

博士論文（要約）

Reevaluating Collectivity and Linkage in Housing Based on
Selected Design Practices in Iran and Japan
（イランと日本の設計事例にもとづく住戸集合性と結節要素の再評価）

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The main goal of this research is to develop a theoretical framework for better understanding the collective phenomena in housing through selected cases in Iran and Japan. Residential architecture in Japan and Iran both had faced with different modes of postwar; social, market-based housing practices, and experienced the issues of appropriateness for collective dwelling conditions. Housing is one of the constant exhibitions of complex interrelationship of people and their environment. Collective housing due to urban growth and modern development seems as a good ground to evaluate Iranian and Japanese treatment of interlocked dwelling experiences, which could lead to unique complex qualities of collectiveness through selected case studies.

Toward projects, two analyses are conducted. One is a morphological analysis of the configurational organization of architectural elements. The focus is to search for the elements that modify collectivity and formal integration of the complex. In parallel to this, there would be a Grounded approach toward the ways designers of the selected buildings happen to describe their projects. Here the main points are turned into codes and create analytical categories which can characterize collectivity within the project. Here the intended design ideas as pre-suppositions and later discovered post-interpretations and even unrealized and yearn for design aspirations could be coded and theoretically framed.

As a result, the main questions of this research are as the following:

- What are the properties and dimensions of collectivity in as 'Designerly' way of thinking and practice?
- What spatial notions of collectivity could be sought through seeing housing as collective rather than multiple-unit housing?

Based upon his experience and study in Iran and in Japan, the author has selected a limited number of case studies, some well known and others less so. The selection criteria are as follows:

- The presence of a well-developed and systematic approach toward housing design as a manifestation of collectivity, suitably articulated whether in theory or practice, or preferably both
- A low to medium density, in order to avoid any overarching formalistic, design-driven parti that might tend to obstruct and hinder the examination of basic unit-to-unit spatial relationships
- Availability of the relevant design professional(s) of any given scheme for personal interview by the author
- In the interest of in-depth examination and submission to back-testing, a distinctly articulated typology and/or design manifesto

In chapter 2, following the above-mentioned questions and aims, a wide range of literature review related to the issue of collective phenomena is studied through socio-psychological, complexity sciences and architectural discoursed.

In chapter 3, the author introduces the research design. Among many analytical methods, two types of analysis are selected for this study. A pilot formal analysis is also conducted to examine meaningful themes in the analysis of collectivity in the built environment.

In chapter 4, Grounded Theoretical approach based upon the ways in which each designer describes his own scheme is conducted. Here the key notions and manifestations of collective phenomena are expressed as codes, which were repurposed for this thesis as analytical categories. A broad variety of conceptual expressions may for instance include premeditated design moves, a posteriori interpretation and at times unrealized aspirations. All have been re-encoded and theoretically framed as formal data. Later, these conceptualized categories were correlated in order to formulate underlying relationships addressing “collectiveness”, whether as overtly manifest or self-characterized by designer accounts, mainly as committed to writing or elicited by interview.

In Chapter 5 based on the findings of chapter 4, the second type of enquiry pursued a more orthodox morphological analysis of the configuration of architectural elements as constructed is conducted. The grounded theoretical findings are used as guides to pinpoint those selected individual or recurring compositions of built form explicitly, or tacitly, defining notions of collectiveness. Such criteria recognize any architectural elements and strategies that may induce, or modify, collectiveness in the formal integration of the housing scheme under consideration.

Sample of Grounded analysis of hillside Terrace Project

Hillside Terrace/ Tokyo

Initial coding

The initial coding of collectiveness through the architects accounts pinpoints the following codes:

