AN ARCHITECTURAL RESPONSE TO CULTURAL DIVERSITY
THE MOSAIC | INTERNATIONAL STUDENT HOUSING
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Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of Master of Architecture in Architecture By Negar Ghassemieh

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Keywords: Housing | International Student | Cultural Diversity | Public | Private | Civic space | Threshold | Architectural Element | Human Senses

November 30, 2012
Washington Alexandria Architecture Center

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ABSTRACT

An Architectural Response to Cultural Diversity
The Mosaic | International Student Housing
by Megh Grassenh

“We build dwellings first, perhaps, satisfy most of our physical needs, but which do not house our mind.”
— Johann Palmers

My architecture thesis began with the question of the relationship and threshold between the realms of public and private and familiar and unfamiliar, while looking particularly in residential spaces. Humans consciously or unconsciously “use” the idea of their “home” environment to express something about themselves.

The question that arose from this dialogue captured my attention which led me to explore a deeper meaning of what would be an ideal home for students like myself: ones who were starting a new chapter of their lives by moving to a foreign country. The idea of ‘home’ as a symbol of ones self, is a set of rituals, personal rhythms and routines of everyday life. The idea of Home cannot be produced all at once; it has a dimension of time and is a gradual product of the family’s and individual’s adaptation to the world.

My thesis project has explored and proposed an architectural response to cultural diversity through student housing for existing Washington D.C. Metropolitan Area universities. The Mosaic is a place to express the personality and define the vessels of memories between individuals and society.
I would like to thank all the people who have helped and supported me during my masters study.

My deepest gratitude goes to my family especially my parents and my brother for their love and support throughout my life. I am incredibly thankful to my parents who both inspire me to continue to grow and keep reaching for my dreams; none of this would have been possible without them. And thanks to my fiance Poayan, for his love, encouragement and great patience when I needed it. You have been there every step from the beginning.

I would like to thank my committee. Thank you for giving me the freedom to explore my imagination. Your guidance and support from the initial to the final level enabled me to develop an understanding of the subject. I have learned so much from each of you.

Lastly, I am very grateful to the WAAC family. Thank you Henny and Jaan for being the best bosses. I will always miss you. Thanks to all the people who have helped me in any respect during...
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It is evident that the idea of ‘home’ is not an object or a building, but a fusion of a complex condition that integrates memories and images, desires and fears, and the past and the present. For most of us, the word ‘home’ makes us suddenly remember all the warmth, protection and love of our childhood. The word home, engages us with identity and intimacy and consciousness and unconsciousness. We are guided by our innate behavioral influences and culturally conditioned values.”

What happens when people from different cultures meet and become involved with each other?! In the beginning, new students have difficulties with the issue of just where ‘home’ is and where to define the moments of intimacy. The intimate spaces are places in which boundaries between public and private, individual and communal have been blurred. The architectural dimension of the ‘home’ and the personal and private dimension of life becomes fused in time and so the question then becomes: how can architecture promote the free-flowing social interaction, activities, and energy among students from different nations in residential spaces.

“While the house as symbol of our place in society has been discussed and researched by social scientists, the house interior and its contents as a mirror of our inner psychological self have received much less attention.”

Clara Cooper

“Home is our place of resting and dreaming in safety.” _Juhani Pallasmaa

“We shape our buildings and they shape us.” _Winston Churchill

What would be an ideal home?!
The Cité Internationale Universitaire de Paris was founded in the early 1920s when problems of availability and affordability of appropriate living accommodation were becoming serious. The state, supported with funds by a rich benefactor, was able to use a site in the south west of the city to create a campus which would provide accommodation for talented young people from all over the world. The campus has 40 houses to welcome some 10,000 residents a year, including students, researchers, visiting professors, artists and sportsmen from over 140 countries. It provides quality accommodation complete with a wide range of services (featuring a theatre, library, restaurant, sports facilities, support services and more). The Cité Universitaire is home to the most extensive range of student accommodation in the Paris region, forming a unique patchwork of linguistic and cultural diversity in the French capital.2

The Cité is a model concept for a similar system in Washington DC. Through my research, I proposed to find a potential site located in an equal distance between all existing universities to spread and promote cultures while also increasing the social interaction within the international student community.

"I also remember the sadness and secret threat of leaving the home as we moved to another town. The greatest tragedy was the fear of facing an unknown future and losing one's childhood friends." —Johan Pallasmaa

In the past 20 years, Washington D.C. has become a major destination for immigrants, adding about 575,000 residents who were born outside of the United States. However they come from a diverse group of countries, with 39% from Latin America, 36% from Asia, 12% from Europe, and 11% from Africa. About 90% of the immigrant population moved to United States to pursue a higher education degree. We architects, are responsible to provide dwelling for an individual dweller, but each dwelling responds to a distinct representation of formal qualities that exhibit its own soul.
Simmons Hall at MIT, Cambridge, Massachusetts.
Unité d’Habitation - By Le Corbusier. Marseilles, France.  

