PLACE THAT LIVES: MIXED-USE DEVELOPMENT IN RESPONSE TO CHRISTOPHER ALEXANDER
PLACE THAT LIVES: MIXED-USE DEVELOPMENT IN RESPONSE TO CHRISTOPHER ALEXANDER

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This thesis is submitted to the following faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of Master of Architecture in Architecture.

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ABSTRACT:

How can I design a good building?

There are some buildings and some places that feel so alive and beautiful, and make me want to stay there forever. Is there any method I can use so that I can design one of them?

The main goal of my thesis was to find the answer to that simple question. Supposedly an answer lies in the pattern language developed by Christopher Alexander to allow anyone to design a building that feels alive, and has a special quality that makes buildings and places beautiful. I developed my thesis to use his pattern language to design a 12-story mixed-use – retail, office, and residential – project located in downtown Washington, D.C. at 1000 Connecticut Avenue, NW. My thesis introduces the theory and methodology of pattern language, narrates the process of the project development, and presents the resulting building. It also includes the challenges I faced and, with the benefit of hindsight, my further reflections on the project, as well as a brief introduction to the area for further study. The book is organized in chronological order of thesis development.
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It is a challenge to design a good building when the client’s chief goal is not necessarily to build a beautiful harmonious building that feels alive. There also are many strong trends in the construction industry that make designing a truly good building – aesthetically and functionally – challenging, such as:

- A focus on a building’s form, and especially a focus on how a project can be represented in a single picture, or “money shot.” This tendency is driven by mediums like publications and web sites, where people often learn of an architecture project through a small number of still figures.

- A focus only or primarily on the building’s skin, especially when a building is designed as a shell without knowing who will occupy it. This tendency is often seen at buildings in urban sites where the buildings’ foot prints are driven by the code and property lines and when there are established standards for the buildings’ project types.

- Poor quality of the space, exemplified by buildings where the developer intends to sell them during construction or as soon as possible. The design is solely cost driven and meets only minimum standards in order to comply with the code without concern for the future occupants.
In addition to those tendencies in the industry, many buildings lack the qualities I value. The qualities I value are those often found in well-cared for and maintained old buildings, such as in my grandmother’s house that was originally built over 100 years ago and has been maintained and carefully renovated by the same family. I find the same quality at the cloister at St. Lorenzo’s Basilica in Florence, Italy, and inside Palazzo Barberini, Rome. I found the same quality inside the former residence of Walter Gropius in Massachusetts; inside Saynatosalo City Hall in Finland; Castelvecchio Museum in Verona; and Yale Center for British Art in Connecticut. Using more recent examples, I saw the same quality inside the bathing facility at Vals Therme and inside the Clifford Still Museum in Denver. I often see the same quality in the art by James Turrell. This is a quality that cannot be captured in a photograph. The pictures of these projects seem always false because they do not represent this quality. The photograph here are of the places I visited and show fragments of this quality.
Through my thesis, I aim to find a principle that I can use to design a good building. This principle would help me deal with the negative tendencies I perceive. It also could be a reliable tool to allow me to include the quality I value in the building I design, even during the toughest and limited design opportunity.

I incorporated the current planning/architectural trends I support in my thesis, such as by striving to create an “urban core,” a high-density area that houses a mixture of residential and commercial spaces, often with infrastructures that encourages pedestrian traffic.
The building type and the general characteristics of an appropriate project site were defined as a spec office building in an urban area where rent is high. With further study in the local downtown DC area, and with the recommendation from a professor at my school, Susan Piedmont-Palladino, I chose 1000 Connecticut Avenue NW, Washington DC. It was one of a few sites within downtown D.C. where a building suited for demolition stood for years. In fact, as my thesis study started, construction began at the site. The opposite page lists some of the site’s characteristics.

SITE: 1000 CONNECTICUT AVENUE N. W. WASHINGTON, D.C.

- Located in downtown D.C., where it commands one of the highest rents in the nation.
- Corner site where K Street and Connecticut Street intersect.
  - K Street NW – the major commercial corridor with mainly offices.
  - Connecticut Street NW – a diagonal street running through NW DC, and offering a clear view to the White House from the site. More diverse commercial activities compared to K Street.
- L Street NW – runs parallel and next to K Street, and houses more offices and many popular restaurants on the ground level.
- Close to two of the busiest DC metro stations, Farragut West on the Orange line and Farragut North on the Red line. Closest to Farragut North station, located across the street.
- Diagonally across from Farragut Square, an urban plaza framed by trees that includes lawns, pedestrian passes, and benches.