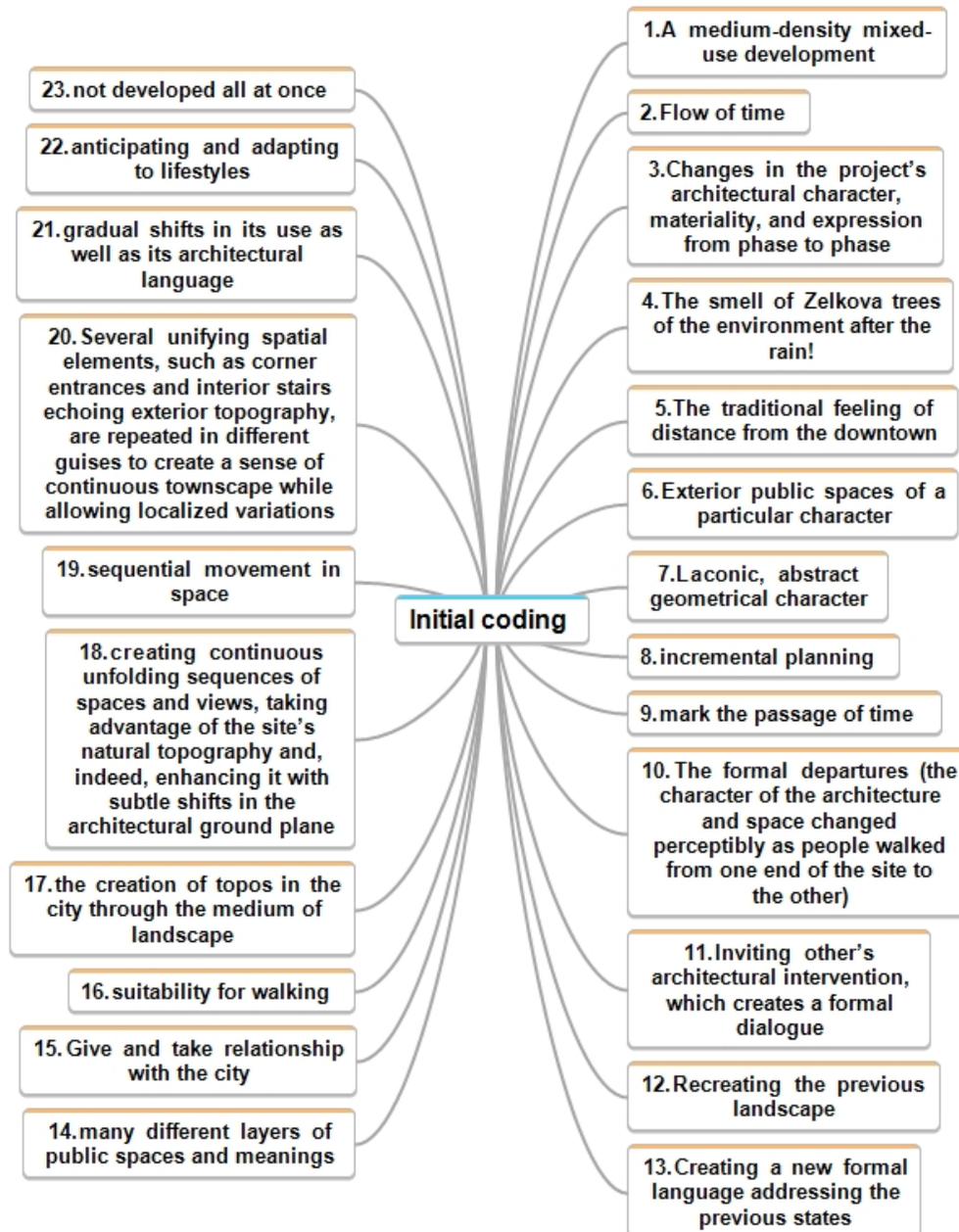


Diagram 1 Hillside Terrace Initial Coding

Substantive coding

The resulted categories are as the following:

- § Size dependency
- § Highlighting the time passage
- § Physical variation
- § Meaning association (at home in the city)
- § Formal language identity (readable syntax and limited formal vocabulary- Horizontal emergences- Hierarchical connectedness)
- § Incremental formation (continuity and consistency)

By Aperture, the following issues are sought:

- § What kind of opening and scopes are provided?
- § How much wide and how much tele the visual vista is.
- § What are the framing views?
- § What other forces flow in or out (circulation, sensorial, landscape, tectonics)

Negotiated codes are Incremental formation (continuity and consistency- Continuous experience, Meaning association, highlighting the time passage

