

Spatial and Domestic Liminality:
Navigating Urban Terrain and the Multigenerational Household

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ABSTRACT

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Spatial and Domestic Liminality explores potential connections between residual space and multigenerational housing, an understudied dwelling typology. This thesis posits that a stronger understanding of residual spaces leads to their acceptance into the urban fabric and collective psyche, despite the logistical difficulties they present, and similarly that multigenerational households are worth their economic and social benefits to the city. To investigate these propositions, the thesis proposes multigenerational housing design that connects fragmented spaces and public stairways along a steep, undeveloped ridge in North Beacon Hill, Seattle.

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I. INTRODUCTION

PROBLEM STATEMENT AND PROPOSAL

The identity of an individual cannot be defined without the context of her relationships to other people and places. These relationships form a component of a larger system of interactions, the most fundamental of which are the social constructs of family and home. An individual's identity is shaped through position within a group and its context. Self-identity always begins with conception and birth into a family and its setting. Throughout one's life, however, one identifies with other groups and ideologies and may eventually fall away from the basic familial ideologies. This thesis explores how individuals navigate their built surroundings and internal sense of identity within the context of family, home and residual space relationships. This thesis argues that dwelling within a multigenerational family network, as opposed to a nuclear or singular model, enriches the daily lives of individuals while also strengthening their values for history, empathy and memory.

Economic and cultural shifts within the US have impacted the way that the "American family" is choosing to live. Simultaneously, amid nationwide immigration patterns, there is a lack of living arrangements similar or at least responding to the living patterns immigrants are used to, namely, multigenerational coresidence. Multigenerational coresidence is recognized as a niche necessity that has been addressed both minimally (on a case by case basis) and en masse (in the form of anonymous and generic developments in periurban or suburban sites¹), but it is still a nascent field of design and design thinking. At the same time, the housing typology dominating the Seattle market is the single-occupant unit (studio/open 1-bed/1-bed) because it is a marketable and attractive investment opportunity for real estate developers who can charge more per square foot for it than they can for larger multi-occupant units. As a result, families that have been living close to city center are pushed further out from the city center either because they have been priced out to make room for more new small unit construction. Or if they are looking to move closer to city center from elsewhere, it is difficult to find affordable options within desired areas.

Despite a general densification throughout Seattle, there are still areas that have not been touched by construction because of a combination of zoning designations, environmental challenges, and concerns for safety and accessibility that tend to be associated with marginalized spaces. Built context, occupancy, and a sense of ownership often seem absent in these question mark areas. In an urban context, it is in these areas that even public land is hard to define. They lack sensory or contextual clues that make them well framed, well composed and communicative spaces. I am proposing that these areas can be ideal sites for exploring the multigenerational coresidence typology because they present interesting points of intersection and juxtaposition between the dynamic definitions of occupiable space and the dynamic definitions of family.

¹ Aaron Glantz, "Multigenerational Housing Is a Real Estate Growth Niche." *New York Times*, 21 April 2011.

PROJECT RATIONALE

Both residual spaces and the multigenerational household typology are largely understudied and marginalized. The aim of this paper is to come to a better understanding of how people navigate their environments in the transitional spaces along the spectrum of public to private. While there is extensive literature studying the two extremes of this spatial spectrum (public and private), the liminal spaces (semi-public to semi-private) are more loosely interpreted due to the sheer range of situations within this classification. Marginalized spaces and multigenerational housing represent areas in this liminal realm, where the surrounding spatial and social context provides little indication for how one ought to navigate or engage with their environments. This project looks at how the semi-public urban setting (overlooked spaces) are appropriate sites for shaping semi-private residences (multigenerational housing, where familial ties extend beyond a nuclear family structure), and vice versa.

While residual spaces are often stigmatized as an inferior position to settle (due to persistent environmental or topographical conditions that pose challenges to built structures and occupancy), they present an element of choice and creative freedom from a design standpoint. Occupying a marginalized space does not automatically make someone marginalized, because even to arrive at such a place involves passing through thresholds in the landscape, and the occupant willingly engages the surroundings and accepts the transitional nature of the journey. Along a similar vein, while multigenerational housing in the US in the 21st century tends to originate from economic or logistical necessity, the participants who willingly come to this dwelling situation do so with choice and intent. This thesis explores issues of how things (people/places) derive their meaning through relational placement and proximity. The goals of efficiency of time, space and money are not the driving factors; rather, less tangible factors of experiential enrichment, tightening of familial bonds, and personal engagement with one's surroundings often drive this mode of living. The house occupied in a residual space presents a situation where experiential worth, not economic worth, justifies its existence through the users' individual and collective enrichment.

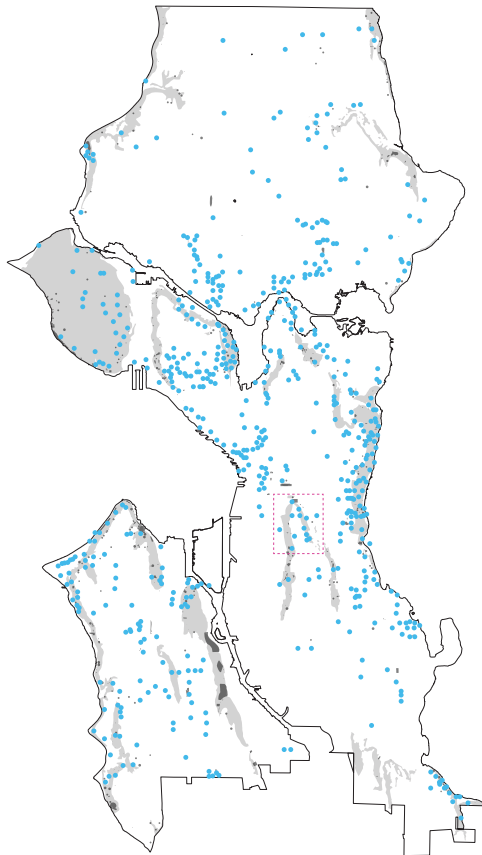


Figure 1. Map of Seattle's public stairways

Within any built context, there is inevitably the presence of residual spaces, which are perceived as forgotten or empty. Existing literature locates such spaces somewhere along a spectrum between incorporation into legitimate/formal design and widespread rejection, and offer analytical observation². However, the objective of this project is to go beyond the current discussion: it seeks to address appropriate ways to intervene in these marginal places through active design, and how these moves fit within the continually changing human-urban negotiation of placemaking. While the presence of under-utilized, residual spaces in any urban fabric is not life-threatening, the fate of these places is vulnerable to public opinion. These spaces tend to be spatially close to vital aspects of daily life (e.g. transportation, dwelling, workplace, commerce, leisure) but are not psychologically accepted. There is a wide range of different spatial conditions that fall within the “residual space” label. One can see the variety of residual spaces simply by looking around: alleyways; margins of transportation infrastructure such as highways, railroads, airfields, and seaports; vacant lots in an otherwise occupied neighborhood; abandoned or decrepit post-industrial sites; and medians between opposite directions of traffic and buffers between the street and sidewalk are just a few of the examples of residual space. This design project focuses on the stairway and adjacent steep topographical site as a viable testing ground for its spatial parallels to the unique social offerings that unfold in a multifamily multigenerational housing program.

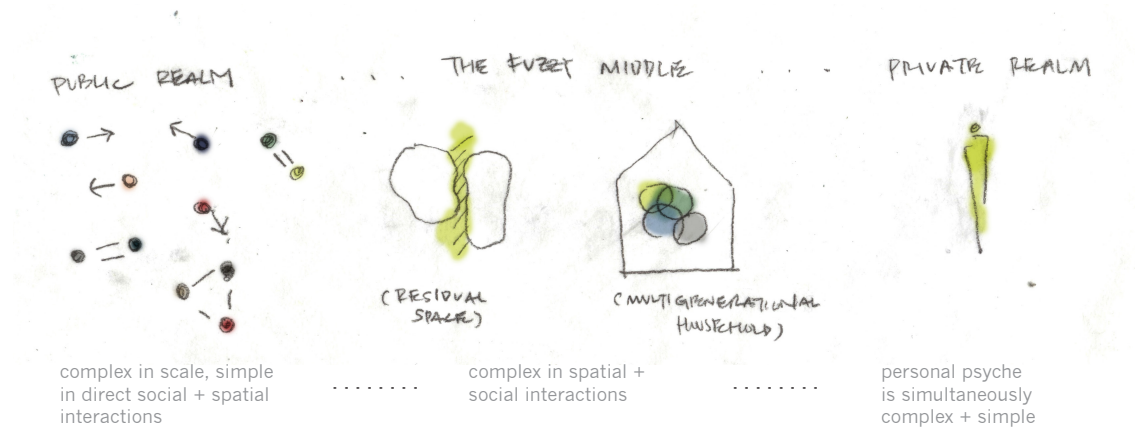
The 650+ public stairways of Seattle exist in a state of perpetual identity crisis. Neither public nor private, stairways' function and value derive from those who exist in their closest proximity, as well as more distant players who shape their meaning through fleeting observation and split-second perception. Considering Seattle's growing need for housing in light of the city's prevalent single-family zoning, which occupies 54% of Seattle's total land area excluding parks and rights-of-way, the demand for well-reasoned increases in the quantity of dwelling on available sites is obvious. Planners, architects, and real estate developers acknowledge this need and propose a variety of ways this could be achieved. While much of this need is fulfilled in the form of the highrise and the ever-growing 5-over-1 (“adult dorm”) mixed use typologies, smaller scale measures like reappropriated uses of residual spaces throughout the city's built landscape are smaller projects that individuals can grasp and own. This project proposes that the residual spaces against public stairways are appropriate study sites for imagining a new housing typology and new use of these residual spaces throughout the city. Stairways offer a wide array of spatial and experiential advantages: they reconnect to the city's public realm by offering passage through often residential, semi-private neighborhoods. Coupling the functionality of public stairways with the range of possible interactions that might occur in a multifamily, multigenerational housing context, this project imagines how the infrastructures for traversing physical and social landscapes can meld and strengthen one another's forms.

² Ignasi de Sola-Morales Rubio, “Terrain Vague,” 120.

THESIS OVERVIEW

This project addresses a growing need for multigenerational housing within Seattle's city limits by proposing to use marginalized land and argues that each not only justifies but also strengthens the existence of the other. Multigenerational housing as an under-studied domestic arrangement brings forth unique realizations in historymaking, placemaking and memory in a microcosmic, communal (semi-private way) that differs from the ways that individuals (private) identify with place and memory shaped through the collective urban (public) sense. Traversing residual landscapes and living in a multigenerational household are spatially and socially complementary: navigating liminal spaces speaks to the process of losing oneself in an undefined space that demands the attention of both the mind and the body, but ultimately one discovers new aspects of the city fabric and topography that would not have been apparent had they taken the road off traveled. Similarly, the act of living in a semi-private setting is not as singularly dimensional as living in a private setting; the ritual of constantly facing and negotiating with old familial dynamics and formulating new meanings is a challenging yet rewarding process. Through shared experiences (both joys and hardships) amongst a networked (as opposed to nuclear) family structure, one discovers new aspects of the self and better understands one's identity in relation to others. These bonds and identifying factors differ from those formed through other cohousing arrangements because they are shaped by the inherent connection and history of family, which has a different set of expectations and dynamics than those one would develop with non-related persons.

Figure 2. Liminal being + liminal space: complexity + simplicity in public-private interaction



II. THEORETICAL FRAMEWORK

PART I. LIMINALITY: THE INDIVIDUAL NAVIGATES BETWEEN FIXED, YET DYNAMIC, FORCES IN THE PROCESS OF *BECOMING*

Homo viator: the value of “man becoming” in contemporary society

The human, at her core, is constantly developing and evolving. This notion is hardly reflected in the contemporary productivity-driven economy, and certainly not applied to the built environs of the city, where every “useful” or “contributing” space is necessarily defined or rationalized as a place. Any part that doesn’t present usefulness or productiveness is relegated to the margins, swept back spatially and psychologically to the periphery, where these undefined spaces are forgotten. The same applies to the manner in which we treat our dwelling situations, which have become economically defined to maximize efficiency (absolute “down time”) and delineated so that the only people we must consider in our households are the ones for whom we are immediately responsible—partners, children, pets, and ourselves. The household does not acknowledge the larger community. To live in complete privacy suggests that there is a need to escape or remove oneself from the constant publicness of the outside world. The dichotomy of public and private, exterior and interior, are so polarizing and overpowering that the liminal space - the space between the public and the private - is forgotten. However, it is precisely in this spatio-social realm where one stands the most to gain: it presents a state of becoming and navigates between the defined poles of public and private to offer richness in shaping identity. Traversing residual spaces and negotiating the dynamics of a multigenerational household involves an ongoing process of passage - movement through thresholds of deeper intra- and inter-personal development to peel back layers of mutual vulnerability and experience (both active and passive efforts). Through this process, the individual forms both personal and group rituals through the sharing of history and memory in a nonlinear fashion. Thus, history is like geology, where built up layers of matter follow a discernible narrative yet shift to unveil moments of transition and unpredictability. Similarly, traversing a residual space such as a stairway with adjacent marginalized lands includes intent and active involvement, yet what one learns and discovers from this is always new because the space is laden with untold histories. The choice to navigate through a less trodden route and to live in the company of others can be inefficient with time and mental/emotional energy. However, it reinforces a desire to be in the process of becoming, and adds complexity and flexibility to people’s lives by shedding light on identity and relationships.

