Felinus Domus: 
A Veterinary Hospital for Cats 
in Old Town Alexandria, Virginia

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Abstract

Throughout time man has discovered that the human form, in all its harmonious proportion, can be used as a guide, gauge and tool to design and build structures. However, the human figure has not been the only organic form used to create architecture. Many animals create dwellings that synchronize with not only their own unique physical characteristics and survival instincts, but their aesthetic preferences as well. It is logical that a design should respond to its surroundings, program and most importantly, its inhabitants.

This thesis design is for two specific occupants: the cat and the human. They are both meant to inhabit the building wholly and simultaneously. The way each of them experiences and uses the space, however, differs greatly.

For a building to survive it needs many of the same things as living creatures: sunlight, air and movement, to name a few. It also needs to function like a living creature. It must breathe, sleep, respond to the changing seasons, and adapt over time. This thesis is an investigation of how both human and cat can dwell in a building of harmonious proportion, scale, light, and material.
To Mom, Rachel and Matt

"I love those who can smile in trouble, who can gather strength from distress, and grow brave by reflection. ‘Tis the business of little minds to shrink, but they whose heart is firm, and whose conscience approves their conduct, will pursue their principles unto death."

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The Site:

The site is located in Old town Alexandria, Virginia along the 300 block of South Washington Street, between Duke and Wolfe Streets. Just south of Alexandria’s historic King Street, this area has a relatively good balance of urban substance; the block itself contains a restaurant, video store, wine shop, salon, law firm and several residential units. Currently a 29' x 77' parking alley, the site sits among 18th and 19th century brick townhouses, between Backach Photography Studio and Medical Arts Pharmacy. It is accessible by a rear parking lot, as well as from the Washington Street sidewalk.
Questions

How can a building be an animal? How does it breathe? How does it sleep and move? What kind of materials work best, do they ask to be touched, used, or clawed? Do they relate to their surroundings? How does light penetrate a confined area? How do you create sunspots, secluded overlooks and other healthy areas for curious, nervous, or ailing inhabitants? How do you allow openness, while creating protected niches? Does the design of the building accommodate the everyday as well as the extraordinary? Can it adapt to future changes?
The long, flexible limbs and back of the feline domestics allow it to jump seven times the length of its tail, squeeze through any opening that will fit its head, and run up to thirty miles an hour. It has a musculoskeletal system that promotes speed, agility and stealth, and a lightness of curvilinear form that can be captured in a single painted brush stroke.
All of the internal systems of the cat, including the bones, muscles, joints, and organs, work together to create physical qualities distinct to the feline species. These unique characteristics of the cat’s structure, help develop form, program and material choice.
The graceful, curvilinear nature of the cat's spine and tail translates itself into backbone of the building. The ribs hang from the vertebrae, cradling the insides. The building structure begins to work like the animal structure; it has a protective shell, strong base, and "legs" that have a likeness to cat's limbs, but are modified for stability rather than movement.
Studies in Structure
Evolving Form

The final design of the building originated with this sketch, marking a change in analysis of structure from elevation to plan. The building maintains a curved spine. Long lines extend from the vertebrae creating rhythm, motion and pattern.

pathways: cat, visitor, veterinarian
numbers: room differentiation and relation to each other
The Playroom

The cat playroom came about after observing the many large display windows of the brick townhouses that line the commercial streets of Old Town. Over time, businesses have modified how they use their windows, however the idea of displaying services and wares to the public has been an effective sign for centuries. The two buildings adjacent to the thesis site have continued to use their original display windows. Bachrach Photography Studio exhibits framed photographs of famous politicians and socialites in its large, square bay window. Yellow and blue bottles, reminiscent of earlier remedies, can be seen atop the front window shelves of the Medical Arts Pharmacy. The playroom exhibits the most obvious sign to the public that this is an animal medical facility, the cat.

There is a narrow slice of space between the north side of the building and the neighboring pharmacy. A platform that is elevated a few feet from the ground runs the length of the building. The entrance is centrally located off of the platform. Visitors can enter from the back parking lot, or from the Washington Street sidewalk. The veterinary hospital will be seen by most of the public by means of the sidewalk; therefore, the playroom and "sign" of the building is located in front.
Preliminary Studies of the Playroom

"Passion for place- there is no greater urge to the feline nature."
- Paul Anniger
Cats and kittens in need of adoption can play, sleep and observe outdoor activity from the playroom located on the ground floor of the east facade. Each day the veterinarian staff allows a few different cats into the room. Tall, narrow windows within a thick brick wall step back from the sidewalk, pointing visitors towards the side entrance. Sharp streams of light hit the soft wooden floor, giving the cats ideal resting spots. They can sit in the sunlight or the shadowed niches. Between the entrance walkway and the stepped brick wall lies a small brick seating area where wood, glass and brick merge. Placing a seating area in front of the display windows on the east face of the building encourages human interaction and a sense of scale along the sidewalk.

"A cat pours his body onto the floor like water; it is restful just to see him."
— William Lyon Phelps

"If there is one spot of sun spilling onto the floor, a cat will find it and soak it up."
— Jean Asper McIntosh
The Resting Room

Directly above the ground level playroom is a similarly designed room used to house ill cats. Here they can rest quietly, away from the everyday commotion of the main waiting area and exam rooms below. The windows step with the thick brick wall, and allow plenty of light and views. This room remains open, unless it needs to be closed for quiet or quarantine.