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9.1 | PRECEDENTS
Potential Land Use Study For Student Housing in Washington, D.C. Metropolitan Area

According to the Washington D.C. Metropolitan Area GIS data website, the student housing allocations exist in the R-1, R-2, R-3 and R-4 zoning. I used the GIS method-buffer analysis to draw a buffer around each university and then used intersection analysis to identify areas that have the most overlap between the universities. To further determine the potential land in the intersection area, I repeated the buffer analysis method and then selection feature method to reduce the number of vacant properties in each zoning following the criteria such as transportation, accessibility, recreation facilities and health facilities. At the end of the data analysis and evaluation, I was able to conclude that zero land for a potential dormitory existed in DC, which led me to expand my site selection to Northern Virginia.
“Arlington will be a world-class urban community with a vibrant, attractive residential and commercial neighborhood where people unite to form a caring, learning, participating, sustainable community in which each person is important.” - Arlington County website

Arlington County is surrounded by Fairfax County and Falls Church to the SouthWest, the City of Alexandria to the SouthEast, and Washington, D.C. to the NorthEast, directly across the Potomac River, which forms the county’s northern border. The county’s zoning ordinance encourages developers to provide affordable housing in new and growing developing areas. Arlington has the highest growth development in the past few decades. I researched and analyzed potential sites in different sub-cities of Arlington to find an appropriate location that would both, provide to the surrounding area while also respond to the goals and intentions of my thesis questions. As a result of my understanding and evaluations, I chose the City of Clarendon.
Clarendon was Arlington’s first downtown development. Clarendon is one of the most accessible locations in Arlington with the Clarendon Metro station. The Clarendon metro serves as a convenient public transportation station for access to everywhere in the city. In Clarendon city, people of all income levels, ages and household can live, walk, work, shop and play in safety and comfort regardless of the time of the day. The integrity of the surrounding low-density residential neighborhoods are protected from urban sprawl while higher density development is still able to continue, thrive and grow towards the Clarendon Core. Wilson Blvd and Washington Blvd are one of Arlington’s most popular roads that divide the city to North and South. To the North of Wilson Blvd, are mostly rental apartments and to the South of Wilson Blvd, primarily exist condominium apartments. The heart of Clarendon city, called Central Park, is surrounded by new buildings, sidewalk cafes, and thriving businesses.
Clarendon is exceptionally accessible with a Metro station, public bus circulation and bicycle lanes which provide access towards many areas outside of the city in every direction. Quality outdoor public spaces - parks, squares and street plazas play a key role in an urban setting such as: cultural expression, places for socializing and celebrating from casual meetings to large scale community events. The City of Clarendon also requires having a mixed-use building including residential, office, retail, hotel, and recreation/entertainment for future development according to the Arlington County master plan.
The Clarendon Circle (the Washington-Wilson-Clarendon intersection) has greatly improved the core area of Clarendon's infrastructure for vehicles and pedestrians. The influence of Clarendon Circle is widely apparent in the urban forms and design context surrounding the area. The orientation of this intersection has provided axes and datum lines which have had an impact on the general grid of the city.
The selection of the site was one of the most important aspects of my thesis. I came upon a site located along 13th Street between N.Harford and N.Herndon Street and 0.2 miles away from the Clarendon Metro stop. I learned many things as I was studying the site and its surrounding neighborhood. The most interesting aspect of the site was that it existed within the new development core boundaries that also faced the edge of typical single-family American housing. The site was the only communal area located within the Rosslyn-Ballston Corridor and it intrigued me from the first moment to consider an open green space for a seating area. I started to absorb and listen to the existing site conditions through various series of site analysis and underlying perceptions and sensibilities of the area.
The first approach of creation was to search for a selection of common architectural elements that exist between all cultures. This quest led me to discover and encounter Edward Hopper. He is an American painter who was popular for his personal vision and interpretation of modern American life. I was inspired by his assorted “window” paintings that considered windows as an architectural element to imagine a building. Listening to the site and exploring for the programs/activities behind the imaginary windows of my building directed me to choose student housing with additional civic spaces including: study room, sport area, activities/event spaces, dining hall and retail stores. The spaces and program had very different intrinsic behaviors, and so, it was a challenge for me to connect them through a symbolic threshold and to use architectural elements as a tool to encourage the social behavior and interaction.
“Be soft, be humble like a earth so that flowers of many colors can grow from you.”, Rumi