*“A home cannot be produced
at once; it has its time
dimension and continuum,
and it is a gradual product of
the dweller’s adaption to the
world.”
- Juhani Pallasmaa, 1995*

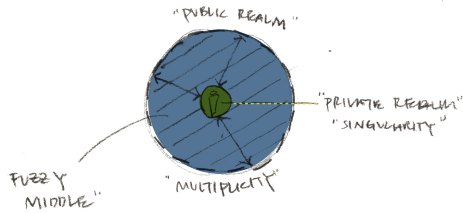


Figure 3. Locating the “fuzzy middle”

Homo viator is situated at the midpoint of home and society, and the house and the square. She inherits her position between two poles (in the liminal) by virtue of being human. Her constant negotiation with her thoughts and interactions is what draws her away from home (the internal psyche, the private realm) and more towards society (the collective psyche, the public realm), and vice versa. Throughout life she moves both within and without the liminal realm, referring to both ends as means to define her position in the liminal. Conversely, she draws from the liminal realm to expand her understanding and scope of the two poles. Thus, her humanness - an innate desire to journey towards a clearer sense of self-identity - simultaneously questions and answers how her surroundings reinforce her internal psyche. She exists in a constant state of becoming, and the liminal state is an inevitable middle realm where point of entry is when she moves away from the home or away from society. Because home and the house represent the origination of her internal psyche, she moves freely but not without doubts: she relishes and dreads the liminal journey of becoming.

As a continually latent experience³

Liminality is a state of being where the individual acknowledges her middle-ness between two fixed poles - in this case, the individual floats between the semi-private realm of the multigenerational family household and the semi-public realm of the residual space and stairway. Neither prevented nor thrust into the jarring contrast between a state of complete privacy to a state of complete publicity (for instance, as is the case of living alone in a studio apartment downtown), the individual revels in moments of realization and blurred public-private lines in their domestic realm. The liminal is an anthropological concept developed most notably by Victor Turner. He posits that the liminal being exists in the between-ness of society, anti-society, always moving towards a goal and away from fixed history. Liminality is a transitory state, where the liminal being selectively removes herself from society to gain a better understanding of herself, and therefore of home and society.

The liminal being is situated at the midpoint of home and society, and the house and the square. She inherits her position between two poles (in the liminal) by virtue of being human. Their constant negotiation with their thoughts and interactions is what draws them away from home (the internal psyche, the private realm) and more towards society (the collective psyche, the public realm), and vice versa. Throughout life they move both within and without the liminal realm, referring to both ends as means to define their position in the liminal. Conversely, they draw from the liminal realm to expand their understanding and scope of the two poles. Thus, their humanness - an innate desire to journey towards a clearer sense of self-identity - simultaneously questions and answers how their surroundings reinforce their internal psyche. They exist in a constant state of becoming, and the liminal state is an inevitable middle realm. The point of entry is when one moves away from the home or away from society. Because home and the house represent the origination of Their internal psyche, they move freely but not without doubts: they relish and dread the liminal journey of becoming.

³ Franco la Cecla, "Getting Lost and the Localized Mind."

Homo viator has three main qualities:

1. Because *homo viator* is constantly in a state of becoming, life is a continually latent experience ripe with opportunity.

“...getting lost is a continually latent experience. We spend most of our time conquering, defining and affirming the buoys around which we move and orient ourselves, the landmarks which enable us to keep from despair in the incognito journey between known scattered places. The reciprocal side of this experience, the use of this feeling of a possible and imminent danger, is the sense of adventure, ‘the conquest of space’, that gives us new space for our movements, new friends, new places and extends our mental map. Getting lost in these cases is a condition of beginning, the need and the ground on which to start or to resume getting oriented.” (Franco la Cecla)

The meanings of these experiences are not necessarily linearly correlated. The psychological and physical poles between which the liminal being traverses are not static. The liminal being’s journey towards deeper understanding evades definitive conclusions; rather, discrete experiences blend and symphonize to create a composition that offers cohesiveness to that which would otherwise be too complex to comprehend. Home and the house are merely reference points, but one’s memory/recollection of these reference points might change through the course of the journey. *Homo viator* might gain a better grasp of these changes in memory after circling back to the home and the house, but in the process of returning via passage and threshold, even these origins might seem unrecognizable.

2. Traversing residual space, and negotiating the complex dynamics of multigenerational coresidence, do not represent the daunting unknown; it is a journey that she voluntarily embarks upon.

“As the pilgrim moves away from his structural involvements at home his route becomes increasingly sacralized at one level and increasingly secularized at another. He meets with more shrines and sacred objects as he advances, but he also encounters more real dangers such as bandits and robbers, he has to pay attention to the need to survive and often to earn money for transportation, and he comes across markets and fairs, especially at the end of his quest, where the shrine is flanked by the bazaar and by the fun fair. But all these things are more contractual, more associational, more volitional, more replete with the novel and the unexpected, fuller of possibilities of *communitas*, as secular fellowship and comradeship and sacred communion, than anything he has known at home. And the world becomes a bigger place⁴.”

The liminal being begins at home, but also returns to home. Therefore, her internal psyche (home), as well as her physical house/settlement, is a pole from which she originates, deviates away from, but always is able to return to. The meaning of these poles has changed throughout her journey, yet she would not have realized this unless she had made the journey. Conversely, her understanding of society - and why physical public spaces like the square are constructed the way they are - evolves and transforms as she moves through this journey through the liminal realm, which is the residual space separating the house from the public realm. In a multigenerational household, the origination of the liminal being's formative values and world views are defined by their family, but these values face negotiation. The individual must grapple with her personal formation of values in contention with their surrounding societal environment, as well as with those reiterated by the other members of the multigenerational household.

⁴ Victor Turner, “The Center Out There: Pilgrim's goal,” *History of Religions*.

⁵ Charles Nam, “The Concept of The Family” *Sociation Today*.

3. She recognizes that the values that these poles (home-society, house-square) represent are solid in their institutional value, but each are vulnerable to paradigm shifts. If all beings are able to move freely within/without liminal space and its confines, then the power of the collective majority prevails. However, she takes comfort in the fact that the liminal state is relatively stable because of its dynamic nature. She is in between the social structure, temporarily fallen through the cracks; it is in these cracks, in the interstices of social structure, that she is most aware of herself.

“Locality is a form of belonging to a place. The place which is ours belongs to us and we belong to it.... This belonging is ensured by the sharing of a mental map stretched over the territory, to which everyone makes their contribution, either maintaining or confirming or modifying some part of it. This way of defining space contains in itself the process and the collective motivations of the settlement. If it is wiped out, the culture of the inhabitants of that locality cannot be recovered.” (Franco la Cecla)

Family as a beginning and foundation

Multigenerational housing in the late 20th to 21st centuries in the US mainly occurs because of financial situations and familial needs. For instance, the economic recession of 2007 to 2009 left millions of households in a state of housing crisis, which led to millions of new living arrangements in which moving in with relatives became a solution. Additionally, the aging baby boomer generation and an increasing rate of dual-income nuclear families (where both parents are part of the workforce) have necessitated a reliable network for medical and childcare support. In an urban metropolitan setting such as areas close to downtown Seattle, looming dynamics of decreasing household size compounded by the impermanence of the urban population leads to smaller, less locationally invested dwelling units (apodments, studios), less locationally invested citizens, and disconnected neighborhoods. However, there must be a way to bring back a deeper more networked community to these high-demand neighborhoods. While neighborhood connections can be forged through initiatives imposed on the whole neighborhood scale, community-building can begin within a domicile, within a networked living situation driven by multigenerationality. While not the most efficient/ compartmentalized living situation in terms of optimizing alone-time in the completeness of one's private sanctuary, multigenerational housing can provide a lively and complex system of activity and relationships. This opening up of private boundaries to the fuzzy liminal state of semi-privacy lends opportunities for maintaining tradition/memory/legacy for not only households but also individuals in an increasingly independent/global society.

The meaning of family has changed in contemporary urban society. No longer necessarily defined as the Roman domus (family and servants) or familia (nuclear family structure determined through blood ties and marriage), the modern family is more associated with codependency and cohabitation of individuals who are not necessarily related to one another⁴. However, the family is the original socio-cultural system that still stands in contemporary society, and this system is one in which individual members seek to draw foundational support. The intrinsic support one draws from their family speaks to the need for acceptance and comfort from those who share deep histories. This is especially necessary in an increasingly fragmented and disconnected urban society.

This disillusionment of individuals in the city living in isolation from one another poses issues in the collective social psyche of a city. The changing dynamics of a digitizing, wirelessly connected urban setting has affected the manner and quality of human-to-human interactions. Moreover, the greater demand for housing near urban centers has resulted in the construction of compact, quickly erected housing stock that tends toward small unit sizes intended for single occupancy. Given these two major factors, city dwellers are becoming increasingly isolated from each other and from their surroundings. Additionally, housing the modern family within an urban setting is becoming out of reach due to rising housing costs and urban land values. The high demand for space needed to raise children and to care for the elderly poses a strong argument for moving families out to more suburban areas; however, this decisive separation of spaces need not exist as long as there is still viably buildable spaces within the city.

Multigenerational housing was a more prevalent dwelling situation in the United States up until the 1960s due to generations of this living tradition, and there was no questioning of why or how this was significant or beneficial - it simply was. However, since moving away from this housing type, scholars and designers alike have been interested in tracking this trend⁶, evaluating its pros and cons, and understanding what not only the economic but also socio-cultural ramifications a more fragmented dwellingscape has had on the collective attitude towards loneliness and isolation.

⁶ Aaron Glantz, "Multigenerational Housing Is a Real Estate Growth Niche." *New York Times*, 21 April 2011.

Relationalism

In broad terms, relationalism is a concept in sociology, philosophy and physics that refers to “the theory of reality that interprets the existence, nature, and meaning of things in terms of their relationality or relatedness. Things are neither self-standing entities nor vague events by relational particulars. Particulars are inherently relational, as they are ontologically open to other particulars in their constitution and action. Particulars, as relational particulars, are the ultimate constituents of reality. Particulars interact and make the very fabric of reality⁷.” Murray Bowen’s family systems theory suggests that individuals can’t be understood in isolation from one another, but rather as a part of their family as an emotional unit. Families are systems of interconnected and interdependent individuals, none of whom can be understood in isolation from the system⁸. A system is defined as “a bounded set of interrelated elements exhibiting coherent behavior as a trait⁹. Or, as “an assemblage of objects related to each other by some regular interdependence”¹⁰. Of course, it is possible to view individuals through other contexts (i.e. through social dynamics with peers or strangers), but even these lenses are ultimately informed by how one was socialized early on. This usually points to people’s upbringing, their immediate and regular context. With family, aspects of shared origin, lifestyle and culture are inherently present: these are aspects that run deep and strong through both tangible and intangible family ties.

The debate between nature and nurture then emerges: while individuals are defined through the context of family and upbringing based on their infant/childhood, individuals are ultimately independently operating beings that develop in many different ways. Existing as parts of a totality, individuals within an extended family system are “viewed as incorporating in what it is all its relations with other parts up to and including everything that comes into the whole” in a way that “it is not possible to understand different interrelated parts of a whole without understanding how the parts relate to each other within this whole.” This position simply implies that the manner in which “things cohere become essential attributes of what they are”¹¹. The working assumptions of this particular thesis and design project are that the individuals residing within this multifamily multigenerational network assume their position-appropriate role within their family context. These individuals are not completely defined by their social roles, but understanding where individuals are in position with the family system and smaller subsystems of the family structure inform and explain on a deeper level how people interact and shape an understanding of their world.

⁷ “Relationalism,” Wikipedia.com. Accessed 20 September 2016.

⁸ “Family Systems Theory,” in Genopro.com. Accessed 20 September 2016.

⁹ Larry Constantine, “Family Paradigms: The Practice of Theory in Family Therapy.”

¹⁰ “System,” *Webster’s Third New International Dictionary of the English Language Unabridged*.

¹¹ Bertell Ollman, *Dance of the Dialectic: Steps in Marx’s Method*, 37.

This paper resides in the realm of the postmodern framework of globalization and locality, where humans must negotiate with their surrounding places on which they continually build their identity and negotiate with one another to form community. In addition to the presented literature about relationalism in family system dynamics, this concept bears relevance spatially and temporally. In the built environment, principles of proximity, spatial order, and navigability all point to the relationship of the placement of objects. Human interaction through these articulated spaces - visually, haptically, olfactorily, etc. - shapes humans' perception of place. Ultimately, individuals constantly and inevitably gain their meaning and identity via their relationships with the terrain they must navigate daily, as well as with the people with which they share this terrain. You can't understand the land until you understand those who occupy it, and you can't understand the people until you understand the land they occupy.