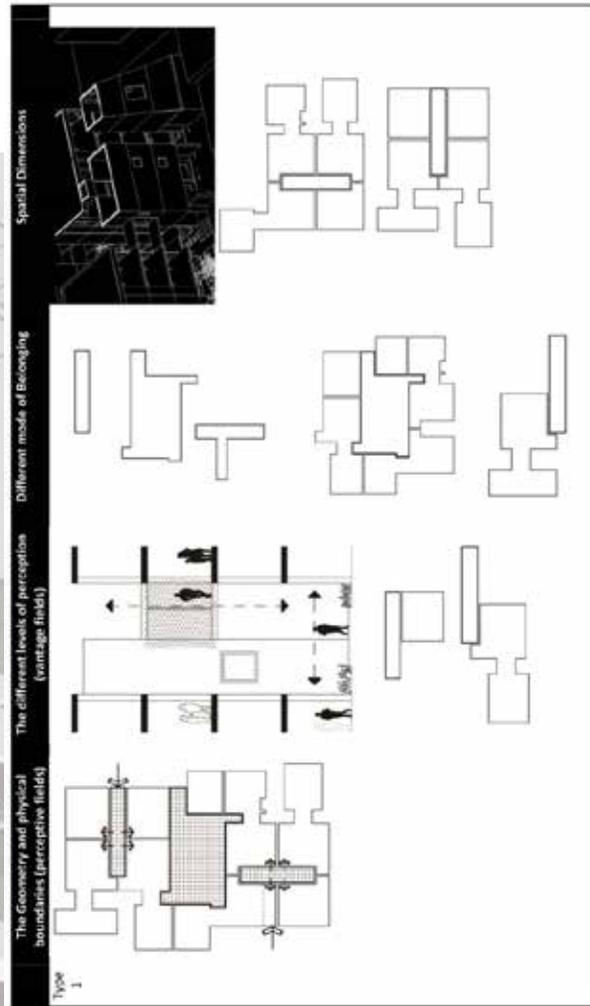
Focusing on the boundaries brings out the following questions:

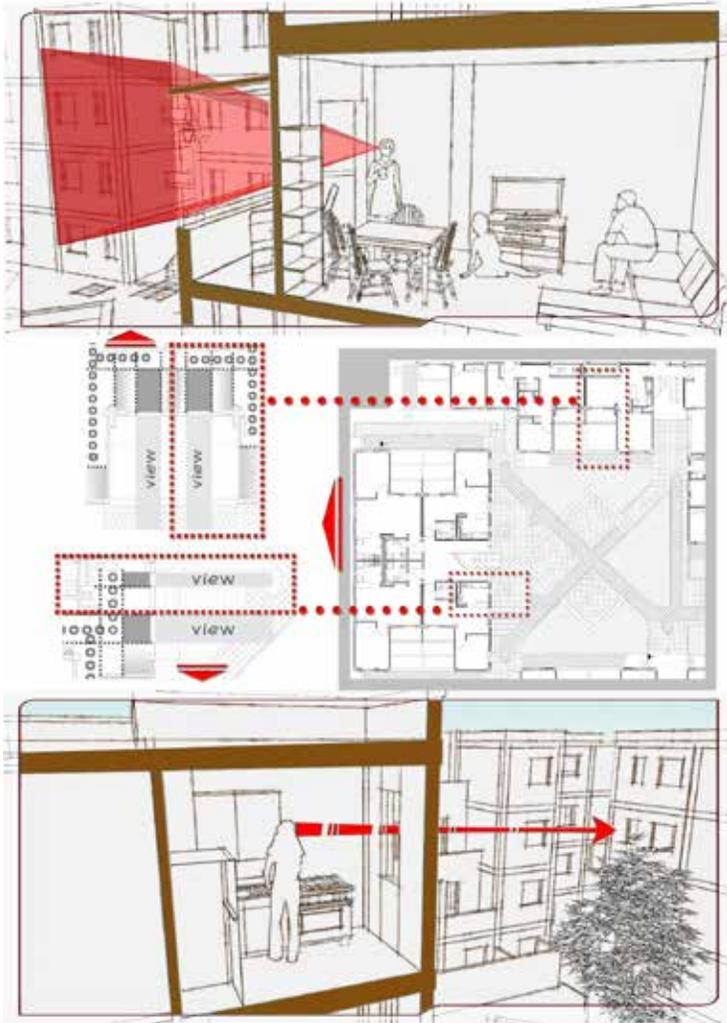
- § What boundary lines are laid down in the project
- § What is the composition of the boundaries
- § The stopping and stepping contexts
- § What is the layering of the boundary

Negotiated codes seem to be as the following:

Physical variation, Formal language identity (readable syntax and limited, Formal vocabulary- Horizontal emergences- Hierarchical connectedness)

Sample of Morphological analysis





In conclusion of this grounded analysis the following issues seems to be important and worthy of reminding. One of the most important findings is that architects tend to sometimes refer to this holistic quality of collectiveness as state in which they refer to collective-ness and sometimes they refer to it as collectivity which seems to be potential faculty for the noted housing project. Another important issue is the various references toward the perceptual understanding of collectiveness. Most architects seem to be interested in somehow describe collectiveness in sense of visual access and visual relationships and sightlines. In fact, they are trying to see collectiveness as a topological scape, as a rather topological idea, which could take different topographical realisations.