“To read a poem is to hear it with our eyes; to hear it is to see it with our ears.”, Octavio Paz

I started to fluctuate between the world of the real and the world of the imagination. I began with a series of drawings for architectural elements: windows, stairs, bridges and balconies. Creating the architectural inspiration was not just a documentation but it was about being able to imagine a way for me to walk through the building with my pencil. The plan, section and elevation drawings became the tools which I tested the ideas.
The creative concept of the design started from considering the building as a human body system and using human senses and architectural elements as a tool to encourage and to capture memories throughout the building. The program was conceived in three pieces. A Public Piece (civic spaces), a Private Piece (two wings of residential units for students) and the Threshold Piece (a bridge between the public and private piece). There is a long staircase that celebrates the rise from earth to sky which is called the "Spine". Another wide opening exists through the building which is called the "Lung" of the building and it continues through the courtyard which is called the "Heart". This opening allows the inhabitants of the building to be able to hear people in theater, see people from the openings, smell the garden, taste the air movement and touch the materials.
INITIAL SUPPORTING SPACES

2 BEDROOM UNITS - 24 UNITS

1 BEDROOM UNITS - 34 UNITS

EFFICIENCY - 25 UNITS

COMMUNAL SPACES (dining hall, library, small semi-open theater)

BASE of the building
The footprint of the plan displays specifically thick walls which have strength, power and presence. Another aspect of the footprint is the spontaneous flow and movement of inhabitants as they pass through the entrance and into the building. Once inside, the threshold between public and private becomes a clear experiential interaction that is not only a physical experience but a visual one. There are elements of surprise, such as a sudden rotation of the stairs which is surrounded by a small garden greeting you on the inside. The difference between the scale of the spaces helps to engage the inhabitant and at the same time create a dynamic of the familiar and unfamiliar inside the building.
One of the most crucial design decisions of the thesis was the development and conceptual understanding of the residential units. It was important to grasp where to locate the units in relationship to the site and also in the program. It was necessary to develop a language between the large scale of the public spaces and small scale of the private spaces. A significant emphasis was also made on the unique and meaningful relationship of the front facade with the old city fabric. I was challenging myself to improve the story of the inhabitants units and the quality of the inhabitants life (windows/ balconies/ walls, etc.) Drawing sections through the courtyard helped me to make decisions regarding the design intentions that I wanted to explore. The residential wings sit on the back, south east and south west side of the site where they are able to have more privacy. The orientation of this location allows the units to absorb enough southern sunlight and provide soaring views of the new Clarendon Core development. The civic spaces are located on the North side of the site, becoming a symbolic identity and introduction of the building. The building, being occupied by many young students provides a lively and energetic reverberation around the block, always lighting up the neighborhood.
There are long staircases which celebrate the rise from earth to sky and voids which make the inhabitant susceptible to being exposed to the other inhabitants throughout the building. The staircases also allow for penetrating views which extend to the subsequent spaces below. The void also allows the light to descend into the building from the skylight, illuminating the spine of the building and the following spaces. The skylight void which follows the orientation of the stairwell graduates in size as you ascend in height closer towards the sky. Another primary element that performs a symbolic threshold between public and private is the polished, heavy concrete wall dividing the two entities. Although, dominant in presence, therein also occurs a transparent lightness with portals of framed glass windows that capture the simultaneous activities between the two spaces. These portals encourage a symbiotic relationship between the spaces creating a subtle connection. The conclusion of all the layers and elements combined give identity and intimacy to the building as it ages.
This facade plays a key role for the reason that it is the threshold between the old and new city fabric. This elevation faces the typical American single family housing vs. the new Clarendon development core. The elevation presents a solid powerful fabric material which also has many openings to introduce the building. There is a section layer behind all of the openings except the one in the center of the elevation. I called it the lung of the building as it continues through the courtyard bringing ventilation into the building. This opening lets the inhabitants of the building to be able to see and hear people both inside and outside. There is a combination of material applied on the front facade to demonstrate and adhere to the subsequent functions. Each opening is framed with a band of perforated copper to emphasize and introduce the program behind the opening while also revealing the age of the building through the weathered copper.
The openings grow in terms of dimension as the building rises from the street level to the top floor for two reasons. First, the openings at the first two levels are in a smaller scale to maintain a responding and appropriate relationship with the houses across the site. Second, the size of the openings were decided based on the consideration of the programs behind the openings and how much they would need to be exposed to the outside. Every openings geometry and location on the facade is inspired by another opening to emphasize a connection behind of them. There is a second layer sitting behind the front elevation. This layer includes a section through the threshold (spine) of the building to help read the vertical movement for the inhabitants. The distance between the elevation layer and section layer represent the depth behind the elevation layer programs until they reach the section layer. The elevation is an aesthetic layer that frames memorable moments, not only to introduce the character of the building, but also to show the intimacy and identity to the neighborhood.
Solutions can be part of the design.
The line between public and private.
Unite d’Habitation / By Le Corbusier. Two Bedroom Apartment Plan 5