Henri Lefebvre posits that we are "confronted by an indefinite multitude of spaces¹²," where new systems of space are created and evolving at an intractable rate. The heterotopic conception of the city is devised as an attempt to encompass the vastness of the physical urban landscape, as well as the plethora of disciplines, viewpoints, and approaches embedded in each spatial interpretation of the city. Lefebvre searches for a unitary spatial language to give coherence to the analysis of space. He classifies his language into four main definitions: space as perceived (social practice), space as conceived (representations of space), space as lived (representational space), and history of space (both abstract and absolute). These relationships are dynamic: process, movement, flow, and relations shape the interplay of physical space and the embodied space of interpersonal and interspatial relationships on the site. These dynamics are not necessarily bound to a logical flow, and are subject to contradiction that may be understood as incompatible development, or movement of different elements within the whole where each element simultaneously supports and undermines other elements within the system¹³. The microcosm of the multigenerational household situated in a physically and psychologically marginal space in the urban environment exemplifies the discussion of all treatments of the space defined by Lefebvre. The individual actors, or parts within the larger socio-spatial system, each contribute to the larger perceived space in their lived space, which is reflected in the collective history of space and the continual evolution of their space through changing conceptions of their surroundings.

¹² Henri Lefebvre, *The Production of Space*, 8.

¹³ Andrew Merrifield, "Place and space: a Lefebvrian reconciliation," 17.

In his paper discussing the privatization and domestication of community, Barry Wellman posits that the contemporary community has largely become spatially domesticated, and thus the nature of that community has changed. Public space is no longer the spatial ideal for community building; rather, they have become “residual places to pass through or to shop in¹⁴.” The egalitarian vision of collective monument-making in the public realm is less valuable than building stronger ties with smaller groups of people in closer proximity. Wellman’s position speaks to the daily negotiations that occur between members of a multigenerational household, as well as those that occur between people and the surrounding spatial environment in a small residential neighborhood-scale context. The urban stairway, as an area that straddles the line between public and private space, is an ideal ground where these complex dynamics are tested. Scaled down to how a neighborhood treats its stairways is an indeterminate combination of its inhabitants’ investment in these lands and being able to see how and why these areas symbolize the neighborhood, the reputation it portrays to the overall urban fabric, and its responsiveness to broader development and growth (more of a long-term objective/resulting investment).

¹⁴ Barry Wellman, “From Little Boxes to Loosely-Bounded Networks: The Privatization and Domestication of Community,” in *Sociology for the Twenty-First Century: Continuities and Cutting Edges*, 1999.

PART II. NAVIGATION AND SPATIAL ENGAGEMENT THROUGH NEGOTIATION WITH THE BUILT ENVIRONMENT

“an understanding of our world as one in which objects, situations, values, ideas and behaviour acquire meaning in their relationship to other objects, situations, values, ideas and behavior...in the fuzzy middle where certainty and uncertainty are found side by side...”
- Gert De Roo and Geoff Porter, 2007

The contemporary urban condition requires strategies of engagement; it is futile to assume that the structure of the contemporary city will disappear or can be reconstructed as a false reproduction of the past. Through our human inventiveness we must make the potential in space come alive. Space is “a set of relations between things.”... As Lefebvre and Michel de Certeau have argued, “space is a social construct within which we exist, in which we act¹⁵.” Graham Livesey distills Lefebvre and de Certeau’s definitions of the heterotopic spatial dimension as space is “an active condition to be engaged...and it can be inhabited by using a multitude of methods.” De Certeau calls space “a practiced place” that “occurs as the effect produced by the operations that orient it, situate it, temporalize it, and make it function in a polyvalent unity of conflictual programs or contractual proximities¹⁶.” Thus, the body transforms otherwise undefined space into “comprehensible spaces, as a project, an act of making or territorializing. This occurs as both an individual and a collective activity. Routes, boundaries, abodes, intersections, and spaces are established both individually and collectively, fleetingly and in a more enduring way, that reinforce the heterotopic condition. Space is thus able to depict many states of being: emotional, linguistic, cultural, economic, and/or ideological. The city remains a tapestry of ever-changing spaces, juxtaposed, and overlapped, in which no space ‘ever vanishes utterly, leaving no trace.’¹⁷”

¹⁵ Graham Livesey, *Passages: Explorations of the Contemporary City*, 8.

¹⁶ Michel de Certeau, *The Practice of Everyday Life*, 117.

¹⁷ Graham Livesey, *Passages: Explorations of the Contemporary City*, 9-10.

Passivity versus activity

Inhabiting a multigenerational dwelling in a marginalized space is inherently borne out of intention and a willingness to navigate and negotiate the various dynamics at play. However, this does not necessarily mean that one must always be an active participant in these processes. The most valuable aspect of existing in liminality is the freedom to move in and out of ambiguity; the choice to slow down and to find new modes of understanding the world. Gianni Vattimo proposes an understanding of our world which he calls “Weak Thought.” It is neither based on one objective truth, static and carved in stone, nor is it the idea that truth does not exist. Weak Thought is truth as the layering of embodied experiences, the constant production, and the gathering of truths. Many experiences and productions of the same space are possible depending on one’s perspective and background. Weak Thought is experience as a network rather than singular. Instead of understanding truth as assurance that the built environment is the mirror through which we look and see our own reflections and intentions, these residual spaces are understood through movement, acts of transgression, and continual evolution. While these spaces are transgressive in that they pose immense challenges for the design imagination and are thus deemed unworthy of further attention, they possess the potential for infinite possibilities if the intervention begins with the insider. The inhabitation of such transgressive zones give us an experience of being and becoming that the static image or efficient space fails to offer. In this case an “inefficient” spatial experience holds more experiential worth in enriching daily life.

Eliahu Stern and Juval Portugali talk about urban wayfinding behavior as a negotiation of environmental cognition and choice. “Environmental cognition is interpreted through the concept of an inter-representational network (IRN) (Portugali 1996, Haken and Portugali 1996); the choice mechanism is conceptualized through decision field theory (DFT) (Busemeyer and Townsend 1993), Stern (1998). Urban navigation can thus be seen as a synergistic interplay between external and internal inputs and outputs, ordered by one or a few order parameters, which evolve in the process and enslave the interacting representational subsystems.¹⁸” In this case, the variabilities that lead one to choose one route over the other is based on their initial impression of the site which they are faced to traverse. One accounts for visibility and perceived safety, context (where the path begins and where it seems to end), and what may occur in the middle. One may not be inclined to traverse the route less traveled if the surrounding symbols and signals communicate threat or fearfulness. A well-framed route, on the other hand, conveys a sense of non-danger; in the case of traversing a residual space, the way in which the route is framed may indicate to the traveler that not only is the route safe, but that it also is intriguing and even desirable.

¹⁸ Stern and Portugali, “Environmental cognition and decision making in urban navigation. “

Memory plays a key role in the efficacy of navigating through not only space but also family structures. Guy Debord's theory of the derive¹⁹ critiques the passivity of humans in an increasingly spectatorial society, where human actions are simply the consumption of goods and signals so aggressively present. He calls for a more active course of mapping and wayfinding through the urban, one which is not powerless to predetermined articulations of spaces. The ideal types of spaces where this sort of discovery and unfolding may occur are the residual, marginalized, semi-public spaces in the city. Placemaking, modeled after Christophe Girot's "landing, grounding, finding, founding" approach²⁰, is defined as making sense of a certain space or site based on familiarity that comes from spending time in that place. Time and sensory openness do not always have to be active processes. Realizations about a place can occur passively, soaking in the experience of simply being present, and then through a process of either active or passive reflection over an undefined period of time afterwards.

¹⁹ Guy Debord, *Society of the Spectacle*.

²⁰ Christophe Girot, "Four Trace Concepts in Landscape Architecture."

Post-modern attitudes

Written and spoken observations of “informal” spaces, and the relationships these share with their counterpart “formal” spaces, build upon a rich rhetorical tradition tracing back to humans’ earliest observations of the human-spatial nature. The postmodern climate - result of globalization, capitalism, and the Internet, for instance - trajects an increasingly shrinking world. A side effect of this general movement is that humans experience a deeper tension and more demanding renegotiation of their existence in urbanity. Geographers tap into the vastness of the human-urban question, adding to the multidimensional web of millions of individual urban experiences. Among others, Gerald Suttles describes the cumulative texture of local urban culture²¹, David Harvey reflects on the geographical imagination²², and Heath Priston builds on “body theory” and human-urban negotiations²³. Still other scholars are venturing beyond the tensions of human-urban relationships, imagining what lies beyond city and civilization²⁴, questioning why people even need to physically travel when virtual reality is so prominent²⁵. Whether explicit or tacit, postmodern thinkers write their observations of urbanity within their immediate contexts within the frames established by precedents. The point is that these experiences are global, but people are tapping into their local contexts to posit the uniqueness of individual experiences thoroughly influenced by proximal space.

²¹ Gerald Suttles, “The Cumulative Texture of Local Urban Culture.”

²² David Harvey. “Between Space and Time: Reflections on the Geographical Imagination.”

²³ Heath Priston. “Desire Lines: Urbanity and Corporeal Ethics.” Accessed 15 October 2016.

²⁴ Parvez Manzoor. “Beyond City and Civilization.” Accessed 17 October 2016.

²⁵ John Urry, “Globalising the Tourist Gaze.”

PART III. EFFICACY VERSUS EXPERIENTIAL WORTH OF MULTIGENERATIONAL HOUSING IN RESIDUAL SPACES

“The richness, texture and continuity of traditions in a multigenerational household are unmatched. Children absorb learning in so many ways from their grandparents, from language, values and etiquette. Their parents are given support in child raising, and elders feel secure and cared for.”
- Woon-Ping Chin, 2013

While inter-familial relationships become increasingly more complex and challenging to navigate with more people involved, the results that develop are far more enriching due to a commonality of ritual sharing. Domesticity as a ritual unifies individuals in a routine that speaks beyond quotidian practicality; shared experiences, memory and involvement build a collective value that extends beyond a singular or nuclear system, yet does not scale as largely as the collective urban system. Again, while this dwelling choice is not the most efficient in its land use (lowrise, sited on marginalized vulnerable land) and domestic rhythm (speed at which an individual can achieve household and personal tasks), the extra time is time well spent and the measures to make the land occupiable is worth the journey of passing spatial thresholds.

Historical background on multigenerational coresidence

There is a documented and growing need for multigenerational coresidence²⁶ in the US. Tangible/documentated socioeconomic factors include²⁷:

1. rising housing costs,
2. high student-loan debt,
3. economic recession and unemployment,
4. an increase in immigration from countries and cultures where multigenerational coresidence is valued and common²⁸,
5. income strains irrespective of ethnicity,
6. shifting family structures due to single parenthood and divorce trending towards desire to seek companionship,
7. increased median age of first marriage,
8. personal difficulties arising from substance abuse, incarceration, and mental illness,
9. the retirement of baby boomers which leads to higher dependence on their middle aged children for support that sometimes leads to the decision to live together, and
10. public policy reforms to services like Medicare and Temporary Assistance for Needy Families (TANF).

²⁶ Discrepancies in the qualifications for what is considered a multigenerational household renders some of the data less effective, but unless noted otherwise, a multigenerational household consists of at least two adult generations where the youngest is at least 25 years old; a multigenerational household also describes a household with a skipped generation (for instance, grandparents caring for grandchildren due to parent absence). Various data, including Census surveys (<http://www.pewsocialtrends.org/2014/07/17/appendix-b-notes-on-terminology-and-methodology/>), state that households are only considered multigenerational with at least three generations living together (for example, grandparents, their adult children and grandchildren), but this measure fails to account for a variety of dynamic and unclassifiable circumstances. An additional classification includes households with at least two adult generations where the youngest is at least 18 years of age; however, this is misleading because the results include households where a child has lived with her parents consistently through childhood, adolescence, and now transitioning to adulthood.

²⁷ Pew Research Center 2011

²⁸ Some 18.8% of people living in immigrant households in the U.S. live in a multi-generational family household, compared with 14.2% of people in native-born households, according to a Pew Research analysis of data from the Census Bureau's 2009 Current Population Survey. Interestingly, however, among the nation's two largest immigrant groups by race and ethnicity – Hispanics and Asians – the native-born households of these groups have a slightly higher tendency to be multi-generational families than the foreign-born households. (<http://www.pewsocialtrends.org/2010/03/18/the-return-of-the-multi-generational-family-household/#fnref-752-4>)

However, there has been a trend yet to be explained where people simply choose to coreside within a household spanning from grandchild to grandparent. Perhaps explained by:

1. Progressive views: people no longer feel that living with their parents is something to be ashamed of, but rather as a benefit of learning and growing from each generations' pros and cons.
2. Progressive education about mental/psychological health and loneliness on a human to human level. Progressive stance on family structure and the meaning of family. Essentially, more post-modern views of human connection and family.

Since the 1980s, the number of multigenerational households in the US has increased dramatically, reversing post-World War II downward trends²⁹. Multigenerational households of the twentieth century reached a record low in 1980, with only 12.1% of the US population living in multigenerational households. 2000 Census data indicates that the numbers have increased more in the 21st century than they have in the last century: there was an increase of 3.9 million (3.7%) of all US households³⁰ to multigenerational arrangements - a 38% increase from the 1990 census. The 2010 Pew Research Center national study shows that, as of 2008, 49 million people, or 16.1% of all people living in the US³¹ resided in multigenerational households.

²⁹ Chad Evans, "Grandparenting in Three-Generation Families and the Health of Their Grandchildren."

³⁰ The distinction between "household" and "US population" might be confusing to data perception. "US population" refers to individuals, whereas "household" is a dynamic unit that refers to at least an individual but may also refer to a multigenerational household regardless of the number of individuals within the household unit. This is particularly problematic when measuring percentage changes, especially in urban areas where transient populations bear single households that add to the household number. Conversely, when an individual joins a multigenerational household, the total number of households decreases while the number of multigenerational households may or may not increase.

³¹ A major discrepancy in the language used to describe residents: some studies describe those living in the US as "Americans," implying that 100% of people in these studies possess citizenship or permanent residency status. However, this seems unlikely because much of the resulting data comes from a series of Pew Research Center studies that utilize Census and American Community Survey (ACS) data, which includes citizens, legal immigrants, non-citizen long-term visitors and illegal (or undocumented) immigrants. (<http://usgovinfo.about.com/od/censusandstatistics/a/censusandaliens.htm>). Additionally, the use of "Americans" does not account for American citizens who do not live in the country. Therefore, this paper will refer to "people living in the United States rather than "Americans," unless noted otherwise.

While this increase can be attributed to the economic factors mentioned above, most of which are explained by the Great Recession of 2007-09, the upward trend is not necessarily tied to this financial consideration. In 2014, Pew Research released that a record 60.6 million people, or about 19% of people living in the US, live in multigenerational households. This increase indicates that not only are people already living in multigenerational households continuing their domestic arrangement, but also new multigenerational households are forming. Some reasons that explain this trend might be that those already living in multigenerational housing arrangements value the added benefits of proximity and companionship, and have been able to negotiate their needs and differences without resorting to breaking up. Newly formed multigenerational living arrangements may be tied to other financial factors unrelated to the recession, but it may also be due to progressive cultural values regarding lifestyle and proximity both spatially and within a larger multigenerational coresidential system.

Despite the dramatic increases in multigenerational families since 1980, housing designed explicitly for multigenerational households has not gained the expected traction. While this is a broad statement that fails to account for the spatial factors of where these multigenerational families are living (close to urban centers versus suburban versus rural), findings from the 2000 Census indicates that multigenerational family households may be more likely to reside in areas where new immigrants live with their relatives, in areas where housing shortages or high costs force families to double up their living arrangements, or in areas that have relatively high rates of out-of-wedlock childbearing and where unwed mothers live with their children in their parents' home³². Still, the task of locating multigenerational housing is imperative, albeit on a regional scale, specifically within the City of Seattle.

Pros: companionship and support through shared use of common spaces; security through increased surveillance; shared maintenance of dwelling and property that increases sense of control and ownership over the space, regardless of legal titles³³.

Cons of living together that have spatial implications: sense of privacy (having own space to yourself); lifestyle differences (loudness, different needs for accessibility/dietary/health, hobbies that might impact others, tidiness, sleeping/waking hours); negotiating use of space and who has control in dedicated spaces for dedicated uses (i.e. kitchen dominated by the mother)³⁴.

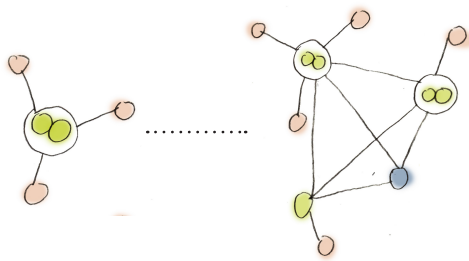


Figure 4. Nuclear vs. networked family structures

³² Tavia Simmons and Grace O'Neill, "Households and Families, 2000."

³³ Easthorpe et al., "Feeling at home in a multigenerational household: the importance of control."

³⁴ *ibid.*

Multigenerational coresidence in Seattle's metropolitan area

In 2010, there were 4,418 formal multigenerational households, or 1.6% of Seattle's total households, as well as numerous undeclared multigenerational living arrangements (those that do not fit the definition of multigenerational housing that is articulated in this thesis)³⁵. (While the percentage implies a low multigenerational household rate, the notable figure is the actual number of multigenerational households.) There currently are opportunities for multigenerational housing in less metropolitan areas but not so much within downtown or in close proximity to downtown. According to the same data set, 83,283 households in Washington state, or 3.2%, were multigenerational, a drastic increase from 57,193, or 2.5%, in 2000. The cities in Washington with the highest percentages of multigenerational households in 2010 were in Eastern Washington and with large Hispanic populations: Grandview (9.2%), Sunnyside (9.0%) and Pasco (5.8%). In King County, the cities at the top were mostly places with high immigrant and minority populations: Tukwila (5.6%), SeaTac (5.5%), Covington (5.2%), Kent (4.8%) and Federal Way (4.5%). The ability to accommodate multigenerational households depends not only on respective municipal ordinances, but also on real estate and land prices that allow families to own more square feet at the expense of a suburban or rural lifestyle.

Seattle is facing a phenomenon of decreasing household size within the city, boosted even more with a booming influx of technology jobs that is pushing out existing residents of the urban core and drawing in young urban professionals. These urban professionals are generally single-person household and transient (fairly new to the region, open to moving to other cities and exploration, not interested in immediately establishing roots in Seattle). Seattle's average household size is 2.06, where many of these households consist of unrelated adults in dense rental settings³⁶. As a result, the new construction housing typologies are mostly single-occupancy studios/open one-bedrooms that cater to the market-driven young urban professional. Housing prices, both to rent and to own, are getting more expensive all around but especially in close proximity to the city core. While this is not necessarily bad, it puts pressure on people who have been living in these neighborhoods to leave due to not only higher financial costs but also a loss of neighborhood identity³⁷. Simultaneously, the incoming young urban professionals are not tied to the value of staying close to family. These individuals are willing to move to different cities to explore, develop, be free, and are not prioritizing living under the same roof as their relatives.

³⁵ Frank Bass and Christopher Palmeri. "Number of multigenerations living under same roof grows, census finds." *Seattle Times*. 03 September 2011.

³⁶ "About Seattle: Housing Quick Statistics." City of Seattle. Web accessed 03 November 2016.

³⁷ Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*.

In order for multigenerational housing to gain appeal to all of its users across a number of generations and life circumstances, it is important to locate the project in an area close to urban village/urban center. This proximity to commercial and mixed use areas will achieve three key concerns: first, it will avoid displacing seniors currently living in the area. By bringing their familial support system to them, and making it easy to stay in contact with their friends and extra-familial social groups, multigenerational housing in an urban context will enable these seniors the option to age in place while providing new opportunities for personal and relational growth via continual chosen interactions with family members of all ages. Second, close proximity to urban activity is an incentive for the younger generation, who might be single or have young families, to live in a multigenerational household because they are close to activities/amenities to which they might otherwise not have access if they lived further away, without the financial means to live in a popular neighborhood or the community support to assist in childcare or other forms of support. Third, proximity contains spatial consequences for walkability. Car ownership and access to daily services and amenities such as grocery stores, child care services, and public services are major factors that favor close proximity to concentrated urban areas. If not car ownership, then at least adequate public transportation options like bus and light rail, or proximity to car share services like Zipcar or Car2go, are necessary parts of daily life.

Multigenerational housing around the world has not been in the academic or theoretical discussion in the same way as other living “types” or situations - such as single-family, multifamily, and elderly care facilities - have been analyzed. Moreover, multigenerational housing does not exist as a building typology in the same way as those listed above. Only recently has it emerged in economic and cultural studies, and even then it is discussed as an economic trend mainly necessitated by housing shortages and fluctuating financial atmospheres. In the United States, this market-based analytical approach seems to be the only appropriate one, given that there is very little tradition for multigenerational living situations in the country’s history that would warrant studies coming from different angles. However, recent studies are tapping into other factors besides economic necessity that are contributing to the increase in multigenerational households, such as an increasing immigrant population and the mutual benefits that result from codependence. The importance of studying this in an urban or proximally urban area (as opposed to a peri-urban, suburban or rural area) is to argue that: even in an area with high density and constant competitiveness for space, multigenerational families can still reside here because there is still room for this. Where is the room? It could be found in the marginal spaces, the spaces in between, which is also kind of an in-between living arrangement that is not completely private/nuclear nor is it public in the sense of living in close proximity with strangers (i.e. in apartments or houses with unrelated people, whether or not you have separate living quarters).

This is an issue that has long-term implications, especially given the rapid rate at which Seattle’s urbanscape is growing. Multigenerational housing as a viable (financially and culturally justifiable) typology in Seattle must be studied now, amid ongoing discussions about rezoning and establishing transportation networks that favor the single-occupant unit. Possibilities for incorporating it later on will only mean that it will be pushed further out to the less reachable parts of the city.

Efficiency and experiential worth on a land-use scale

Urban residual spaces are abundant and are manifested in all shapes and sizes. On a humanly intuitive level, the appeal of such spaces is obvious: among other characteristics, they conjure notions of wonder and mystery, evoke a sense of layered history and untold stories, and imply the possibility of danger. These various arguments prompt the question of whether such seemingly intentional informal spaces not only could, but also should, be subjected to classification and analysis. The urban fabric begins as a utilitarian tool for placemaking and is the product of a complex layering of systems and modes. It is the surface upon which negotiations are marked and the patina of history develops. The grid structure systematically regularizes and commodifies land, a hierarchy of streets and pathways are laid out for multimodal movement, and even greenspaces are utilitarian in their direct programmatic intention. Given this highly practical and efficient vision of the city, residual spaces tend to be looked down upon because they fall outside the scope of the grander urban or site plan.

While the presence of under-utilized, residual spaces in any urban fabric does not threaten the lives of people who interact with them, the fate of these places is vulnerable to public opinion, which is spurred by the designer. Such spaces evade a singular definition to amply describe the myriad conditions that make them what they are. Gil Doron uses the umbrella term 'Transgressive Zones' under which he brings together the following spatial labels, "...badlands, blank space, border vacuums, brown fields, conceptual Nevada, Dead Zones, derelict areas, ellipsis spaces, empty places, free space liminal spaces, nameless spaces, No Man's Lands, polite spaces, post architectural zones, spaces of indeterminacy, spaces of uncertainty, smooth spaces, Tabula Rasa, Temporary Autonomous Zones, terrain vague, urban deserts, vacant lands, voids, white areas, Wasteland... SLOAPs [Space Left Over After Planning]." He recognizes that the multitude of labels is at the heart of what makes these spaces so difficult to define, and therefore, to intervene or include in the urban design discourse: "[This list] is not a comprehensive lexicon of various types of urban space. This list is a desperate attempt by the discourse to make sense of a certain type of space, which... has existed in the city since antiquity. As some of the names suggest, from the subjective position of the urban researcher this place seems to be vague and undetermined, if not derelict or even empty. Nonetheless, to muddle through the ostensible marshyness of this space, the discourse has tried to define over and over again what it is, how it came about, and more than anything else, where it is located. Behind these attempts is the assumption that this space is unique, an anomaly that can be located in a certain place, and therefore managed, if not colonised." Doron argues that the more appropriate term for describing these spaces is Transgressive Zones, because it is disassociative of the specific connotations embedded in each of the labels listed.

Semantically, transgressive architecture and zones remove the designer's attitude of the space, and focus the state of the spaces as the threshold at which "architecture and planning reaches the limit of the plan and the intention of the architect." By calling these areas the void, wasteland, or dead zone, designers reveal that when they view these spaces, they are uncomfortable, even fearful, of its ambiguity. Not only do these spaces evade comprehension, but they are also terrifying because the designer is not able to imagine what it is, why it is, and what is possible: it is "like looking at a mirror and not seeing one's reflection." The surreality of these spaces creates further distance and alienation from the designer, who is essentially an outsider. Transgression marks the suspension of the designer's intent, and that is more fearful than if the space is the product of destruction.

Occupying topographically challenging sites adjacent to public stairways

The speed at which the city's collective image is formed comes from all modes of transportation and representation (walking, biking, driving, bussing). Thus, the collective image is an amalgamation of a dizzying number of influences and sources. This project focuses on wayfinding and placemaking through the human tempo of walking, because walking is the only way one can realistically traverse these stairways.