Through the Morphological analysis two new dimensions to the collective space was found :

- Group prospect and refuge zones in housing
- Horizontal, vertical and diagonal prospects and refuges

However, it is necessary to note that in all these topological references, the presence of human being is very important, so most of the spatial patterns that they refer to are either seen from a specific user viewpoint or

trying to provide a certain visual affordance for the residents or visitors who are somehow interacting with the projects.

Another important finding of the ground theoretical analysis is the fact that designers tend to address collectiveness into spatial categories, which are to be inside it and to be outside, but here insidedness or outsidedness are not exactly interior and exterior of the building but rather it is a feeling of being well contained in contrast to be less contained and the sightlines and visual connections that architects are referring to differ regarding to these two modes of presence. As it could have been conjured based on the literature review, most designers tend to describe collectiveness in synthetic terms rather than analytical terms.

Another important analogy is that achieved through the ground theoretical analysis is the analogy of here-there, which means the architects would like to describe the presence based on the here-there. This here-there together with the insided-ness and outsided-ness create a matrix of hybrid multi-presence.

Another important category was the progressive disclosure in which the designers describe the quality of collective form as a form of gradual disclosure, in which the more interaction or more penetration the person can make into the complex would provide more disclosure and attachment to the place.

The Grounded theory of collectiveness seems to be defined on 5 main categories:

- The Importance of identifiable Living setting
- The Analogies (Here-There, Inward-Outward Looking)
- The fixed and the flexible in design
- Progressive Disclosure
- Weak Linkage
- Modes of Sharing: Models of Commons

The idea of sharing is another important code coming out the ground theoretical analysis, which is unlike conventional physical sharing of space, it is more about patterns of sharing. It is not even merely morphological and typological, which is the similarity of typologies, but also in addition to that it includes patterns of perceptions to be shared, and these patterns of perceptions, specially in the visual sense would include ranges of relational collective and contextual sightlines. Taking these ideas as bases for morphological analysis to idea of aperture and articulation are proposed. Since the designers refer to the quality of understanding the collectiveness both from inside out and from outside in, it is necessary to morphologically analyse the perceptions that are provided meaning the sightlines and visions from the interior to outside and from the exterior to inside.

The 'Collective-Scape'

The principal goal of this dissertation has been to articulate a theoretical framework for a more precise understanding of how “collectiveness” has been addressed in housing praxis through an examination of half a dozen selected cases, three each in Iran and Japan. Over the past half-century, architects and planners in both countries have been confronted with a large-scale transition away from traditional modes of housing in both subsidized and market-based arenas.

The architects who were interviewed and whose projects were analyzed appear to hold the creation of what may be termed a *collective-scape* as an important criterion of any housing project to be identified as collective. This collective-scape has been analyzed using, first, a network of prospects and refuges, in order to particularize the realization of each indoor spatial setting. Collective prospects and refuges viewed through the lens of grounded theoretical analysis assume an influential role in forming the idea of collectiveness; this is secondarily achieved in an out of doors setting via spatially articulated linkages with appropriately placed apertures. When the latter two elements function reciprocally, there is a strong chance of creating a lasting prospect capable of interacting with refuge settings to create a firm perception of collectiveness. This network of prospects and refuges reinforces the creation of a collective *topos*. As such, a perceptual network is sensitive to the position of individual observers within a common domain; one can imagine a collective perception that nevertheless retains individual differences.