The perspective section of the two bedroom apartments/courtyard.
The section perspective from the back of the building displays two magnificent ideas in the two bedroom units. First, the layout and concept of the two bedroom units which were inspired by the Le Corbusier apartment in Marseille have two varying levels. The relationship that designed between each unit was able to reduce the dead hallways at the end of each wing and instead provide an opening view for the inhabitants. Second, the layout of the two bedroom units allows the inhabitants to have a view both to the courtyard (nature) and the street side (new development core).
From the beginning of the design process, I knew that moving into the details would be the only way to truly explore the deeper imagination of the spaces and their potential and also find the defining moments that I was looking for. The structure of the building was intended to incorporate with the ideas of the design concept to create an interactive and meaningful architecture. Each column was placed intentionally to establish a division between spaces and activities.
There were three details that were especially meaningful to me when I found myself deeper into the design. One aspect that had a profound impact was the design of the angular windows in the bedrooms of the inhabitant. It was intended that this angle would provide an effect of a slide show capturing different views everyday. Another aspect was the detail of the visual interaction between the inhabitants within the hallways balcony as they are looking towards the concrete wall. Throughout the design process a lot of emphasis was also placed on the design and activities of the stairway. However, there was always a question of what would happen underneath the stairs. The discovery was to consider bookshelves creating an opportunity to engage inhabitants to interact with each other and with the architecture at the same time.
Parallel with the architectural design, the landscape design of the courtyard and entrance garden was one of my earliest intentions. The courtyard was designed as a place where the inhabitants would come to celebrate nature. The courtyard turned into the heart of the building as it hosted a significant role where all the activities converged. Without a heart, no living entity can function and this translates into the living identity of my building. I chose “Slate” stone for the floor of the courtyard which allowed the adjacent green vines to continue to grow and make a natural appearances around the slate.

Planting ivy at the entrance door started with the idea of giving birth to the building and choosing the right material to let the building age in time. I made a decision to go with Boston Ivy also known as Japanese Ivy since it is known for its ability to attach itself to walls. Boston Ivy thrives in moist environments, where it can grow very quickly. Boston Ivy is the best for the range of colors it exhibits, as the glossy green summer leaves transform to a reddish-purple in winter.
Throughout the architecture of the building, the materials that I selected enhanced the quality of the design and followed the ideas of the thesis at the same time.

- Pre-cast finished concrete was chosen for the exterior facade for its dominant character, long lasting material and ability to show age. Another intention of using pre-cast finished concrete was to balance the scale between the single family housing and the building.
- Perforated Copper was used to frame openings, particularly on the front facade which also reveals an age.
- Four species of wood were picked to use as part of the design of the staircase. The wood was used in strips to create a unique moment on the staircase allowing inhabitants to sit on the stair. The wood creates a warm and inviting atmosphere which encourages the stairs to become a place and not just a means of access.
When the main attempts of the building had reached completion I realized the last move that was necessary to make was to treat the end of the long hallway in the threshold between the public and private. The intention was to inspire the inhabitant to journey to the end of the hallway. I believed that the best way to lure the inhabitant was to make the end a beginning. With mosaic colored glass, light would filter in and create a magical architectural moment. This design encounter brought me to find the hidden meaning that existed in a mosaic. The essence of a mosaic is bound together between many smaller pieces to create a larger image. Essentially, this idea is exactly what the building desired: to bring together and unite in a large whole a multitude of individual cultures, stories and memories. Thus, The Mosaic: International Student Housing.
- Parking
- Swimming Pool

- Office
- Parking
- Retail Stores
- Swimming Pool
- Balconies Access to the Entrance Door
- Courtyard Access
- Entrance Door
- Main Office
- One/Two Bedroom Units
- Open Theatre
- Sport/Gym
- Balconies Access to the Courtyard
- Balconies Access to the Entrance Door
- Meeting/Event Room
- One/Two Bedroom Units
- Study Room
- Cafe
- Cooking Library/ Dinning Hall with cooking station
- One/Two Bedroom Units
- Night Cafe
- Cooking Library/ Dinning Hall with cooking station
- One/Two Bedroom Units
- Moon Room
- Roof Top
- One/Two Bedroom Units
One Bedroom Unit

SCALE: 3/32" = 1'-0"
SECTION UNDER THE LONG STAIRCASE

SECTION THRU THICK WALL

SECTION THRU 2 BEDROOM UNITS
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