A PATH TO RECONNECTION: USING ARCHITECTURE TO RESTORE THE

RELATIONSHIP BETWEEN HUMANKIND AND THE NATURAL WORLD

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ABSTRACT

Humans and the natural world once shared a profound connection through the reciprocal nature of their relationship. Due to the continuous changes in the technology and customs of society, as well as the apprehension of those who are different from us, humans have disconnected from each other, animals, and nature. This has led to the mistreatment and ignorance of groups such as the elderly and stray animals who have been cast out from society. This project aims to reconnect humankind and the natural world through the improvement of animal shelter design and the amalgamation of building programs including a memory care facility, veterinary clinic, cat café, dog library, and a gallery. My project site incorporates these programs and uses hodological space to invite the user to reconnect with nature and the people and animals in the shelter without bias.

DEDICATION

To my boyfriend, whose love and support grounded me during this process, and to my twin

sister, whose help, guidance, and patience made it all possible.

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1. INTRODUCTION

1.1. Problem Statement

Humans formerly viewed themselves as a part of the natural world, which allowed them to experience a fuller sensory perception of it. The rise of technology, that stemmed from the Industrial Revolution, damaged this connection and caused us to lose our appreciation for nature and its provisions. Despite the remarkable ability of technology to connect people around the world, the social deprivation epidemic has never been more intense than it is right now. Due to factors such as new technology, the recent Covid-19 pandemic, and certain social constructs, social isolation has breached an all-time high (Horstman & Lewis, 2022). Studies have even associated social isolation with mental and physical health effects due to the missing emotional support that stems from being around others. These effects are greater among older people and can impact their longevity, and probability to display a disability or illness (Terraneo, 2021). Unfortunately, how American society views the aging population plays a huge role in this epidemic. There is a general desire to throw away things that no longer have a purpose; this view, along with agism and negative stereotypes towards older people, have caused our older generations to become socially isolated and mistreated (Berger, 2017).

This social construct has impacted animals too and has led to overpopulation of companion animals, over-flowing shelters, needlessly high euthanasia rates, and undesirable health effects on shelter pets. The Covid-19 pandemic and the resulting longing for companionship undoubtedly caused a global problem for animal shelters (Carroll et al., 2022). The influx of people buying dogs during the pandemic to cope with their feelings of loneliness was so intense the term *pandemic puppies* was established to describe them. The main problem lies though with the end of the pandemic and the termination of social distancing as many who

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partook in buying an animal decided they no longer needed the animal because they could once again connect with other humans, thus they abandoned their pet or relinquished it to an animal shelter (Pearson, 2023). It is estimated that around 3.3 million dogs are taken into animal shelters each year, which greatly exceeds the number of pets that can be cared for and that are being adopted from shelters. This crisis has become so extreme that Houston, Texas alone has more than one million stray animals roaming the streets (Raphelson, 2017).

Crowded shelters provide a few problems of their own, including health problems for the animals and staff, an increase in euthanasia deaths, and a change of behavior in the animals. Some of these health problems stem from physical ailments and some from mental. