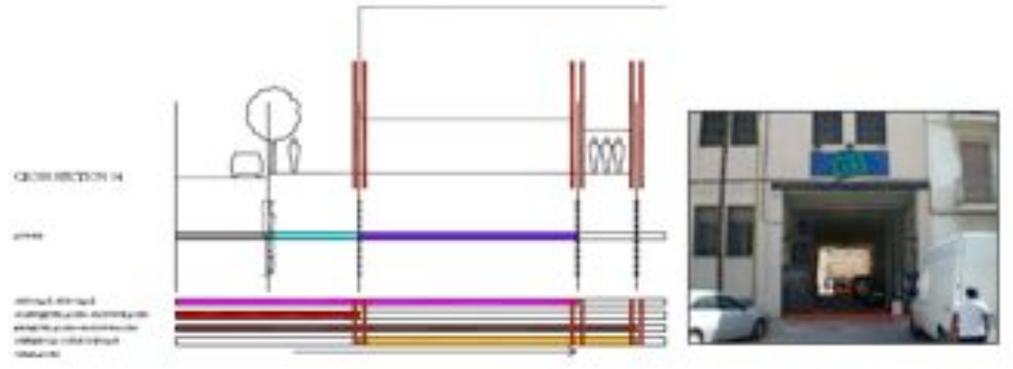

Figure III.75: Cross section 14

Within the same street, cross section 15 indicates a residential program in a very traditional territorial set-up: most multi-family housing define territory by the building façade, leaving no doubt of the changing restrictions of accessibility.
The resulting map of open space with restricted access (after going through sets of territorial filters), shows for the Carrer d'Àvila a similar pattern to the Williamsburgh equivalent map: activity and boundary delimitation introduces a more capillary profile to the area of restricted access, even if scale is much bigger. A change in rhythm can be noticed where a housing project was introduced within the street, following the same principles as mentioned for the Avinguda Bogatell sequence. Here, collective space suddenly penetrated the Cerdà-based blocks. The part of that avenue shows an interesting pattern of systematically breaking through the façades of the urban blocks, creating an even bigger and even more continuous field of collective use, even if most part of the recipes are based on territorial transitions, leaving the options of a more spontaneous territorial overlap behind. Individual territories appear like small fragmented island in a sea of collective space, carefully controlled and protected by a set of parallel boundaries.
Studying the activity map end the related visual control diagrams, we detect many gaps in the Avinguda Bogatell sequence where generous spatial dimensions convert delimiting filter tactics into **non-active boundaries**, decreasing social control and liveliness of the neighbourhood. The Carrer d'Àvila part has a higher level of **visual integration**, linked with the functional distribution, but does not guarantee a continuous profile along the street, especially at the Northern part where the street ends at the Glories site, an area with a high amount of construction sites.
The figure/ground map of the area around Carrer del Baluart in Barceloneta is defined by an extremely regular and easily readable grid, as opposed to the previous examples where only the area with no access restriction offered this quality. The structure of the open space is repetitive and simple: proximity depends on wall-to-wall distances with almost no variations. If the Williamsburgh case showed a mixed-use area with no planning regulations and a high variation of territorial scenarios and the Poblenou region is characterised by successive top-down planning strategies resulting in systematic territorial strategies, this area shows as well a rather small variation in delimiting boundaries. However, analysis shows that part of the present configurations not necessarily has to be obvious or even has to depend on permanent features: here the variation depends on time-related spontaneous or planned appropriations, depending on another model of proximity, based on small-scale scenarios.
In this case, the maps showing the open spaces within the area and the ones with no access restriction ("public access") seem not to differ: besides an interior located courtyard, no difference can be detected.
The street alignment map shows the same regular geometrical pattern with one major distortion being the central market square where distance between façades is suddenly much bigger to absorb a higher quantity of users and a program like the market and the surrounding shops and bars that depend on not restricted access. Cross section 9 illustrates a typical Barceloneta boundary definition: the access of the now 4 till 6 floor counting residential narrow blocks depend on a double scheme: mostly the ground floor apartments have a direct access with an individual entrance door that leads

directly towards the living room or kitchen, from where one reached directly the rather small sleeping rooms. In this case, the open space diagrams all coincide: there is no fixed feature that indicates a system of territorial transition by successive boundaries. Physical distances are small, as all apartments in this area measure no more than 35/45 m2 after the mentioned program intensification as a result of high real estate pressure. Dense programs, like extended families' housing or intense commercial activities, seem to be compressed into small, dark spaces at the ground level. The program on the higher situated floors however, mostly residential, has access through a different front door that leads you to the other floors through a narrow staircase, shared by all residents. In this case, a small part of differential collective space appears within the sequence of approach.