With the site chosen, I determined to include in the building’s program underground parking, ground floor retails, and class-A office space, all of which are typical programs for the area. I also chose to increase the retail portion beyond what is typical for the area, and to include residential units to encourage the current urban trend of mixed-use development. Through developing the project, with help from my committee members, I defined the scope of office and retail space to be just shell and main circulation.
3 DEVELOPMENT II: ESTABLISHING DESIGN METHODOLOGY

The fact is ...

“The fact is that the difference between a good building and a bad building, between a good town and a bad town, is an objective matter. It is the difference between health and sickness, wholeness and dividedness, self-maintenance and self-destruction.”

(Alexander, Timeless 25)
In the book, *The Timeless way of Building*, Christopher Alexander articulated the nature of the quality I value but was not able to grasp.

He dedicates almost a third of his book to explaining the nature and the essentialness of this quality, which he calls the quality without a name. Instead of rephrasing and leaving out any elements of the quality without a name he so carefully explains, I list the entries from the DETAILED TABLE OF CONTENTS of the chapters dedicated to discuss this quality, as right.

**THE QUALITY**

To seek the timeless way we must first know the quality without name.

2. There is a central quality which is the root criterion of life and spirit in a man, a town, a building, or a wilderness. This quality is objective and precise, but it cannot be named.

3. The search which we make for this quality, in our own lives, is the central search of any person, and the crux of any individual person’s story. It is the search for those moments and situations when we are most alive.

4. In order to define this quality in buildings and in towns, we must begin by understanding that every place is given its character by certain patterns of event that keep on happening there.

5. These patterns of events are always interlocked with certain geometric patterns in the space. Indeed, as we shall see each building and each town is ultimately made out of these patterns in the space, and out of nothing else: they are the atoms and the molecules from which a building or a town is made.

6. The specific patterns our to which a building or a town is made may be alive or dead. To the extent they are alive, they let our inner forces loose, and set us free; but when they are dead, they keep us locked in inner conflict.

7. The more living patterns there are in a place – a room, a building, or a town – the more it comes to life as an entirely, the more it glows, the more it has that self-maintaining fire which is the quality without a name.

8. And when a building has this fire, then it becomes a part of nature. Like ocean waves, or blades of grass, its parts are governed by the endless play of repetition and variety created in the presence of the fact that all things pass. This is the quality itself.

(Alexander, *Timeless* ix-xi)
Alexander states...

One’s perception for how things are alive is universal, objective, and measurable.

(Phenomenon 77)

Alexander argues that we, as human beings, have the ability to perceive the presence of, and equally the lack of, the quality without name accurately and acutely. And thus, the amount of quality without name present in a location controls our wellbeing while we are there.

He argues that the “feeling” one perceives from a space or location is similarly felt by many of us. For example, one would feel relaxed and comfortable at the base of a waterfall in a forest in the early summer when the leaves are lush, and the light falls through the leaves, casting ever delicate circles. Similarity, the majority feel uncomfortable looking at the bare surface parking lot in the midst of an office park. The feeling, not the thoughts or the opinions, but the pure feeling one receives from a location is one shared by many of us but is something that the construction industry does not recognize.

This feeling deserves to be treated as an empirical parameter that should be considered during the building’s design. Yet, we do not have an established system to measure it, nor even to acknowledge its existence to begin identifying and studying it.

In his book, The Phenomenon of Life, Alexander argues that the value and judgment system of the 20 century science shaped our perception to believe only the accounts that can be proven by physics and other science – i.e. proven mechanically – possess the quality worthy to be “true” and thus to be
treated as “fact.” He states that, today, society as a whole has lost a clear understanding of the value that is based on one’s intuitive perception, as well as the real nature of human feelings. “Value has become sidelined as a matter of opinion, not intrinsic to the nature of the world at all” (16). “[A]ll statements of harmony, beauty, what is better or worse, what has more life or less life, are always considered matters of opinion which can only be referred to private and arbitrary canons of judgments…”(17). He attempts to legitimize one’s intuitive perception as an utmost important design criteria by providing empirical evidence for its importance and its universal applicability.

Built upon this concept, Alexander and his colleagues developed a methodology that will allow anyone, including those outside of the design field, to create a building infused with the quality without a name. They call this method a pattern language. My thesis’s focus became to study Alexander’s theory and test the validity of a pattern language by using it to design a building, the urban mixed-use complex that I have previously described.