There are numerous latent functional, experiential capacities within any housing domain wishing to be considered as collective, which enables various individuals to connect individually to the greater urban realm. Embracing and disclosing attributes of this sort will in and of itself create a complex quality that is vital for continuity and change to take its place as part of a fundamental life process in the perception of a viable community. In order to achieve such a quality in a planned housing scheme, the view of housing as a 'collective-scape' seems essential. An expanded network of refuges and prospects visible within the surrounding urban fabric; the encouragement of the role of perception generally; encapsulation of different urban, architectural and landscape elements; and an array of scales from that of private dwellings to communal spaces, all serve a life-preserving tendency to maintain a community's complexity in ways that will be both enduring as well as adaptive. This network stimulates and equips the observing participant with a prolific stream of kinesthetic information ensuring a vivid mental image of his or her neighborhood. This image may be shared by visitors as well residents— in all prospective scenarios of moving *in, from, to, and through* the housing zone, affording recognition patterns as well as distinctive motifs for collective housing in general.

The foregoing ideas are among the findings of this research that could tender a new vision at the level of collective housing based on a sustainable collective presence.

1.1 From static collectiveness to dynamic collectivity

As seen in this study, devising and setting in place various building segments and clusters via distinctive modes of sharing is likely to establish the preliminary grounds for a collective setting. The next logical step is to activate the potential thus created by making sure the built form is conducive to active linkage with physical and human contexts. Yet it is not enough to create a public domain, a state of connected building elements, and a hierarchy of public to private zones. Instead, there is a need for available choices on the part of the involved community to see, feel, and contemplate different modes of belonging to communal spaces, objects, and activities. Once the proper condensation of collective prospects-and-refuges has been supplemented with rich connective processes, then a sustainable housing fabric will be generated.

An underlying conceptual sharing should be coupled with specific chances for recognition and explicit, as well as tacit, apprehension of the collective grounds as designed. Neither shared physical typology nor well-demarcated zoning seems sufficient in and of itself. What is shared must also be given the opportunity to be perceived; such enriched perceptual involvement will promote a sense of belonging and participation in creating a plural albeit shared collective image. This is provided by a rich array of refuges and prospects that fulfill the expectant eye with different moods from *philobatic* to *ocnophilic*, and since these moods are in many cases temporal, there should be a range of choice offered in this regard for both dwellers as well visitors, and even the casual passer-by.

Collectivity: complexity/ order, prospect/ refuge

Our research has suggested that the relationship among Complexity-Order, Prospect-Refuge, multiple levels of belonging, and a vibrant range of Insiderness and Outsiderness is an integral part of creating a shared ground fundamental to human coexistence. In order to achieve truly collective housing, it is simply not adequate to articulate and construct an aggregate of houses and drop an open space in between, since according to this study, there must be an elaborated planning and design strategy regarding how in-between space is articulated and, then, continued and supported. How are different modes of attachment and detachment, as well as a network of prospect-and-refuge, maintained to maintain the balance of indoor and outdoor spatial complexity and order?

Collectivity has a firm grasp on the shaping of habitat as an interweaving of these characteristics. Proceeding from the case studies, all this was seen as embodied in a particular and repetitive way of configuring space, which I have referred to as a pattern. Moreover, among the major housing initiatives selected here, analyses

point to a by now familiar pattern, which in turn yields its repetitive characteristics. Yet this pattern is far from consistently implemented. For instance, an increase in complexity need not signal a decrease in order, nor does an increase in prospect have to be accompanied by a decrease in refuge. As we have seen, the houses studied possess a great deal of both complexity and order, and numerous and rich reduplications of both prospect and refuge. Compared with conventional housing practices, and in order to evolve a consensus toward the inclusion of such characteristics in design, it is well to keep in mind that there are considerations of degree— but no enforced trade-off.

It is evident, and has been duly pointed out, that the familiar characteristics of prospect and refuge, complexity and order, can be found in even the most elemental domestic structures, and certainly to a greater degree in most sophisticated ones. Similarly, the degree to which they are present throughout Frank Lloyd Wright's work is most apparent in the area of his residential designs. The overall pattern referred to above seems to me to be an essential part of a certain Collectivity even in single-family dwellings by this great master.

Any building by its very existence conveys a signal of its refuge potential, and is thus more or less inherently not only a refuge-provision but also a refuge-symbol; that is to say, buildings universally embody such symbolism. However, as a working whole, any building can well present additional clues enriching its capacity to be read and interpreted as *refuge*.