This proposed multigenerational residence explores the relationship of topography navigation and associated ownership via public pedestrian stairways in Seattle. There are hundreds of public stairways throughout the city, and some are clearly used more than others. This could be due to: 1. General popularity or pedestrian volume in that particular neighborhood, which is a result of many other factors including neighborhood culture, planning and zoning that affects proximity to other places of interest, 2. Major versus minor topographical change, and how much people choose walking over other modes like car, bus or bike, 3. Visibility of the stairways, which leads to issues of safety both psychologically and physically., 4. Areas that are more tended to (claimed, owned and surveilled by those closest by) are more appealing for use because they don't threaten or intimidate. All four factors deeply contribute to whether or not stairways are appealing to people. What frames the stairway and the overall experience of navigating through the neighborhood in this way affects whether or not people will actually use it regularly.

Navigating steep landscapes in general is physically challenging, so this automatically limits those who can actually use these areas. The movement and navigation patterns of various individuals (i.e. parents with babies in strollers to healthy adults to slow-moving elderly) must be incorporated into the conceptual approach this design intervention. The design proposal approaches the site not only from west to east (downhill), but also east to west (uphill). Traversing uphill versus traversing downhill have different physical and spatial experiences, and there are different perceptions of traversing uphill through daunting steep terrain as opposed to traversing downhill through the overgrown unknown.

The urban stairway, as an area that straddles the line between public and private space, is an ideal testing ground for these complex dynamics. Scaled down to how a neighborhood treats its stairways is an indeterminate combination of its inhabitants' investment in these lands and being able to see how and why these areas symbolize the neighborhood, the reputation it portrays to the overall urban fabric, and its responsiveness to broader development and growth (more of a long-term objective/resulting investment).

PART IV. CONCLUSIONS AND THEORETICAL FRAMEWORK

The outsider sees residual spaces and fears the unknown, and rather than to embrace the fear, the outsider finds it easier to ignore the space. The space is informal and enigmatic, and the outsider does not see the value potential of this space because it does not readily offer economic value. The experiential worth of the space is not compelling enough to imagine its acceptance into the urban fabric, and so it is simply left indifferently blank and vulnerable to forgottenness instead of capitalizing on its strengths and incorporating it back into society. However, the insider - the user and occupant - of this space has refounded the space and has claimed ownership of it. In this use through contact, exploration, traversal, and proximity, the space for its users is integral to daily life. To the insider, the residual space is absolutely worthy of existence.

Enjoying the full experiential value of residual space need not be limited to the insider who lays direct claim of the space. The residual space is capable of existing within an urban system without compromising its transgressiveness; the integration of these spaces is a sign of a healthy neighborhood. A healthy, vibrant urban system exhibits a balance of efficiency and delight, and success is not determined solely on meeting financial goals or bottom lines determined by higher authorities like designers or planners. Key advantages of treating residual spaces as legitimate urban spaces include that the occupation of these previously untethered sites offers surveillance and security through occupancy while adding to the programmatic density of a neighborhood, especially in those that are up against inevitable densification. Second, because these areas are often at the fringes of intersecting spatial conditions, inclusion allows for better physical and symbolic connectivity within a neighborhood projected outwards. A healthy neighborhood ecosystem is not necessarily determined by the land or material efficiency of its buildings, as we have seen in the case of mass-produced housing, which fails to consider what the ramifications of such “efficiency” has on the general urban landscape. Single uses and rigid zoning oversimplify the social and environmental complexities of a neighborhood, so non-inclusivity can have significant negative impacts. Opportunities for exploration, imagination, and the expansion of interpretations of what a balanced neighborhood looks like should benefit not just the people whose money is invested in the land, but also the humans, animals, and plants that inhabit the area.

While imagining design intentions on these areas is not economically efficient or straightforward - high risk and difficulty of tracking financial progress are some of the hard quantitative factors that contribute to this mindset - the value-added benefits of design and evidence of human existence on the area are effective due to a more intentional use of valuable land within the neighborhood. Better framing, access, and visibility of these sites that are usually overgrown and not maintained well due to lack of interest and funding, contribute to dissolving the psychological and experiential barriers that would otherwise discourage or impede people from enjoying them. Moreover, there is a certain delight, sense of adventure, and comfort in navigating and occupying residual spaces. The time-tested spatial principles of prospect and refuge, and flexibility and multiplicity of uses, are possible assets of successful interventions of residual space.

This thesis addresses two initially disparate parts - one in the spatial realm and one in the sociocultural realm - that mutually glean significance via how they approach the broader idea of liminality. It proposes to meet a need for densifying underutilized "residual" spaces in areas of growing popularity in the city while opening up public stairways that ultimately ease navigation and strengthens fabric of the neighborhood. This dwelling type and space condition are not typically analyzed together, but they share a common thread of liminality/indeterminacy of space and state of existence that make for a nuanced appreciation of not only meaningful cohabitation of both interior and exterior spaces, but also a deepened understanding of self within a supportive context.

III. METHODOLOGY

The thesis project proposes an acupuncture approach, which most architecture-scaled interventions are. However, I am looking at the whole North Beacon Hill and North Rainier network as a system of paths and nodes, zones and thresholds, focusing on the stairway as a primary threshold of liminality and transformation that stands to be framed and accessed in such a way that will not only encourage the use of these walkways, but a deeper appreciation of their significance in stitching together the neighborhood fabric.

Project goals

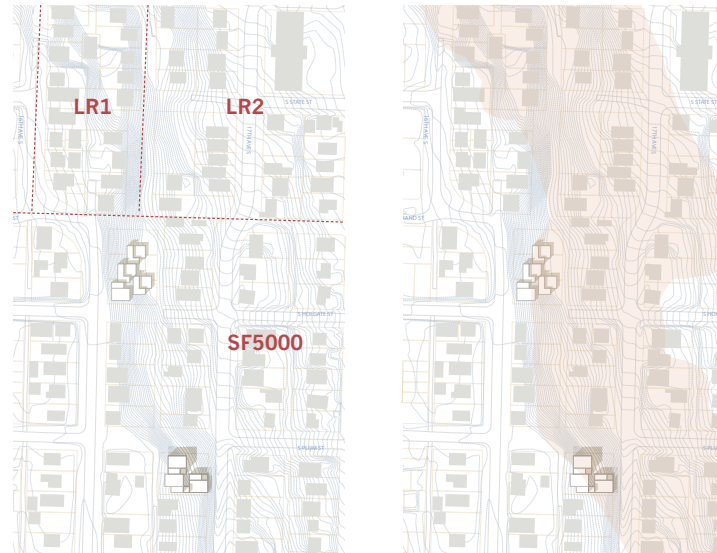
- Contribute to the solution concerning housing and households in Seattle (which also points to cultural and economic shifts),
- Provide a spectrum of public and private spaces to allow individual family members opportunities to build stronger personal and familial values through inhabiting a lowrise multifamily multigenerational project,
- Address the issue of physical and psychological accessibility through the stairways, and to invite urban pedestrian navigation through public amenities that have previously felt private/hidden/dangerous to traverse, both in the north-south direction (residual spaces that are not plotted for ownership, considered public domain) and east-west direction (stairways)
- Introduce the possibility of making this sort of intervention an environmentally and economically feasible reality in Seattle

Site selection and analysis

The site for analysis and design is on North Beacon Hill bounded by 16th and 17th Avenue South, and South Plum Street to South Massachusetts Street. This area is characterized by the following built conditions:

- A continuous string running north-south of single-family and lowrise-1 zoning in a residentially zoned neighborhood
- At the intersection of two neighborhoods (Beacon Hill and Rainier Valley)
- Close to main roads that make travel by bus, car, and bike easily accessible: 15th Avenue South, 17th Avenue South, Beacon Avenue South
- Close to Beacon Hill Lightrail Station (<10 min walk)
- Street grid starts to break down right around this area and leading north/downhill to I-90. Roads begin to curve and fold, creating discontinuity. East-west streets are truncated here, but pick back up on 17th Avenue South
- Close proximity to current senior housing and continuation of other framed east-west steps, paying particular attention to continuing the p-patch system from nearby Beacon Bluff.

Major geographical and physical factors that determine mobility, access and buildability throughout the site are largely dependent on the large topographical changes throughout the area (particularly in the east-west direction), proximity to amenities/commerce/attractions, and the potential slide risk that characterizes the entire ridge.



Figures 5-6. Current zoning and potential slide areas





Figures 7a-g. Views of design site area



NORTH BEACON HILL

average household size: 2.45

average family size: 3.06

number of grandparents living with grandchildren under 18 years: 295

SEATTLE CITY-WIDE

multigenerational households: 4,418

Demographics and the definition of households

The ethnic and socioeconomic makeup of North Beacon Hill residents varies widely (see Figure 9 on racial breakdowns); the population's diversity is traditionally attributed to the relatively extreme topographical change and physical boundaries that have kept Beacon Hill separate from the busier downtown portions of Seattle (cite). However, with increasing demands for housing and the influx of technology-based jobs in downtown Seattle, the issue of gentrification comes to the fore. Like in many places close to downtown, people are either displaced or prevented from living in North Beacon Hill due to rent hikes, overall increased cost of living, and aging living conditions that do not necessarily maintain the same quality as equivalently priced dwellings outside the central areas closest to the central business district.

The conceptual approach to this design project does not necessarily assume that increased socio-economic and cultural diversity will result in increased sense of community. However, it is possible that more diversity will enrich the overall social fabric, and that individuals will be able to adjust and navigate their new surroundings. Interactions will inevitably increase due to closer proximity and a shared terrain of ownership.

While there are loose definitions of family, here it refers to the relationship of people to others who share the same name, lineage, origin. This thesis focuses on the conventional family structure defined by blood and/or legal ties; it does not focus on the broader use of 'family' as defined by consensual bonds amongst friends or unrelated cohabitants. The associated design proposal thereby capitalizes on certain Seattle zoning designations (i.e. SF5000) already in place that are more accommodating for families that fall into the legal definition of family (maximum number of unrelated persons living in an SF5000 zoned lot is 8, versus higher allowances for related persons).

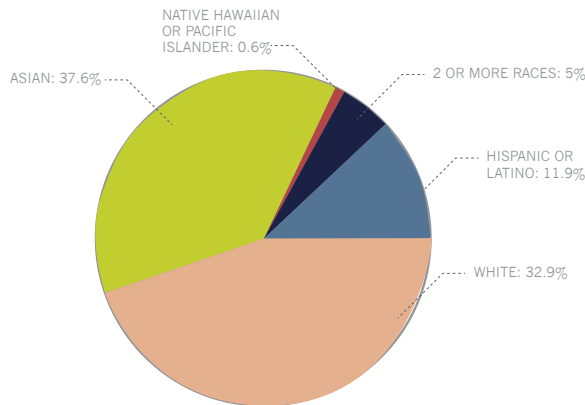


Figure 8. Household breakdowns in North Beacon Hill; racial breakdown of North Beacon Hill residents.



Figures 9a-b. View of Streissguth Gardens and the iconic Howe Street steps

(<http://www.tatianagill.com/portfolio/streissguth-gardens-photo-featured-on-city-of-seattle-website>)
(<http://www.trover.com/d/zaWQ-east-howe-street-stairs-seattle-washington>)

Precedents

Howe and Blaine Street stairs, and Streissguth Gardens

Nearly identical parallel east-west stairways that begin in Eastlake and end in North Capitol Hill, the Howe and Blaine Street stairs boast the title of being Seattle's longest public stairways. Each are divided into 13 flights interrupted by landings and streets. A portion of each of the stairs pass through the I-5 Colonnade, which is a public pedestrian and bike park underneath I-5. Well-loved and trafficked by commuters and recreationists alike, the stairs accommodate an estimated 35,000-40,000 people annually. The high traffic volume and multiple uses of the Howe and Blaine Street stairs exemplify how public stairways, when invitingly framed and well maintained, are not only incorporated but also embraced into the daily lives of its users. No longer treated as a residual, threatening space, the very aspects that make the stairs inherently spatially marginal are not psychologically marginalized in the collective imagination. Additionally, the Streissguth Gardens, located south just off of the Blaine Street stairs, are described as an "urban oasis": a "small, family-maintained garden on a steep hillside" that has "developed gradually over the course of more than 40 years... grown from a tangled hillside to approximately one acre of cultivated woodland and perennial beds."³⁸ An estimated 7,000 people visit the garden annually. Given the neighborhood's context and limited road access, the Gardens depend on able-bodied visitors to use the stairs instead of occupy the residential dead-end street with car traffic and parking.

³⁸ "Welcome to Streissguth Gardens." Web. Accessed 07 November 2016.