“Is there a fluid code, which generates the quality without a name in buildings, and makes things live? Is there some process which takes place inside a parson’s mind, when he allows himself to generate a building or a place which is alive? And is there indeed a process which is so simple too, that all the people of society can use it, and so generate not only individual buildings, but whole neighborhoods and towns?

It turns out there is. It takes the form of Language.”

(Timeless 66)

1 Alexander explains that around year 1640, Descartes, in order to understand, isolated an object of study by creating a mechanical model, and proved the system to be true. Alexander states that Descartes understood and used this methodology; however, after much of the surrounding world has been explained through mechanical pictures and models, people in the 20th century perceive the nature of things – everything – through this lens (15-18).
The character of a space, Alexander argues, is as good as a quality of the most-frequent patterns of events that takes place within the space. Certain patterns of events yield “dead” qualities, and thus kill the space. In the same manner, some patterns make a space alive. However, as Alexander stresses, it is important to distinguish that a physical characteristic, X, is not causing an event, Y, to happen; it is the fact that merely X is needed for Y to occur. For example, in order to have a lively courtyard where people socialize frequently, a place to sit is needed; however having a bench, for example, does not cause, or guarantee, that people will stay there.

Alexander and his colleagues compiled the array of physical characteristics of space that they, to the best of their knowledge, considered critical – from important to essential – in order to give the desirable character to a space. Physical characteristics work as a set, that entice the targeted events to occur frequently. Those physical characteristic serves as something like “rules of thumb” that define the minimum requirements for a certain desirable event to occur repeatedly. Each “rule of thumb” was identified as a pattern, and they compiled 253 patterns, and called them a pattern language.

Where, in my opinion, a pattern language differs from a mere check list of “items to consider during the design” lies in its principle, which dictates the relationship between one pattern to another. Patterns are organized according to scale and location. It starts from the more abstract concepts, and narrows down to rules for physical objects. It starts large, such as with a town, and narrows down to a small part of a building, such as window mullions. The elements related to outdoors come before those of the interior at
each scale. Within a large pattern, there are assemblies of smaller patterns, and within each of the smaller patterns, there are assemblies of even smaller patterns. A pattern language, as a whole, should function like a life form. Every single pattern is a part of a complex system. Each pattern is not independent from the others; each one relates and is connected as a cell relates and connects to another cell or to an organ. Each and every part needs to be healthy and functioning in order for the system as whole to live.

In order for the system, or one’s project, to be successfully alive, Alexander prescribes how to use the patterns, with a strict process to follow. The order of the processes is as follows.

**PROCESS 1:** Have the client identify patterns to be included in the project

**PROCESS 2:** Walk on the site with the client

**PROCESS 3:** Figure out – completely figure out – one pattern at a time, not going back to the any of patterns previously dealt with. Continue down all the patterns, but not altering the previous decisions.
APPLYING A PATTERN LANGUAGE TO DESIGN

I set out to develop a project following these steps. However I had difficulties advancing the project following these steps, and so had to eventually revert back to the methods to which I was more accustomed, such as using both computer and physical models, and working out the designs by drawing plans. I review each of Alexander’s processes, including the difficulties I faced in applying them.
PROCESS 1 - CHOOSE PATTERNS: Of all the 253 patterns Alexander and his colleague complied, as shown on the left, I chose the 71 patterns, shown in red, for the project.

At this point, the scope of my project was not established clearly, and I was hesitant to narrow down the list further. The lack of clients and the project as a large multi-use building contributed to my including too many patterns as well.

PROCESS 2 - WALKING AROUND THE SITE: I was unable to access and walk within the chosen site because construction began at the site. I could walk around the immediate surrounding areas only.

PROCESS 3 - SOLVE EACH PATTERN AT A TIME IN SEQUENCE: I started to tackle one pattern at a time, aiming never to go back to any of the decisions once made. However, I found myself not able to progress at all. I was not used to making a decision on how to solve an issue without considering the other parts of a building or other issues that I was used to considering together in design. In a vacuum where I have not figured out the rest I could not be confident enough that my decision or my chosen solution to the particular problem presented in the particular pattern will work in a project as a whole. Furthermore, the large scale and the complex program of the project was not the typical project for which pattern language was developed. It made following the sequence more difficult.

I reverted back to the ways I was used to – which was to start from the concept or a model and work roughly and figure out each issue as things unfold, instead of working out one thing at a time completely in the order that pattern language demands.