Interesting is the appearance of small-scale subtle elements in the streetscape, referring to a possible (and temporal) appropriation of the street: even on the ground floor, inhabitants leave traces of occupancy[56]: some chairs, drying laundry or other personal belongings indicate the dynamic boundary delimitation in the streetscape. This not regulated, spontaneous and time-related occupation of space is a very structural quality for the whole area, even if in the last years, this phenomenon seems to be diminishing.

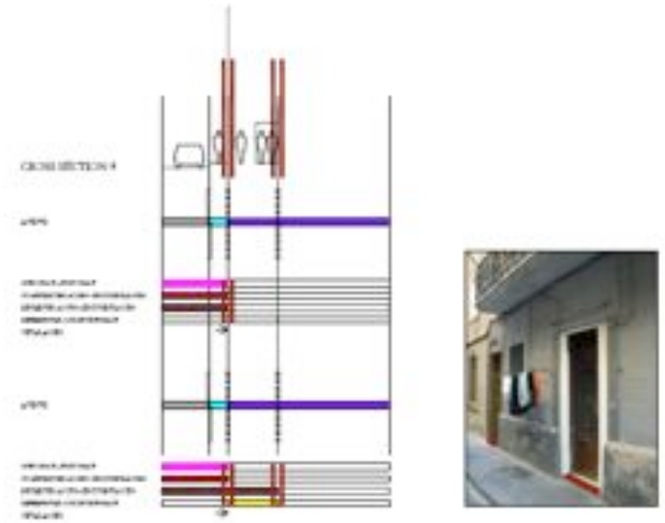

Figure III.76: Cross section 9

Cross sections 3 and 10 represents a similar case, even if here all residents share front door and entrance. In many occasions, as a result of extremely physical proximity, we observe additional boundaries as residents of the ground floor apartments put fences in front of their windows or make their windows opaque.

Within Carrer del Baluart, we detect only one case of physical set-back, that is the case of the church that provides a more domestic area before entering the building (see cross section 4). Adjacent residential buildings take advantage of this spatial and territorial quality.

The commercial activities within the area, mostly bars, restaurants and deli-shops situated on the ground floor, are often provided with dual orientation.

56 see P. & A. Smithson, lecture on "Signs of Occupancy", Pigdeon Audiovisual Studios, London, 1979