Figures 10a-b. Beacon Bluff P-Patch

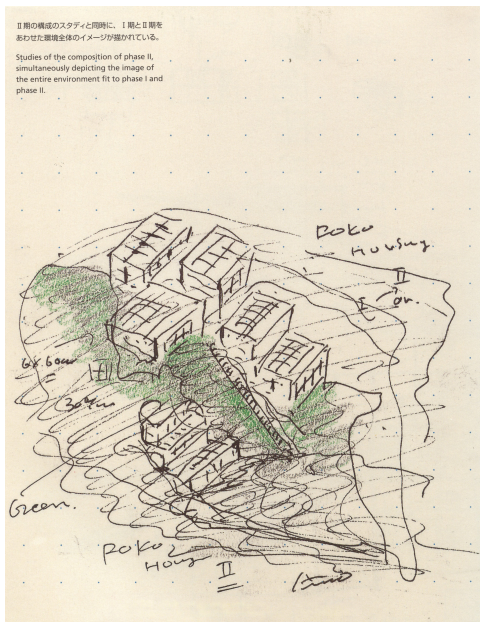
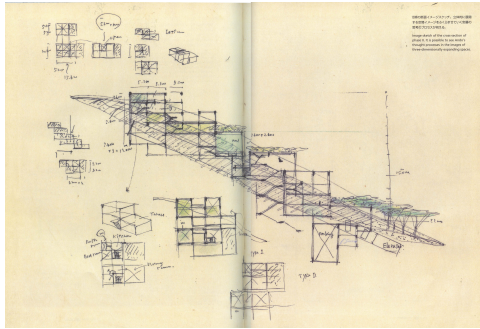
(http://farm4.staticflickr.com/3607/3845311969_6c465431e2.jpg)
 (<http://beaconhill.seattle.wa.us/wp-content/uploads/2010/12/p-patch.jpg>)

Beacon Bluff

Beacon Bluff P-Patch is a terraced community garden along an unused section of South Massachusetts Street between 14th and 15th Avenues. A public walkway and residual space that were previously overgrown with tall trees and thick vegetation, the bluff was converted to a garden in 2002. This project was funded by the Seattle Department of Transportation, but the transformation is credited to a dedicated group of neighbors. Beacon Bluff is part of the Seattle P-Patch program, which includes more than 80 gardens throughout the municipality, and is one of six P-Patch gardens in Beacon Hill. Beacon Bluff is a popular gardening area, with an estimated wait time of 1-2 years for someone interested in gardening in one of the fifteen 100-square foot gardening plots. The P-Patch is also equipped with a tool locker, seating, and running water. The layout of the garden is primarily based on 5 walled terraces built along the 40-foot grade change from the top of the garden on 14th Avenue South to the bottom of the garden on 15th Avenue South. Volunteers maintain native plantings on the upper slope above the gardening terraces, as well as a flower garden at the base of the hill. A colorful mural on the terrace walls, hand-painted signage, and a covered book borrow stand are examples of how the community has taken ownership of this amenity and has incorporated it into the neighborhood fabric (see Figures 3 and 4). Additionally, the garden members host block parties over the summer and food collection outreach events throughout the year³⁹.

Beacon Bluff is located at a key point of connection in the neighborhood. The paved walk-and bike-ways on either side of the garden see a considerable amount of traffic, given that it is the only accessible pedestrian path between 14th Avenue South and 15th Avenue South in a quarter-mile distance (see Figure 5). Additionally, it is a lookout point with views of both the Olympic and the Cascade mountain ranges, and contributes to connecting this topographically segregated area of North Beacon Hill visually as well as communally.

³⁹ Wendi Dunlap, "P-Patchers Plan Party This Weekend." Web accessed 05 November 2016.



Figures 11a-f. Rokko Housing Project
(Phases 1, 2, 3)
Tadao Ando, Kobe (1978-1999)

Rokko Housing 1, 2, 3

Tadao Ando's design for mixed low- and mid-rise housing along the steep slopes of Mount Rokko in Kobe, Japan is a prime example of a successfully executed housing project on a heavily vegetated and topographically challenging site. A three-phase project spanning 21 years (1978-1999), Ando was "challenged by this steep vegetation-covered slope...[which] made its presence known by its stern posture, as if to reject any buildings on its site⁴⁰." The Rokko project is not quite like designing on a residual space, yet Ando recognized the uniqueness of the site conditions and sought to marry the residences to the 60-degree slope without "cut[ting] and destroy[ing] nature⁴¹." His design approach speaks to not only how he addressed his client's wishes, but how he perceived how to best respect the mountain and how his design will fit into the general urban fabric of Kobe.

Ando articulated his struggle to grapple with the site as one where his design for the first phase (named "Rokko I") could become a reality: "Recollecting the past struggle and reaffirming my commitment to realize the concept and to solve our urban problems amidst renewed difficulties, I continued to climb the slope. As always, I could not calm my nerves as I thought of facing difficult challenges. Once again, I began to sketch the image of a building on the severe slope. As I continued to climb the wind-blown hill, I vowed to preserve the rich quality of nature before me. I thought to myself that a large building could project a gentle presence if it were built into the growth along the slope. I pictured a quiet building standing quietly in nature⁴²." The building is organized around two axes: the north-south axis is a stepped vertical circulation extending from the foot of the project to the uppermost public terrace. The intersecting east-west axis is a midpoint void that opens horizontally to the natural surroundings. The frame of the building is a series of twenty 17-foot cubes. However, none of the units have identical plans: "within a simple overall form, there exists a complex system of interior spaces⁴³."

The design process for the second phase (Rokko II) began in 1985, two years after construction for Rokko I was completed. Ando admits that there were "many accidents during the building of Rokko I due to the great difficulty of its construction,⁴⁴" and that he had vowed not to take on this type of project again; however, another client approached him with continuing building on the mountainside for Rokko II. "Suddenly,

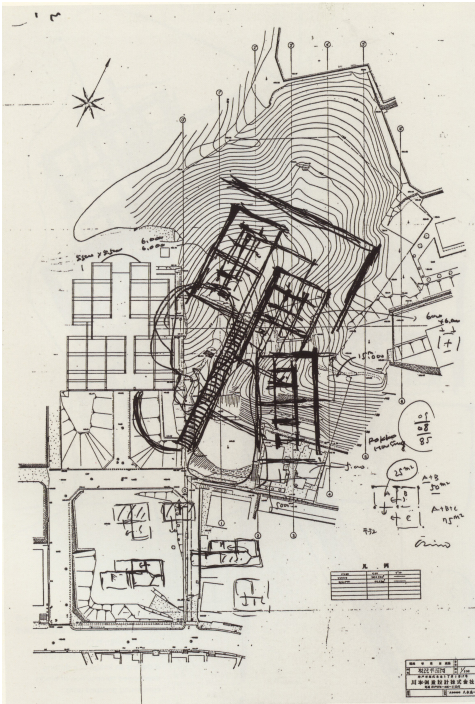
⁴⁰ Tadao Ando, "Rokko Housing I," *Tadao Ando: The Yale Studio & Current Works*, 45.

⁴¹ *ibid.*

⁴² *ibid.*, 46.

⁴³ *ibid.*, 47.

⁴⁴ *ibid.*, 49.



presented with this ‘opportunity,’ I was suffused with energy (despite opposition from my staff) to challenge many of the ideas I had not been able to pursue in Phase I.⁴⁵ It is clear that Ando’s attitude toward this site was experimental; he envisioned a bolder resolution of weaving the slope, nature, and housing. The site for Rokko II is along the same 60-degree slope but is four times larger in area. The design is set at a 27-degree angle relative to Rokko I, resulting in a triangular green area serving as a buffer between the two projects. Reflecting on the differences in his approach from Rokko I to Rokko II, he says: “because of the limited size of the site [of Rokko I] and constraints such as the set-back requirements and light and air clearance, I could not clearly enough express my architectural concept. But [Rokko II], with its ample space, had few external constraints to restrict me in this way. Furthermore, the valley-like configuration of the site allowed me to design a structure that would meld with the natural surroundings.”⁴⁶

Ando poetically describes his design vision for Rokko II:

“The form [of Rokko II] can be described as that of two opposites, completely simplified geometric form and a complex matrix of residential spaces. The intention was to accept the simplicity of modernism while adopting the ideas of complexity in direct contrast to modernism. To further elaborate, my intention was to embed spatiality, normally experienced only physically, into visual and abstract spaces common to the modern movement. By introducing into abstract space a substantial space of concreteness and sense of depth, the result is a harmonious overlay of space.

The entire project is based on a 17 foot square grid. Each building has a square plan with a side that is five times the basic grid unit and the project is composed of three such buildings linked together. This geometric regularity is given complexity and transformed by various displacements of the vertical grid because of the adaptation of the three buildings to the slope. The slits in the three buildings provide an eastern exposure. By consistently following the geometric order down to the last detail, I sought to establish a new sense of natural and geometric order coexisting through the sharp contrast of these two realms.

In a context where the geometric form asserts itself over human order, nature will evermore shine through and thus its existence will be enhanced. The dry plaza, defined by its concrete wall and floor will stand out within the rich green of the natural surroundings and work its way into the hearts of the residents as the hub of this community.

⁴⁵ Tadao Ando, “Rokko Housing I,” *Tadao Ando: The Yale Studio & Current Works*, 49.

⁴⁶ *ibid.*



The straight central stairway ascending the slope passes between the three buildings and provides the project with an axis; the public space off the stairway links the units, which are arranged in thirteen layers. Each unit has changes in floor levels within the overall geometric regularity of the scheme, and the result is a great variation of floor plan. There are 50 individual floor plans, thus creating a collection of 50 housings in a single housing project.

A typical Japanese housing project consists of stacked-up layers of standardized floors, each unit being, typically, a '3LDK' plan; i.e., three bedrooms, living room, dining room, and kitchen. I interpret this tendency to simplify the planning process as stagnation of creative behavior. It is not an exaggeration to say that in the name of economy and rationality, the design and planning process has been blocked to promote an easy way out. An architectural creation is ultimately a personal process. But these days, the act of production has been taken away from the individual and shifted into the hands of organizations. Dream and passion, once the important elements of architecture, have been replaced by mundane common sense and mediocrity, and the cities will eventually be filled with dull and lifeless buildings.



It is a tremendous task to design a housing project as a collection of individual houses. It requires an enormous amount of energy and time. However, I believe that it is a particularly important act to attempt such a challenge in these times of one-sided economics and restrictive rationality⁴⁷."

The third phase (Rokko III) was again an independently organized proposal around the time Rokko II reached completion. The site conditions and project goals for Rokko III are greatly different than the first two phases, and these differences are very apparent in the resulting design. The dwelling units in Rokko III are much more densely packed into distinct high-rise, mid-rise and low-rise wings. The original intention was to continue the highly customized residential experiences and varied unit arrangements brought to fruition in Rokko II, but this was not possible in Rokko III given the project's construction costs and sales targets. Instead, Ando sought to design communal spaces that would enrich interactions amongst the various residents: a pristine communal pool and large open plazas at the intersection of the axes invite communal activity. While the constructed Rokko III was not Ando's ideal vision for the site, the spatial complexity, depth, and design process of the entire three-phase project exemplifies a variety of distinct and innovative housing typologies across more than two decades of architectural exploration.

⁴⁷ Tadao Ando, "Rokko Housing I," *Tadao Ando: The Yale Studio & Current Works*, 50-54.

Initial concept sketches



Figure 12. Plum Street site from 17th Ave S

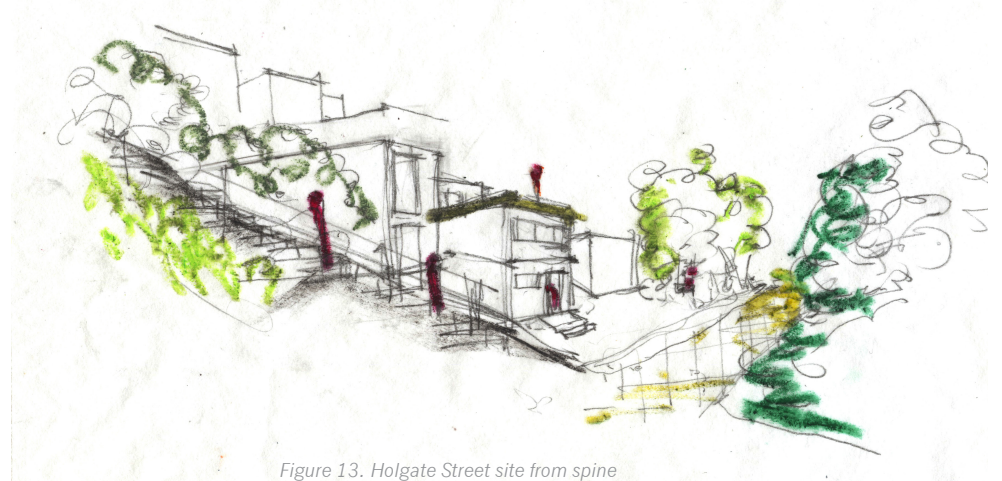


Figure 13. Holgate Street site from spine



Figure 14. Holgate Street site from spine



Figure 15. Holgate Street site courtyard



Figure 16. Spine experience

Conclusion

Ultimately, the aim is to envision opportunities for deeper human connections that begin with the programmed multigenerational coresidence, but this is simply just a framework for humans to forge deeper connections and opportunities drawing out the poetry of memory and shared experiences exchanged across generations. Situating the focus of the theoretical framework and design along public stairways and the surrounding marginalized space supports the argument that there are opportunities to densify popular and growing neighborhoods near an urban core without erasing parts of the existing fabric embedded in the collective memory of a landscape.

IV. DESIGN PROPOSAL

Program of spaces and design approach

This project will reconnect the city fabric at three truncated street endings that lack connecting east-west stairways, address the design of a series of semi-detached multigenerational households across two sites, and connect the two building sites through a defined pedestrian-only alleyway (see Figure xx).

- The public stairways become the primary route to access the main entrances to each household (see Figures xx and xx)
- The spine connects amenities at each of the sites: public p-patches, recreational and exercise routes, and a neighborhood playground (see Figure xx)
- A collection of four separate units per household, where each multigenerational household is operated and accessed separately from the other households (see Figures xx and xx)
- In-unit gathering areas with communal outdoor rooftop patios and indoor meeting areas are tightly associated with the main circulation “core” that straddles between two units on each level (see Figure xx)
- Cooking, living, and circulation are all located centrally to the household across all contained units (see Figure xx)

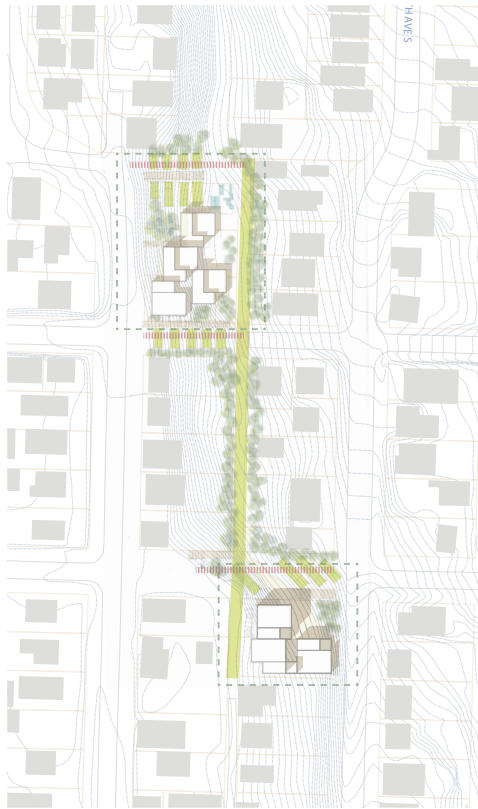


Figure 17. 3-2-1 site concept:
3 stairways, 2 sites, 1 spine

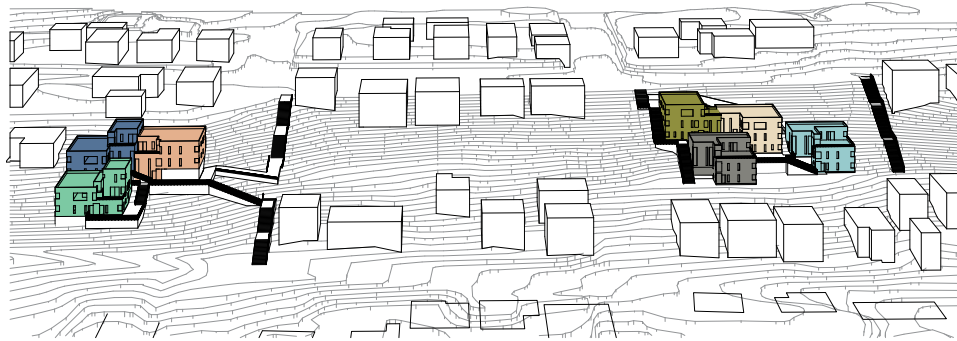


Figure 18. Seven separate households

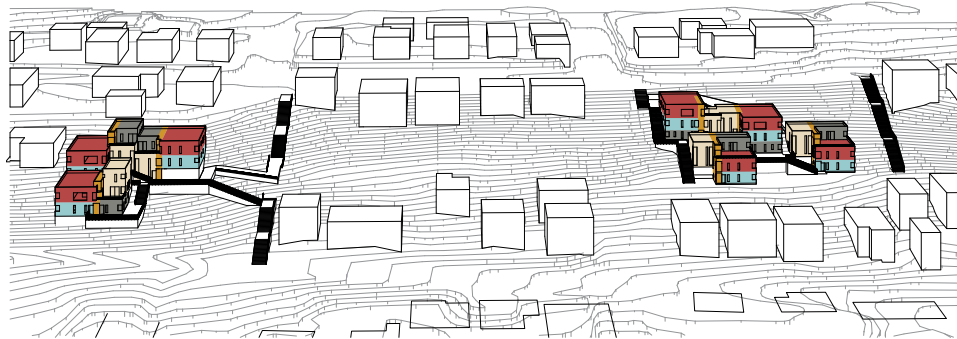


Figure 19. Four unit types with central circulation within each household

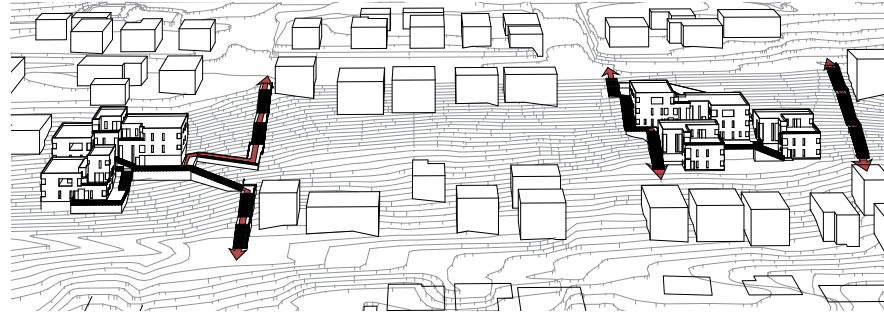


Figure 20. Connecting stairways

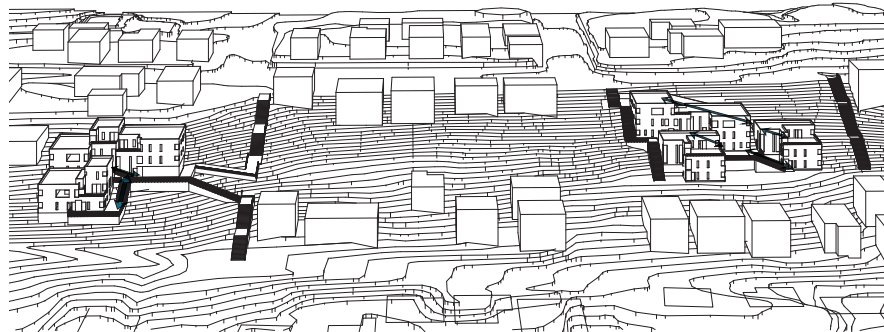


Figure 21. Stairs folding into building sites



Figure 22. Spine connecting amenities



Figure 33. Cooking area and living area in each unit connect the entire household via central vertical circulation

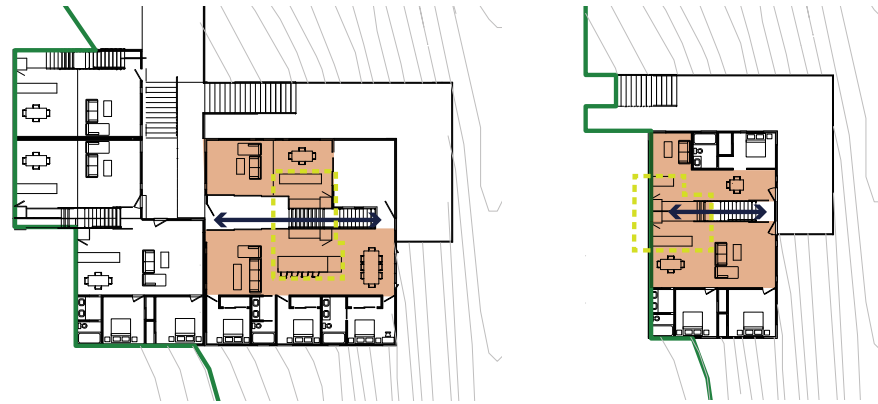


Figure 34. Living areas face internally; bedrooms pushed to perimeters

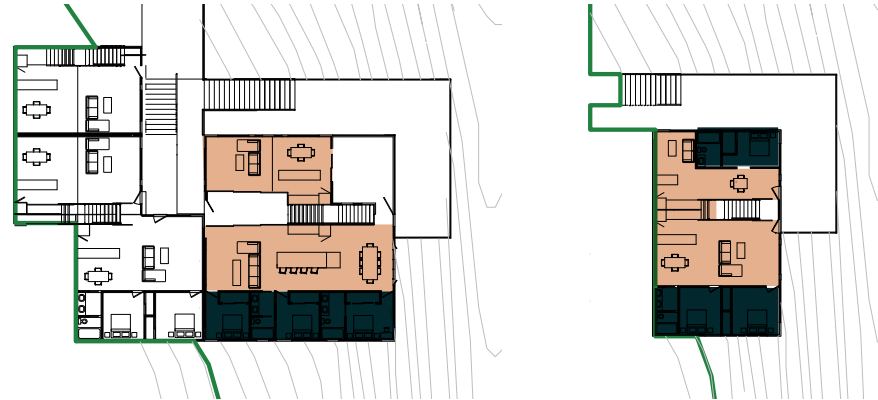


Figure 35. Each household has an outdoor space





Figure 22. Site plan



Site planning

In addition to the programmatic and design approaches listed previously, several other factors are taken into consideration in the site plan:

- Permeable paving defines vehicular parking areas on both sites: the south parking area is only accessible via a small existing paved alley off of Hill Street to the south, while the north parking area is designed to continue from the existing paved right of way off of 16th Avenue S. Additionally, public street parking is readily available to accommodate more car parking for the south site, both uphill of the ridge on Plum Street and downhill of the ridge on 17th Avenue S.
- Public p-patch plots are provided on both sites (11 plots on the south site and 24 plots on the north site), and they are accessed off of the stairways. The presence of these p-patches is intended to continue the popular tradition of community gardening found throughout Seattle, and particularly the hillside terraced Beacon Bluff P-Patch which is located just a few blocks north of this design area.
- Existing vegetation along the spine will mostly remain, with the exception of those along a newly carved out and gravelled pathway. The vegetation along the spine is not intended to act as a barrier between the houses east and west of the spine; rather, it might help to dissolve psychological and physical impediments that currently prevent the residents of these households from fully exploring the landscape of the urban forest that exists right in their backyards.
- A new playground area will occupy most of the flattest portion of the north site (in brown).





Figure 30. View of Holgate Street site playground

Three experiential thresholds

There are 3 distinct experiential thresholds one crosses throughout the design area, all of which contribute to the richness of the liminal experience. The first threshold is crossed when one climbs the public stairway -- for instance, the southernmost stairway at Plum Street -- and weaves between a distinctly public experience in and out of a more private residential experience.