In retrospect, it would have been better if I practiced the pattern language methodology on a smaller project that was more typical in scale and nature.
PROGRAM: retail, office and residential spaces with the parking garage underneath

ORGANIZATION: the project consisted of three wings – South wing, North wing, and L-shaped NE corner wing. Retail space occupies the ground floor, 2nd floor and the half of the B1 level which accesses the Metro station. Office space occupies the 3rd to 9th floors of the South and North wings. Residential units above the retail space take up the entire corner wing, as well as the top 3 floors of the North and South Wings, and each location houses different unit types.

DESIGN CONCEPT: Extending Farragut Square, an urban green space located at opposite corner of the intersection, which includes bringing natural light into the building and extending the streetscape at the first two levels

OBJECTIVE: Forming a project by using Pattern Language
Image 11. Program organization model diagram.

Image 12. Project model.
Image 13. 3D E-W Section drawings.
Image 15. W-E Section drawing.
Image 16. Floor plans, colored to indicate corresponding programs.

Program organization model diagram, see Image. 8
Image 17. Floor plans, colored to indicate corresponding programs.
RETAIL SPACE

In the metropolitan DC area, a number of urban malls, such as Ballston Common Mall and George Town Park, are not commercially successful. I looked for precedents in Japan where there are greater numbers of retail developments designed with a pedestrian traffic focus.

Concept 1: Continuity from the Urban Park
Precedent: Namba Parks, Minami Osaka, Japan.

Concept 2: Continuity of Streetscape
Precedent: Nu Chayamachi, Kita Osaka, Japan
Image 22. Enlarged program organization diagram at retail space.

Image 23. Perspective view from K Street toward mall entrance
Image 24. Perspective view at B1 level from Metro access.
Image 26. Ground floor plan and list of incorporated patterns
Image 27. 2nd floor plan and list of incorporated patterns
OFFICE SPACE

Office space occupies the 3rd to 9th floors of the North and South wings, connected by the central bridges. The courtyard between the wings is made of cascading green roofs as well as reverse cascading north walls. They serve as privacy walls and visual interests as well as reflecting walls for natural light.
Image 30. Enlarged 10th floor plan at courtyard.

Image 31. Enlarged E-W section drawing at cascading roof garden.

Image 32. Project model, looking down at cascading roof garden at courtyard.
Image 33. 3rd, and 4th floor plans.
5th Floor Office/Residential Plan (Sim. 6-8th Floor)

- Work Community
- Market of Many Shops
- Housing in Between
- House for a Couple
- House for One Person
- Your Own Home
- Self-Governing Workshops and Offices
- Office Connections
- Master and Apprentices
- Building Complex
- Circulation Realms
- Main Building
- Family of Entrances
- South Facing Outdoors
- Positive Outdoor Space
- Wings of Light
- Connected Buildings
- Long Thin House
- Main Entrance
- Half-Hidden Garden
- Car Connection
- Hierarchy of Open Space
- Courtyard Which Live
- Cascade of Roofs
- Roof Garden
- Paths and Goals
- Path Shape
- Intimacy Gradient
- Indoor Sunlight
- Common Area at the Heart
- Short Passages
- Zen View
- Tapestry of Light and Dark
- Couple’s Realm
- Farmhouse Kitchen
- Bathing Room
- Flexible Office Space
- Small Work Rooms
- Small Meeting Rooms
- North Face
- Street Windows
- Window Place
- Cooking Layout
- Bed Alcove
- Ceiling Height Variety
- The Shape of Indoor Space
- Windows Overlooking Life
- Corner Doors
- Filtered Light
- Seat Spots

Image 34. 5th floor plan and the list of incorporated patterns.
RESIDENTIAL SPACE

Groups of residential units with different characteristics are located in three sections within the project:

**SOUTH WING level 10 & 11:**
- 2 Bedroom & 3 Bedroom units with garden balconies

**NORTH WING level 10, 11 & 12:**
- Three-stories row house units

**EAST WING level 3~12:**
- Taking advantage of the view to White House
- Efficiency, 1 Bedroom, 2 Bedroom units
- Houses the common amenity space at top floor

Image 35. Model photograph, highlighted at residential space.
3-STORY ROW HOUSE UNITS

Image 36. Enlarged massing program model at N wing row-house unit.

Image 37. Enlarged 10th, 11th, and 12th floor plans at N wing row-house unit.

Image 38. Perspective view from entrance toward South.

Image 39. Project model, looking toward N wing row-house units

Image 40. Enlarged N-S section drawing at N wing row-house unit.
Image 41. 10th, and 11th floor plans.
PATTERNS IN A SPACE

The list on the right shows the patterns I chose for the project. In this section I present examples of the chosen patterns in more detail, including how I applied each of them in my project.

I excerpt each pattern and the figures from my project illustrating how I applied the chosen pattern. The excerpt includes the section of each pattern that Alexander calls “the heart” (Pattern, x) of the pattern, and the diagram explaining the concept.
080. SELF GOVERNING WORK SHOPS AND OFFICES

Encourage the formation of self-governing workshops and offices of 5 to 20 workers. Make each group autonomous—with respect to organization style, relation to other groups, hiring and firing, work schedule. Where the work is complicated and requires larger organizations, several of these work groups can federate and cooperate to produce complex artifacts and services.

146. FLEXIBLE OFFICE SPACE

Lay out the office space as wings of open space, with free standing columns around their edges, so they define half-private and common spaces opening into one another. Set down enough columns so that people can fill them in over the years, in many different ways—but always in a semipermanent fashion.

If you happen to know the working group before you build the space, then make it more like a house, more closely tailored to their needs. In either case, create a variety of space throughout the office—comparable in variety to the different sizes and kind of space in a larger old house.
076. HOUSE FOR A SMALL FAMILY

Give the house three distinct parts: a realm for parents, a realm for the children, and a common area. Conceive these three realms as roughly similar in size, with the commons the largest.

137. CHILDREN’S REALM

Start by placing all area which will belong entirely to the children—the cluster of their beds. Place it in a separate position toward the back of the house, an in such a way that a continuous play-space can be made from this cluster to the street, almost like a wide swath inside the house, muddy, toys strewn along the way, touching those family rooms which children need—the bathroom and the kitchen most of all—passing the common area along one side (but leaving quiet sitting areas and the couple’s realm entirely through its own door or through the entrance room, and ending in a outdoor room, connected to the street, and sheltered, and large enough so that the children can play in it when it rains, yet still be outdoors.
077. HOUSE FOR A COUPLE

Conceive a house for a couple as being made up of two kinds of places—a shared couple’s realm and individual private worlds. Imagine the shared realm as half-public and half-intimate; and the private worlds as entirely individual and private.
087. INDIVIDUALLY OWNED SHOPS

Do what you can to encourage the development of individually owned shops. Approve applications for business licenses only if the business is owned by those people who actually work and manage the store. Approve new commercial building permits only if the proposed structure includes many very very small rental spaces.

089. CORNER GROCERY

Give every neighborhood at least one corner grocery, somewhere near its heart. Place these corner groceries every 200 to 800 yards, according to the density, so that each one serves about 1000 people. Place them on corners, where large numbers of people are going past. And combine them with houses, so that the people who run them can live over them or next to them.
095. BUILDING COMPLEX

Never build large monolithic buildings. Whenever possible translate your building program into a building complex, whose parts manifest the actual social facts of the situation. At low densities, a building complex may take the form of a collection of small buildings connected by arcades, paths, bridges, shared gardens, and walls.

At higher densities, a single building can be treated as a building complex, if its important parts are picked out and made identifiable while still part of one three-dimensional fabric.

Even a small building, a house for example, can be conceived as a "building complex"--perhaps part of it is higher than the rest with wings and an adjoining cottage.
100. PEDESTRIAN STREET

Arrange buildings so that they form pedestrian streets with many entrances and open stairs directly from the upper stores to the street, so that even movement between rooms is outdoors, not just movement between buildings.

101. BUILDING THOROUGHFARE

Whenever density or climate force the main lines of circulation indoors, build them as building thoroughfares. Place each thoroughfare in a position where it functions as a shortcut, as continuous as possible with the public street outside, with wide open entrances. And line its edge with windows, places to sit, counters, and entrances which project out into the hall and expose the buildings’ main functions to the public. Make it wider than a normal corridor—at least 11 feet wide and more usually, 15 to 20 feet wide; give it a high ceiling, at least 15 feet, with a glazed roof if possible, and low places along the edge. If the street is several stories high, than the walkway along the edges, on the different stories, can be used to form the low places.
102. FAMILY OF ENTRANCES

Lay out the entrances to form a family. This means:
1. They form a group, are visible together, and each is visible from all the others.
2. They are all broadly similar, for instance all porches, or all gates in a wall, or all marked by a similar kind of doorway.