These cats need to be checked on throughout the day. It is very important that this room be within close proximity to a highly traveled area, but far enough away to not stress the cats with excessive noise or activity. The typical day of the veterinarian leaves little unscheduled time to make extra rounds to each patient. A stairway next to the resting room descends directly into the receptionist area below. For use only by staff, it gives the vet technicians and administration easy access to check on the cats frequently.
Views from inside and outside of the playroom for cats.
The Vaulted Rooms

The building has two distinctive walls that run East and West. There is a segmented wood and glass wall that curves along the North side of the site, that contains the main entrance; wood beams radiate out from the wood columns and rest on a heavy brick wall that runs East-West on the South side of the site. The brick wall is the heart of the building. It contains all of the medical facilities including the x-ray, exam, surgery and surgery prep areas. Each level has a row of three barrel-vaulted brick rooms. Shallower in the basement, the arches become deeper as you ascend. The exam rooms, located on the first floor directly across from the waiting area, have stainless steel exam tables that fold out from the wall. One enters the rooms using wooden doors that slide along a C-channel located within the concrete lintel of each vault.
“In a cat’s eye, all things belong to cats.”

- English Proverb

The Vaulted Rooms

Each barrel-vaulted room has an operable ‘eye’ window located within the inside wall adjacent to the atrium. The window pivots vertically bringing in light and circulating air. Most of the barrel-vaulted rooms also have a large circular window cut into the exterior brick wall. The neighboring building to the site does not have a side wall flush to its boundaries. Instead, there are many reveals, which allows for more light and unobstructed views. The vaulted rooms on the second and third floors are used for surgery, surgery preparation, x-rays and for boarding facilities. Each set of rooms on each floor has the opportunity to be opened or closed to the next.
Wood, Glass, Brick, Stone

The front and rear brick facades gradually step back toward the entrance platform that runs along the North side of the building. Like an outstretched cat’s paw, the brick walls hook themselves around the wood beams. It was important that all of the materials come together in a way that was expressive to each. The unrefined and angular brick interplays with the softer, lighter wood and glass.

The north wall is a segmented curve made of wood columns with horizontal louvered glass panels in between. It parallels the heavy brick wall running along the south side of the lot. Wood beams radiate out from the columns, and are supported by the brick.
When designing the stepped brick walls, there needed to be consideration as to how it would be constructed, especially in relation to the windows. Stone lintels and sills overlap two ends of each brick segment, giving the necessary support and placement over and under each window.

At the top, a brick parapet extends from the brick wall. Behind it is a shelf, specially designed to support an end roof beam that extends to the South wall.
Staircases

The building has two staircases. Both have steps made of translucent concrete panels, which hang from criss-crossed cables. The cables are connected to the underside of the beams, which are made of three sandwiched 2" X 10" pieces of wood. The main stairway floats within the atrium space, next to the brick elevator corridor. It flows with the lines of the radiating beams to the fourth floor.

The secondary staircase is located in the opposite end of the building. It runs directly behind the reception area and up to the open roof terrace; this staircase is used only by the people (and cats) of the veterinary clinic. Steep and narrow, these steps focus more on the scale of the cat. Cats are natural born observers; they prefer small, elevated spaces where they can watch what is going on below, and can choose whether or not to be involved.
The basement floor is made of concrete, the first is of wood, and the subsequent floors are blue terrazzo. The floors are light and clean. The expansion joints of the terrazzo follow the lines of the cantilevered beams above. As opposed to concrete, the wood and terrazzo floors are better suited for the cats. However, the cats will not have access to the basement. The pipes of the building will be running down a small brick chase that butts up against the outside of the central brick rooms.
The Atrium

Initial ideas for a separation between the exam rooms and the waiting area included using long sections of fabric. Retractable pieces of lightweight canvas would hang from the cantilevered wood beams. However, due to the fact that there is limited space, it is better to leave this area open. The site is narrow, and the atrium extends the full height of the building to allow light and air circulation. Allowing the building to remain open prevents a stagnant environment.

Providing some sort of separation would interfere with the veterinarian’s access to the rooms, as well as make the waiting area seem too confined. The exam rooms have sliding wood doors, which are sufficient in providing a division between the two areas.
Glass Louvers

The north wall was originally going to be made of I-beams with fixed glass panels. However, the wall needed to be more flexible to accommodate the necessity of a clean, sterile environment, and needed to adapt to the weather, seasons and light. Using operable louvered glass panels improves the circulation and temperature of the building. Cranks are located on the first floor, and can be used to operate particular sections of panels.
“Watch a cat when it enters a room for the first time. It searches and smells about. It is not quiet for a moment. It trusts noting, until it has examined and made acquaintances with everything.”

– Jacques Rouxseu
The glass roof is covered by an array of light metal louvers. Each section is fastened to one side of the beam, and arches itself to another, resting on a small plate. The roof panels, when fully closed, are not meant to block all of the sun. They are used to shield the building from the high, afternoon summer sun while allowing long strings of light to penetrate through the louvers, glass ceiling, and onto the walls and floors. These sunspots are perfect for sleeping. The glass ceiling is connected to the sides of the wood beams, and slopes slightly towards the South wall, allowing water to run off into gutters, and down the side of the building.
Plan Development

Gradual development of plan, influenced by the 'structure' of the cat.

"Curiosity is the very basis of education and if you tell me that curiosity killed the cat, I say only the cat died nobly."

- Arnold Edithborough