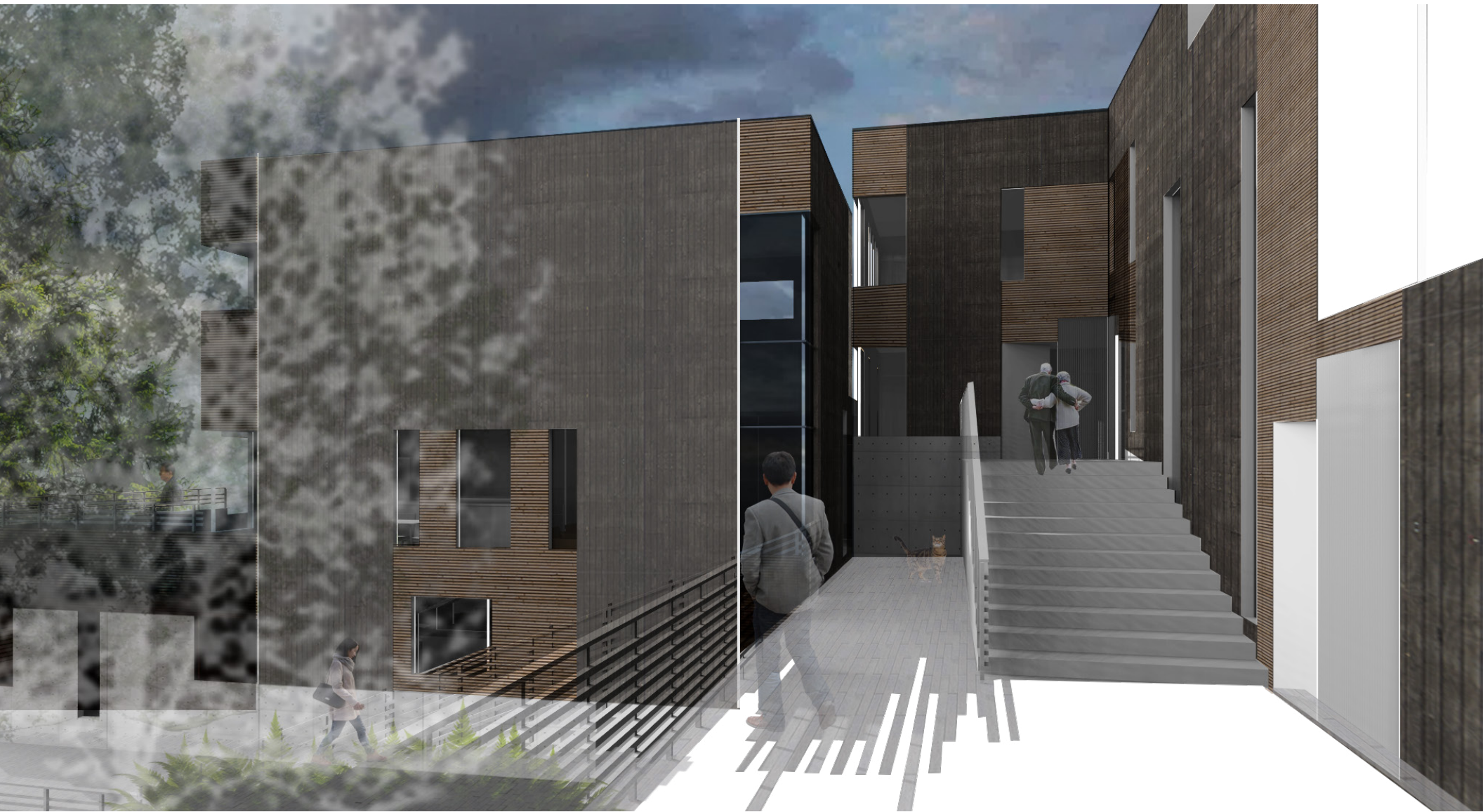


Figure 29. View of Plum Street site courtyard

Secondly, the paved courtyard areas that provide main entrances to the newly designed multigenerational households present opportunities for neighbors (a different user group than that of the everyday commuter) to see each other and interact on a daily basis.

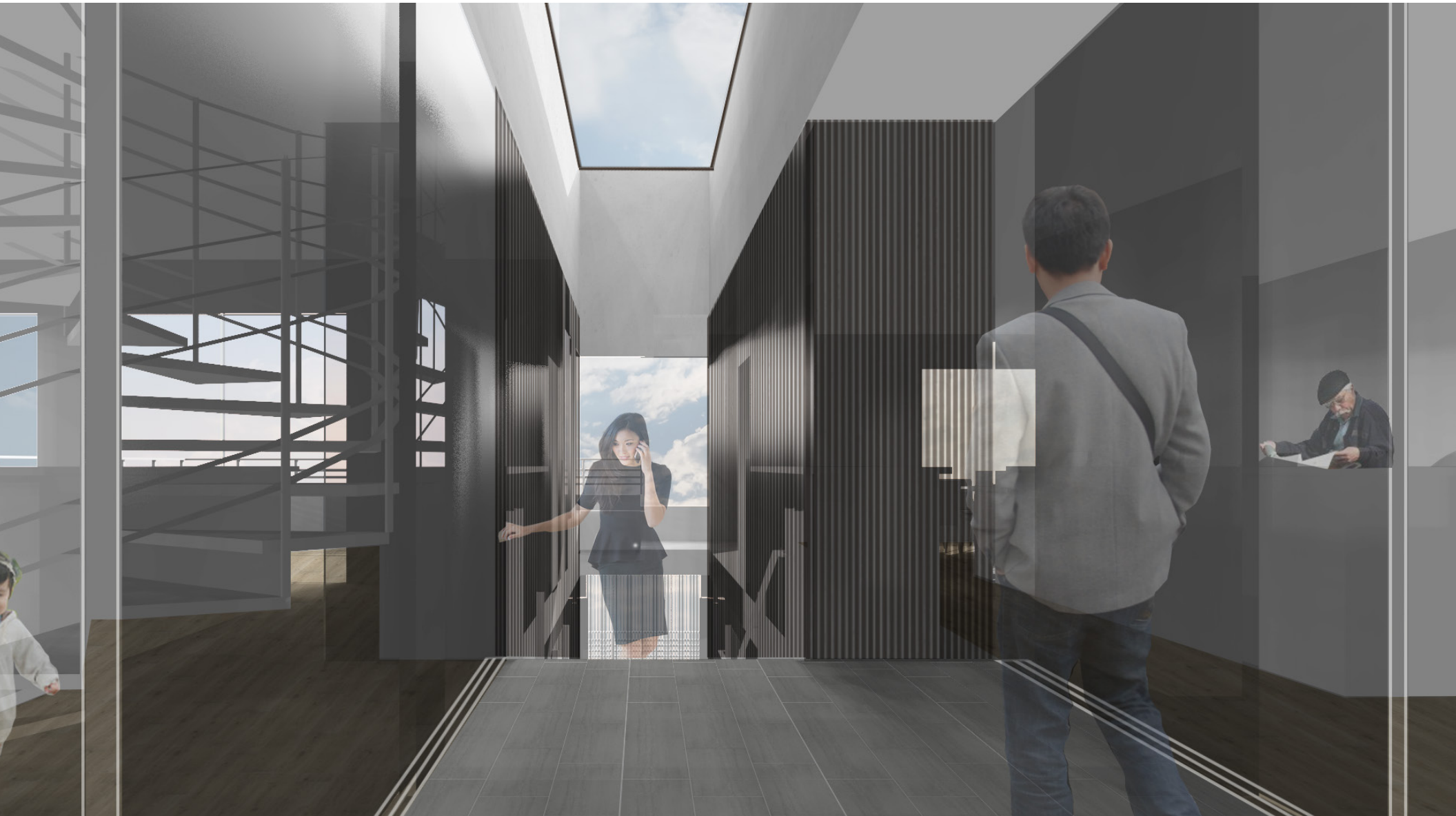


Figure 36. Main entrance lobby

Thirdly and most intimately, the members within a multigenerational household have the opportunity and choice to interact with fellow members largely through the experience of moving from floor to floor via the central and semi-transparent internal staircase.



Figure 28. View of Plum Street site from 17th Ave SW

Material choices

The materials used both in the interior and exterior of the dwellings are kept neutral to act as a canvas or backdrop to the life, spontaneity, and different interactions taking place between and amongst the users. External cladding and materials consist mainly of concrete, charred wood siding, and spaced cedar slats that define openings and corners.



Figure 38. Cooking/living and circulation spaces

Interior materials are light hardwood floors, sliding full-height semitransparent doors with dark wooden slats, neutral linear tile and plastered walls.



Figure 37. Largest unit



Figure 39. Loft unit

Variable configurations of interior spaces

While each of the households maintain similarities in square footage and the previously mentioned organizational principles, the variations in topographical conditions dictate the specific massing configurations and openings for every distinct household.

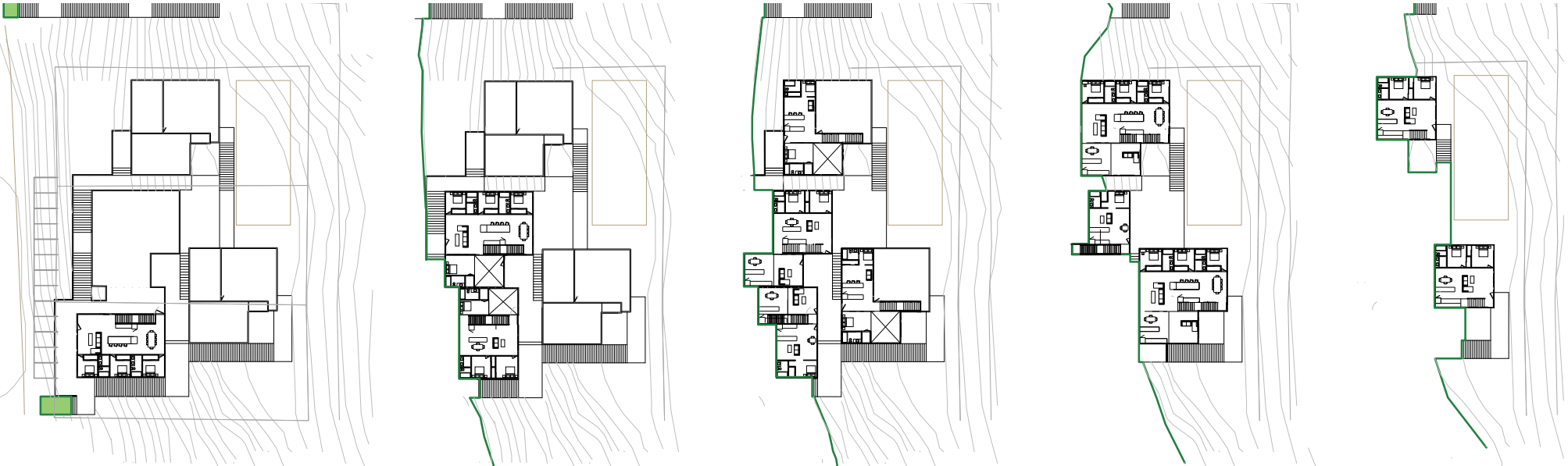


Figure 31. Holgate Street site floor plans



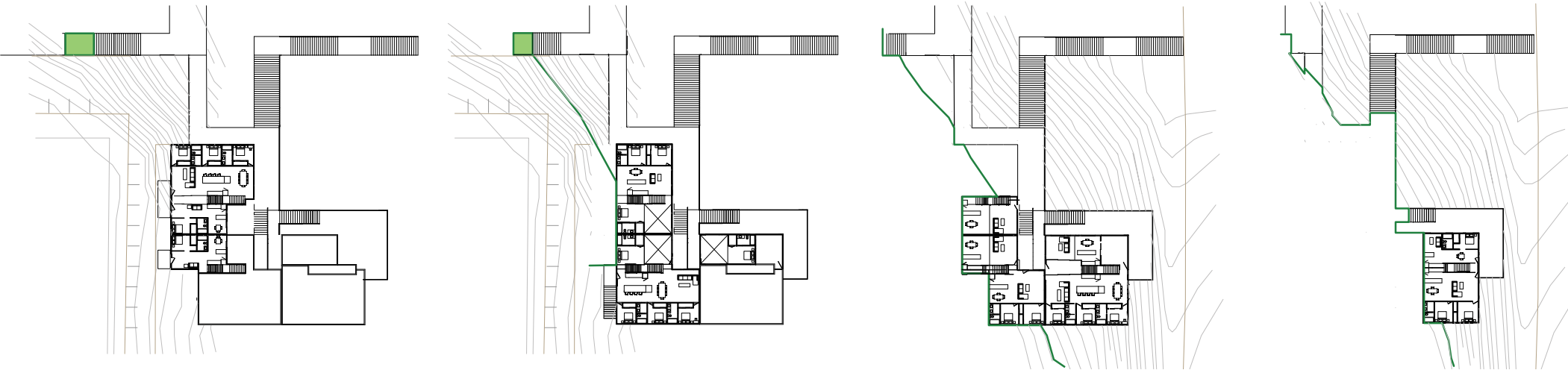


Figure 32. Plum Street site floor plans





Figures 24-25. Sections through Holgate Street site facing north and facing west





Figures 26-27. Sections through Plum Street site facing west and facing north



V. CONCLUSIONS

Important remarks from the presentation jury

Another design cycle through the organization of outdoor spaces would have been helpful in determining specific moments and types of interactions that may occur, given different design decisions. In particular, supporting desire lines and intuitive gathering points by widening certain areas like landings and parts along the spine could have offered spatial variety and a higher possibility that people would meet and interact for longer periods of time. Also, studying the best ratio of steps to landing (rise to run) to ensure a sense of safety and transparency throughout the vertical circulation experience was a factor that had not been previously considered.

A question regarding how units within the household could be safely and securely separated from other was asked in the context of whether some units could feasibly be rented out to strangers in the event that a multigenerational household does not have any members that can occupy those particular units. My response is that while all of the units within each household are intended to be visually and experientially connected to the others via the central staircase, the entrance to the units from both the exterior as well as from the interior staircase is indeed lockable even though the barriers are semi-transparent to the rest of the household.

Like any successful human-built environment interaction, the success of a multigenerational housing development on an environmentally and socially precarious site such as the land adjacent to public stairways depends on stewardship and maintenance of those it serves. Architecture simply lays down a framework. Real success is measured by how effectively the architecture functions for the betterment of its users. The significance of elements within the space depends on the connections and relationships that define them; the placement of a new housing typology on previously marginalized topography strengthens its position and meaning, and vice versa.

This design proposal draws out the importance of more study and analysis of the multigenerational housing typology. The design situated on a highly challenging topographical and physical condition explores the use of connections among marginalized urban spaces, public connections, and an understudied housing typology. The potential for designing within this triangle of spatial experience is immensely rich and diverse, and it is particularly pertinent in Seattle's rapidly growing urban environment.

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