118. ROOF GARDEN

Make parts of almost every roof system as roof gardens. Make these parts flat perhaps terraced for planting, with places to sit and sleep, private places. Place the roof gardens at various stories, and always make it possible to walk directly out onto the roof garden from some lived-in part of building.
107. WING OF LIGHT

Arrange each building so that it breaks down into wings which correspond, approximately, to the most important natural social groups within the building. Make each wing long and as narrow as you can—never more than 25 feet wide.

Image 61. (Alexander et al. 529)

109. LONG THIN HOUSE

In small buildings, don’t cluster all the rooms together around each other; instead string out the rooms one after another, so that distance between each room is as great as it can be. You do this horizontally—so that the plan becomes a thin, long rectangle; or you can do it vertically—so that the building becomes a tall narrow tower. In either case, the building can be surprisingly narrow and still work—8, 10, and 12 feet are all quite possible.

Image 62. (Alexander et al. 537)

Image 63. All three wings are long and narrow; 12th floor plan, highlighted.
110. MAIN ENTRANCE

Place the main entrance of the building at a point where it can be seen from the main avenues of approach and give it a bold, visible shape which stands out in front of the building.

Image 64. (Alexander et al. 544)

Image 65. 3rd floor plan and SE perspective view illustrating the visible shape indicating the ground-level main entrance to the office space
120. PATH AND GOALS

The layout of paths, first place goals at natural points of interest. Then connect the goals to one another to form the path. The paths may be straight, or gently curving between goals; their paving should swell around the goal. The goals should be more than a few hundred feet apart.

Image 66. (Alexander et al. 586-588) Image 67. Diagram for visual markers from various viewpoints at ground floor
132. THE SHORT PASSAGES

Keep passages short. Make them as much like rooms as possible, with carpets or woods on the floor, furniture, bookshelves, beautiful windows. Make them generous in shape, and always give them plenty of light; the best corridors and passages of all are those which have windows along an entire wall.

135. TAPESTRY OF LIGHT AND DARK

Create alternating areas of light and dark throughout the building, in such a way that people naturally walk toward the light, whenever they are going to important places: seats, entrances, stairs, passages, places of special beauty, and make other areas darker, to increase the contrast.
133. STAIRCASE AS A STAGE

Place the main stair in a key position, central and visible. Treat the whole staircase as a room (or if it is outside, as a courtyard). Arrange it so that the stair and the room are one, with the stair coming down around one of the two walls of the room. Flare out the bottom of the stair with open windows or balustrades and with wide steps so that the people coming down the stair become part of the action in the room while they are on the stair, and so that people will naturally use the stair for seats.

158. OPEN STAIRS

Do away, as far as possible, with international staircases in institutions. Connect all autonomous households, public services, and workgroups on the upper floors of building directly to the grounds. Do this by creating open stairs which are approached directly from the street. Keep the stair roofed or unroofed, according to climate, but at all events leave the stair open at ground level, without a door, so that stair is functionally continuation of the street. And build no upstairs corridors. Instead, make open landings or an open arcade where upstairs units share a single stair.
Image 73. Enlarged plans at West-end stair at retail section and the perspective view toward the stairs.
134. ZEN VIEW

If there is a beautiful view, don’t spoil it by building huge windows that gape incessantly at it. Instead, put the windows which look onto the view at places of transition—along paths, in hallways, in entry ways, on stairs, between rooms.

If the view window is currently placed, people will see a glimpse of the distant view as they come up to the window or pass it: but the view is never visible from the places where people stay.

167. SIX-FOOT BALCONY

Whenever you build a balcony, a porch, a gallery, or a terrace always make it at least six feet deep. If possible, recess at least a part of it into the building so that it is not cantilevered out and separated from the building by a simple line, and enclose it partially.

Image 74. (Alexander et al. 643; 783-784)

Image 75. Perspective view from the connecting corridor, and 4th floor plan indicating viewing point.

Image 76. Enlarged floor plans at 12th floor row-house units and 3rd-floor single-story units, highlighting balconies.
162. NORTH FACE

Make the north face of the building cascade which slopes down to the ground, so that the sun which
normally casts a long shadow to the north strikes the ground immediately besides the building.

Image 77. (Alexander et al. 762-763)

Image 78. Profile of N face of South wings are staggered; N-S section drawings and exploded BIM model.
179. ALCOVES

Make small places at the edge of any common room, usually no more than 6’ feet wide and 3 to 6 feet deep and possibly much smaller. These alcoves would be large enough for two people to sit, chat or play and sometimes large enough to contain a desk or a table.
180. WINDOW PLACE

In every room where you spend any length of time during the day, make at least one window into a “window place.”