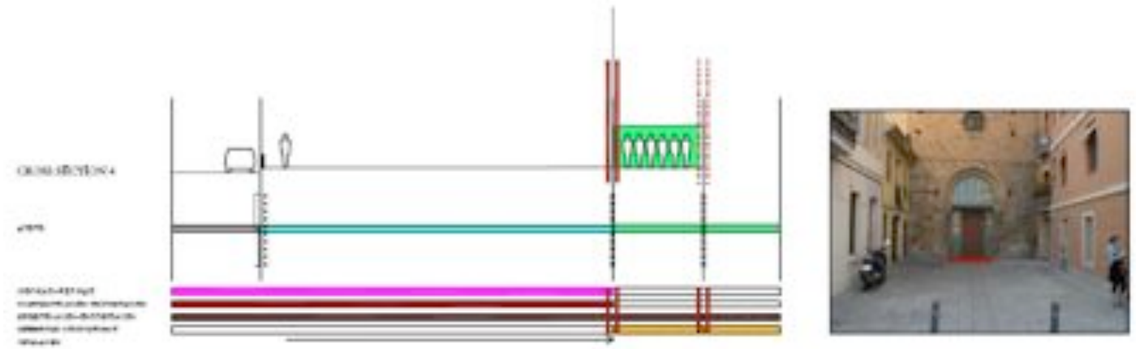

Figure III.77: Cross section 4

Cross sections 5 and 11 are examples of this territorial configuration: entrance to the apartments is combined with entrance to a bar that opens to both sides of the urban block: the reduced dimensions of the blocks allows this model to occur repeatedly. The commercial activities situated at the Southern side of the market square, with wider street and more sophisticated users and traffic systematisation, represent a different territorial scenario. In this case the defining urban blocks have a bigger footprint at ground level while the upper floors have reduced constructed areas and the building is narrower. This higher situated setback provides a private outdoor terrace for the apartments on the first floor, overlooking the central commercial area. The ground floor commercial activities appropriate part of the open space in front of them by putting tables outside as an outdoor extension of bars and restaurants. However, this extension is not directly linked with the indoor area: a more domestic and pedestrian area splits the two areas, even if they belong together functionally or economically. This is a consequence of local government planning regulations that locates in a systematic way all local horeca's terraces: this regulation always defines that area closer to the traffic area than attach it to the building's façade. Unlike the neighbourhood's different character and use, this regulation creates a universal model of depth, proximity and mixing activities all over the city, from the Eixample area till the Poblenou region, from the Gothic quarter till the Barceloneta neighbourhood and is driven more by the ability to raise taxes for terrace exploitation than urban added values.

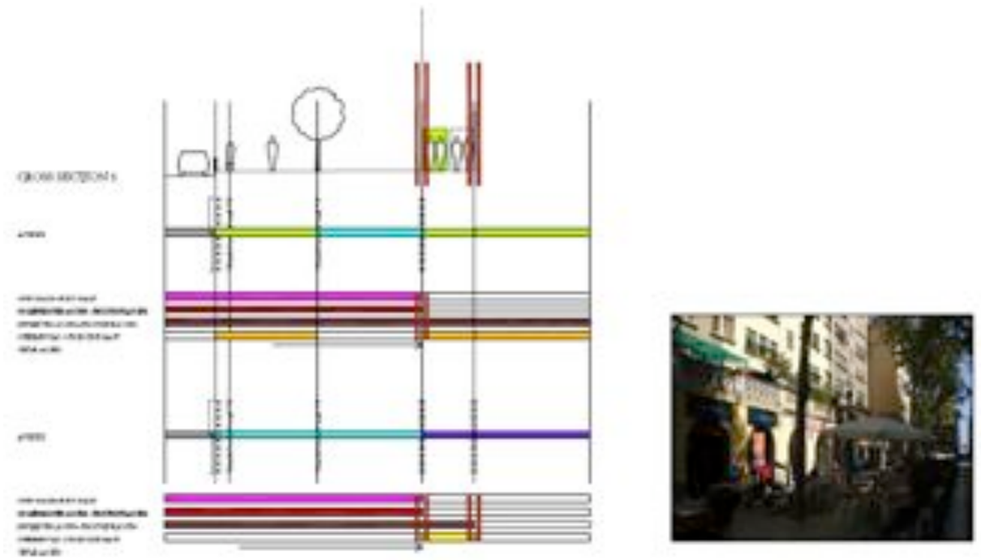

Figure III.78: Cross section 6

The resulting diagram of this section illustrates an interesting territorial configuration, depending on spaces of differential collective space, time dependent or not. This scenario presents a more complex reading of space where different boundaries cross, intersect or overlap.
A similar case (cross section 2) can be found at the Northern part of the sequence where chamfered, Cerdà-related urban blocks finish the street's sequence: here we find some corners with bars or restaurants at the ground level that try to define an extremely intimate micro-climate within the area of open space with no access restrictions. Abundant vegetation, screens or canopies are used to define territories with restricted access, even if this is only the case when the bar or restaurant is open for the public. Besides that, a more traditional territorial scenarios defines the entrance to the apartments' shared entrance hall. The additional layer of boundaries in this case is repeated many times in the area or even in the whole city of Barcelona, a city that is very sensitive about the delimitation of boundaries. In this last example, we have a clear illustration of a non-fixed territorial boundary within an urban configuration.
Other cross sections show more recent real estate residential developments (cross section 8) where the mentioned natural appropriation and coherent boundary delimitation scheme is different: here we see a simple entrance door, mostly transparent, that lead to a shared hall for all apartments, even the ground floor one with no special territorial quality or complexity to it. Economic and efficiency criteria seem to win the territorial battle in recent urban projects.

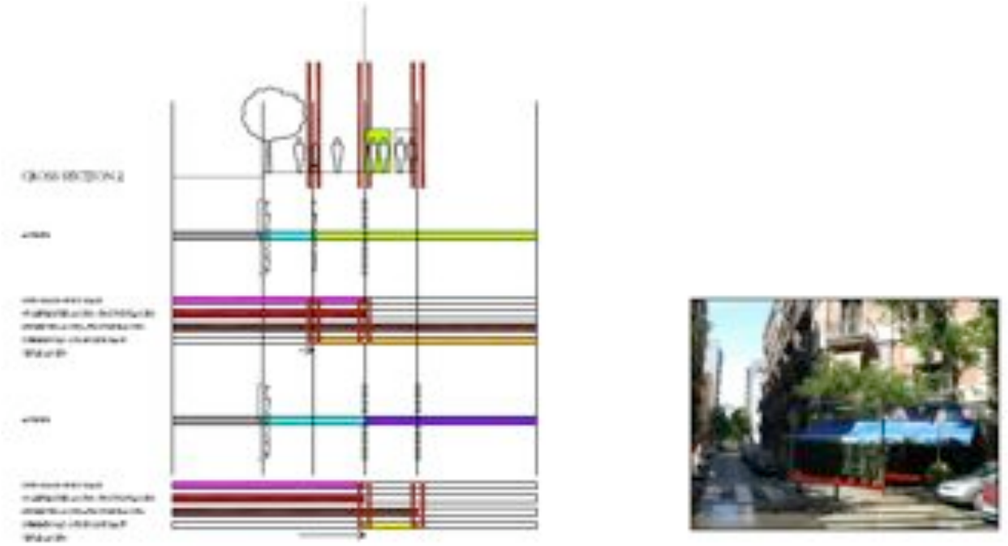

Figure III.79: Cross section 2

The resulting map of collective space, adding time related as well as permanent differential collective spaces to the non-restricted open space area, shows a structure similar to the open space or the one with no restricted access but in a very limited way changes the boundary of this area: many small carvings offer a high integration of the collective realm with more intimate territories. No huge pre-defined collective spaces, as a part of a well-orchestrated top-down strategy of territorial transition, is planned for this working-class neighbourhood. The interface mechanisms depend on time-related small scale devices, mostly subtle indication of intimate territories.
The area's activity map and related visual configuration diagrams show a relatively constant presence of active boundaries, except the part of Carrer del Baluart just under the market square where the lack of dual orientation of the present bars and restaurants at the ground level avoid real activation of the constituting boundaries.
The visual depth schemes offer special scenarios: even though the big scale mapping does not show obvious phenomena in visual control of boundaries, the area can be seen as a real laboratory of visual exposure that starts with neighbours

explicitly blocking off all visual relation with the street till complete exposure of the most intimate parts of housing. It is exactly the visual distance that play an important role in the territorial configuration.

Boundaries are part of a system of relative distances at a physical, visual or territorial level and can define various depth configurations with implicit or more explicit territorial meaning. Depth is the result of a complex matrix of a series of filter tactics, operating simultaneously or in an intermittent way, to guarantee intimate or collective aggregated, included or overlapped territories. Some territorial configurations are the result of top-down planning regulations for a whole area, systematising space in a forced way. Other areas show extreme configuration flexibility in a coherent way, without overall design strategies and offering a wider variety of territorial scenarios. Sometimes territorial complexity depends on spontaneous as well as pre-planned time-related appropriations.
This rather limited series of case studies does not intend to present a complete and closed review of all possible boundary configurations, neither does it try to explain site-specific urban issues, but wishes to test and illustrate the basic concepts of boundary delimitation and depth theory.