The above analyses connote particular features that serve as refuge clues: windows, alcoves, recesses, balconies, heavy overhanging eaves, all these suggest a facility of penetration and enclosure. Even where literal access may not be practicable, the suggestion of accessibility can stimulate the idea of refuge. As a building shows forth these and perhaps other refuge-clues, it not only furnishes refuge but also conveys in enriched terms its pleasure-arousing potential for doing so. In addition, refuge-clues are not limited to the exterior, which means spaces within housing that impart a strong feeling of containment contribute to a sense of refuge. Windowless corners, spaces closed on three sides, spaces of small dimension with low ceilings and prevalent solid wall declare themselves as protective pockets of retreat indoors and outdoors in a housing fabric. Halls, stairways, especially when narrow, and low, bring wall and ceiling surfaces close to the body and so suggest protection and enclosure.

Houses and their shared spaces are not refuge alone but usually, in one way and another will offer some suggestion of prospect as well, whence one can survey the surrounding terrain. Prospect from within a building must be obtained by some kind of opening. Here, too, the functional provision operates automatically as symbol or clue; a fenestrated space unavoidably announces the potential of prospect from within. Nevertheless, this bold clue also can be enriched, thereby enlarging its aesthetic value.

Some means for achieving this are nearly synonymous with those already mentioned for cluing penetrability into refuge: balconies or terraces outside windows are immediately understood as prospect-providing

platforms; overhanging eaves suggest directing the eye toward a view, pointing the way outward to horizontal openings of unusual width, or if grouped signal the availability of panoramic prospect across a neighborhood. In addition, just as refuge may be a characteristic not only of the house toward its context but also toward other housing units, so too does the prospect. The opening of one house to another provides an interior prospect (inward prospect); it is clarified, signaled and enriched when there is some marking of the distinction between the houses, a reminder that one is looking not just across one house but also from one into and perhaps through another. Vistas through access platforms, staircases with carefully articulated openings, hallways opening to more distant windowed spaces can also provide related conditions of inward prospect. Thus, when houses combines strong refuge signals, inside and out, with strong prospect signals, inside and out, it may be argued that it provides collective conditions that human beings are preconditioned by nature to select as pleasurable in their habitations and settlements.

“Collectivating operations”

Based on the results of the grounded analyses and the subsequent morphological analytics the following issues are necessary for Collectivation:

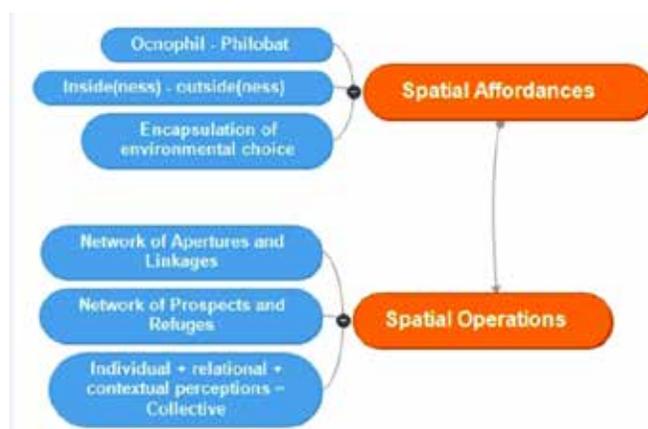
- Presence of a certain kinesthetic and visual network of prospects and refuge as a second order to the linkage network in the housing fabric

Such a network provides for both *ocnophilic* and *philobatic* modes of participation in the dwelling experience.

- For a visual and perceptual paradigm to be understood and practiced by designers is the first step and undulating condition in all of the case studies, proving that based on the temperament of the residents there should be temporal modes of getting fused and diffused with the collective topos.

Cultivating Collectivity

The Grounded theory of collectiveness provided five main categories:



- The Importance of identifiable Living setting
- The Analogies (Here-There, Inward-Outward Looking)
- Progressive Disclosure
- Linkage strength and complexity
- Modes of Sharing

Figure 1 Collectivating Conditions

By way of a formal analysis of Linkage and Prospect-Refuge Networks, a more dynamic mode of understanding collectiveness emerges. Morphology adds depth to typological (formal) analysis, which is more dynamic in nature, namely in perceptual dimension. In the present research, the latter conditions are enabled through the addition of visual prospect-and-refuge systems from the houses, which is added to the formal composition of the linkage network:

Configuration System (Prospect-and-Refuge/ Socio-Temporal) ± Composition System (formation of Linkage Network) = Collective Morpheme