Image 81. (Alexander et al. 835-837)

Image 82. The window seats at corner wing residential units; enlarged floor plan at corner wing.
190. THE CEILING HEIGHT VARIETY

Very the ceiling heights continuously throughout the buildings, especially between rooms which open into each other, so that the relative intimacy of different spaces can be felt. In particular, make ceilings high in rooms which are public or meant for large gatherings (10 to 12 feet), lower in rooms for smaller gatherings (7 to 9 feet), and very low in rooms or alcoves for one or two people (6 to 7 feet).
Image 85. Perspective view at row-house unit at 12th floor toward South
5. **FINDINGS: LIMITATIONS & STRENGTHS**

My design process did not develop as linearly as pattern language contemplates.

- I could not follow the set out methodology due to my lack of experience in using it and because I was not subject to project development demands from clients that otherwise would limit – and thus focus – my design process.

- I took the approach to pattern language too literally when my project type was not one for which Pattern Language would typically be used. My project demanded a more flexible approach.

Steps I should have considered:

- Practicing designing a building with pattern language methodology in a smaller-scale project of the type for which the language was intended.

- Choosing fewer patterns, and focusing just on Building section of the pattern.

- In applying each pattern, focusing more on answering the problem being posed, rather than focusing on implementing Alexander’s stated responses as prescribed in the book.
Throughout the design process, I was caught between the desire to follow the prescribed process and my inability to follow the process. Because the original intent was to design a building following pattern language methodology, once I derailed, I had difficulty balancing the methodology of the design as prescribed and the actual project I was developing. I was aware of the patterns I chose, perhaps too aware of them, at times causing me to lose focus. As a result, my approach to the individual patterns and pattern language as a whole became somewhat superficial. I ended up focusing too much on implementing all the patterns into my project rather than designing a project that has a quality without name. In other words, my assumption that including all of the chosen patterns in the project necessarily would produce a building that feels alive was incorrect. The more fruitful approach might have been to respond to the issue that each pattern was designed to address, and not take the proposed solution so literally.

The benefit of using pattern language even under my limited circumstances:

- Many patterns in my project I introduced earlier contributed in many a number of quality in interior space. There were many patterns – physical characteristics – I would not have incorporated otherwise. The resulted spaces received much natural light, and feel intimate despite the project type.
Pattern Language’s Limitations

- DESIGN CONCEPT: Fundamentally, pattern language is a method for project development, not a design concept. It is designed to help developing tangible physical space by defining the successful physical conditions in detail. It may be difficult for Alexander’s pattern language to coexist with any design concept, which would provide a primary objective for a project design and help to keep a project cohesive. In order for Alexander’s theory and a design concept to work together, one approach is to view the design concept as one of the chosen patterns, and place it on the highest hierarchy among all the chosen patterns. In this way they can work together in the same system of design development methodology.

- AESTHETIC: I found Alexander’s theory addresses little about the aesthetic parts of a project. In order for a project to be whole and alive, as Alexander argues, each pattern must function well, and that must include the aesthetic parts of the project, for example elevations. Focused on pattern language, I struggled to define a face for my project. All my endeavors seemed superficial, and I could not develop a pleasing total appearance – form and facade combined – that are in harmony with the identity of the project itself. His theory clearly defines what a function of a specific building part should be, as clearly as a function of a cell or an organ can be defined. However, few patterns define the appearance of a building, in the same way that it is difficult to define an ideal look of a person. There are patterns that specify the materiality and that affects the elevations – such as SOFT TILE AND BRICK, FRAMES AS THICKENED EDGES, SMALL PANES, WINDOWS WHICH OPEN WIDE, and CLIMBING PLANTS. But, they are not enough to serve as guidelines.
Alexander seems to value the wholeness in aesthetics as in the cohesiveness one may find in all the buildings in an old rural European town. He believes in natural materials like adobe, wood, light-weight concrete, and sloped tiled roofs. His preferences and the current 253 patterns are less useful when designing a contemporary façade for a multi-story office building. The current offering of patterns are limited in helping a project to relate to many other high-rise office buildings in downtown DC. This will result in a project – if it was straight out of a pattern language – that does not fit with its surroundings in the urban setting, an ironic result given Alexander’s ideal of a project being harmonious with its surroundings. Visiting one of Alexander’s projects developed using pattern language, Eishin High school in rural Tokyo, confirmed my view. The Eishin school complex was warm, was developed with human-scale in mind, and had habitable quality at every little niche and corner. But the overall feel of the project, including the forms and elevations of the buildings separately and as a whole seemed as if they came from a different era, or a movie set – in other words, they did not seem to fit within the contemporary society. This particular project was a private school with a gated campus, having a clear boundary. That it is in a rural area eased the awkwardness against its surroundings. Within its boundaries, the project was beautiful and successful.

Pattern language, by nature, was built upon critical observations of the world – what exists and what works. Thus, it does not respond to anything new, which includes any new materials, construction methods, and design methods and trends, such as parametric design and blob architecture. It does not recognize the successful condition that brings quality without a name into the project if the conditions are new.
My thesis may not have resulted in a perfect example of pattern language at work. However, there were areas where using pattern language seemed natural. The residential areas developed smoothly under the guidance of pattern language. There, the patterns became my guide to develop spacial organizations as well as developing small details that shaped the space.

This further reinforces my conclusion that the current patterns, those developed by Alexander and colleagues, were designed with smaller-scale spaces in mind, and are most effective for those projects. The original patterns also may be more effective as applied to areas, like the residential units in my building, that require additional details that can be informed by the patterns. The office and retail spaces in my project, in contrast, were designed as shell places. The patterns I used for the residential areas also were more well defined than the patterns that are more appropriate for office and retail spaces.

With all these limitations, the current patterns may not provide as complete of a system as I had hoped. But the patterns – and pattern language as a design method – remain a valid method to incorporate into any project development. One just needs to be aware of the limitations and consider the validity of the current patterns on a case-by-case basis, especially if the project is atypical to pattern language.

Pattern language of course can be improved by continuing to add patterns, though trial and error, as Alexander anticipated. My experience with pattern language, attempting to apply it to a larger-scale project, made this clear to me. The experience also prepares me to continue to develop my own design methods and approaches, including perhaps contributing patterns of my own.
6. **FURTHER RESEARCH:**

Even after defending my thesis, I remained interested in the theories that augment the limitations I found in pattern language. Many contemporary architects have been trying to find their own theories and methods to help them and others create better buildings. The following pages offer the theories of two architects who, like Alexander, design a project valuing people’s emotional responses to a place more than the place itself. Each of their theories supplement the limitations I found in pattern language.
He finds his architectural principle in traditional Japanese garden, where the architecture exists passively and in harmony with the surroundings.

Pattern language suggests how architecture should be, and Kuma’s theory addresses how a building should relate to its surroundings. He introduces the kind of attitude a building should possess to its surroundings in order to achieve harmony, which can be traced back to Japanese cultural concept of “wa”.

Like patterns, he offers points to consider during the design. He discusses 9 main points plus 3 appendices, organized as follows:

- Atmosphere
- Magic of Real
- The Body of Architecture
- Material Compatibility
- The Sound of Space
- The Temperature of a Space
- Surrounding Objects
- Between Composure and Seduction
- Tension between Interior and Exterior
- Levels of Intimacy
- The Light on Thing
- Architecture as Surroundings
- Coherence
- The Beautiful Form

He aims to create the atmospheric architecture, which he defines as the architecture that brings emotions to people. His points offer a different approach in order to achieve the same goal as the goal of pattern language.

Zumthor’s points become guidelines for us to decide how objects should be in an epistemological sense. On the contrary to pattern language, he does not discuss what physical characteristics need to be, but rather, offers the opportunity to consider the elements that strongly affect the quality of a building, but that we may otherwise neglect to consider. Pattern language communicates that these are the characteristics necessary to make a beautiful building. Zumthor communicates that these need to be considered fully to make a beautiful building. To be fair, the difference in their approaches may be attributed to the difference in their intended audiences; Zumthor addresses people in the design field, whereas Alexander addresses anyone, including those who may not have the ability nor training to solve a design problem on their own.

On the point of aesthetics, Zumthor’s point is as follows. “Form is not something we work on – we apply ourselves to all the other things. To sound, noises, materials, construction, anatomy etc.” (69) Then, the form develops, into its own, and “become[s] the thing that …[the project] actually set out to be.” (69) He stands back and takes a look – it is functional; it makes sense in the anatomy of construction; it is cohesive to what the project set out to be; but, it is not beautiful. Then, he will “go back to the beginning and start again.” (71)
Bibliography:

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McAllister Architects, P.C. : 2010 - 2011
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2003 Le Concours International des Jeunes Createurs de Mode : Participant
2003 US Arts of Fashion Competition: Finalist
2002 Le Concours International des Jeunes Createurs de Mode : Participant
2002 US Arts of Fashion Competition: Finalist