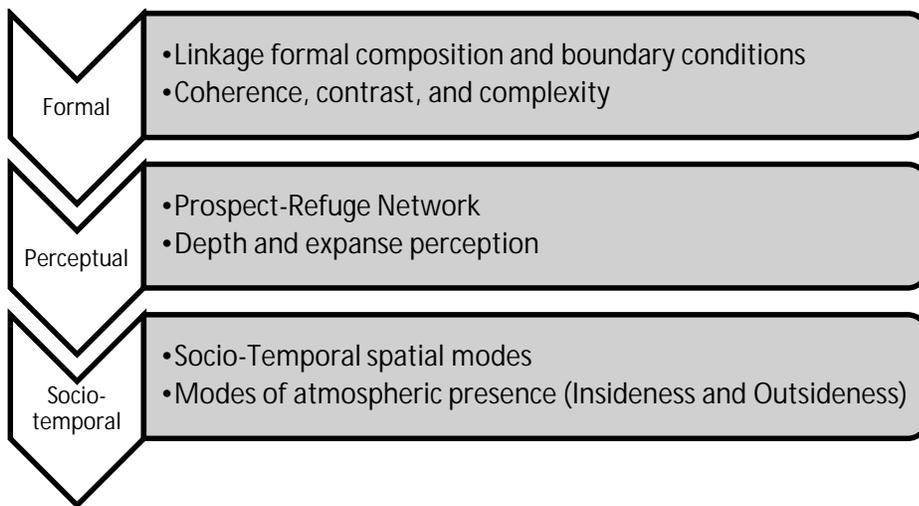


Figure 2 Morphology of collectivity

The idea of sharing is another important code coming out the ground theoretical analysis, which is unlike conventional physical sharing of space; it is more about patterns of sharing. The common space of housing is not commonplace but rather a communal space with enough environmental affordance. It is not only morphological and typological, which is the similarity of typologies, but also in addition it includes patterns of perceptions to be shared especially in the visual sense that include ranges of relational collective and contextual sightlines. Taking these ideas as basis for morphological analysis, the two notions of aperture and

articulation were proposed. Since the designers referred to the understanding of collectiveness both from inside out and from outside in, it is necessary to morphologically analyze the perceptions that induce meanings as well as the sightlines and visions from the interior to outside and from the exterior to inside.

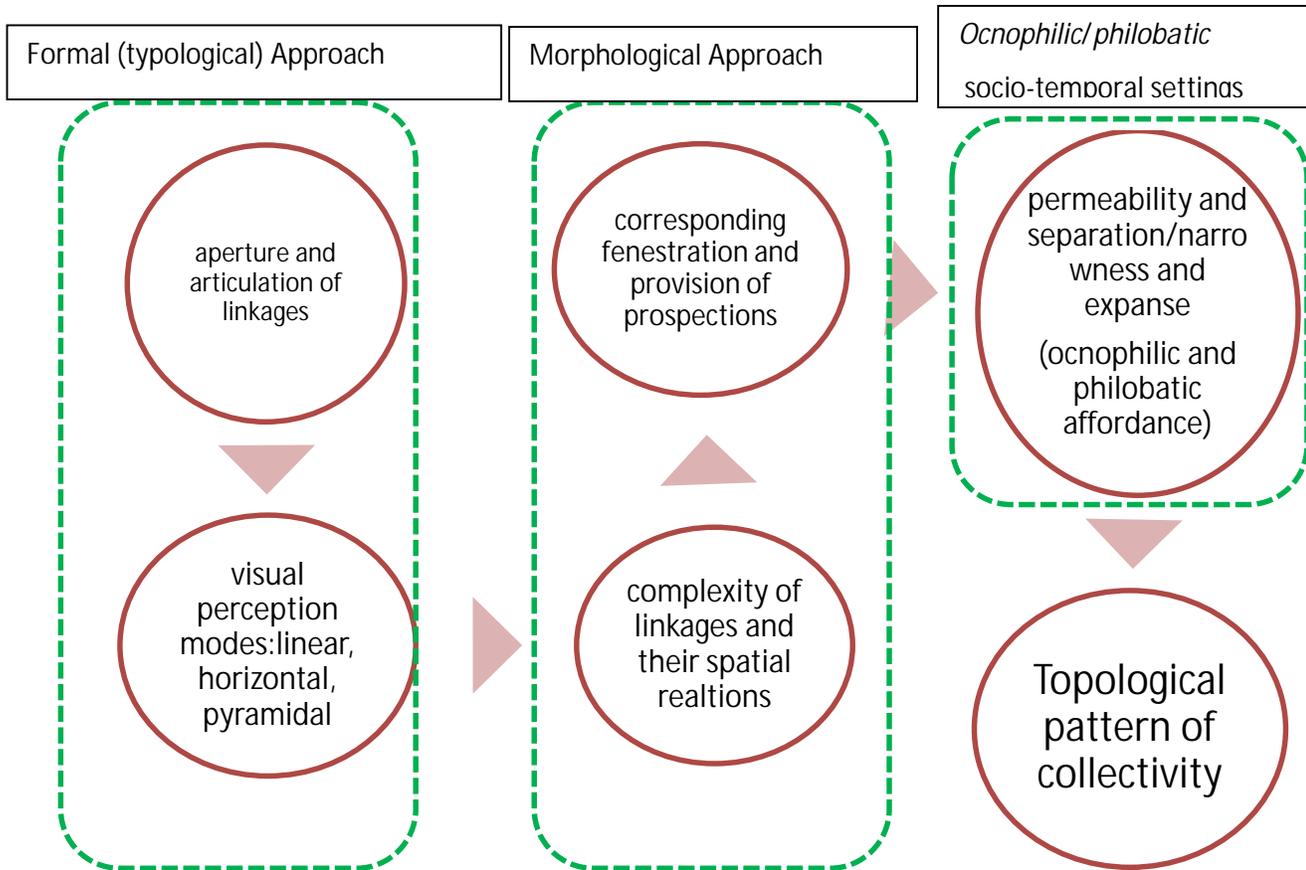


Figure 3 Topological pattern for the generation of collectivity

The design of collectiveness requires characteristics of dwelling extend continuously throughout a setting hence systemic. As such, a view of group dwelling as a collective fabric provides structural definitions of complex density that complement numerical definitions. This view allows designers to see not just how explicitly single dwellings of people are connected in a setting but alternatives for how people can provide a shared perception together. In addressing the question of how to achieve more collectiveness, the objectives for the design of a collective fabric become more focused—with greater collective and individual choice, increased spatial possibilities of Insiderness and Outsiderness.

To achieve these objectives, the analyses of the case studies suggest a variety of propositions for settings as collective fabrics. First, the attributes of group dwelling need to be systemically seen as providing appropriate visual perception in all modes— linear, horizontal, and pyramidal— across its neighboring cluster and its

immediate locale. Rather than independent orders for single houses and site, the attributes of dwelling especially by means aperture and articulation of linkages should be structured between inside and outside, from space to space, and in ways that account for the entire site-within and beyond the limits of any house. A capacity for greater individual and household choice should be embedded in the site.

Second, the attributes of any site should be systemic with its setting, extending, transforming and participating in the larger constructed and topographic landscape. A fabric should organize relations among houses and sites as collective and should organize individual actions as collaborative.

As the complexity of linkages increases, proper fenestration and provision of appropriate prospections are inevitably codependent and require clearer structures that hold the capacity for more complex collective choices. This means that the simplicity of the common spaces is compensated with the complexity of the prospect-refuge network and higher degree of articulated fenestration and openings. In the opposite scenario, the simplicity of the housing physical and corporeal edges would be balanced by the complexity of linkage spaces and their corresponding circulation paths.

Third, dwelling needs permeability and separation, narrowness and expanse. As the density of conventional housing increases, associations with a setting seem to be at odds with desires for privacy: The walls that surround and protect our privacy from prying eyes exclude us from views and connections to our gardens, neighbors and the landscape beyond. Yet detached houses can be linked when a fabric is assembled with forms of both connection and separation through a network of prospects and refuges. Giving a fabric permeability—a structure for connecting spaces—as well as containment makes it possible to account for all elements of a site, both indoors and outside. The interstitial pockets of wasted land can and should be eliminated from a setting by considering the spatial relations between the built and unbuilt, the place and the placeless as well as for the resident and the visitor.

A fourth and final proposition for collective dwelling calls for embedding depth in a setting. In any setting, every space has the potential to be interpreted as more than a single area. This is true inside and outside a housing sphere; however, prospects that are made inside the house are the result of precise spatial definition of secure individual territories within rooms that overlooks safely outward. In a collective fabric, these territories should be structured throughout the setting. The number of areas that can be perceived while passing through a site gauges the depth of a setting. By providing a greater number of individual-to-collective presences, one can increase the potential to extend public access into the depth of site.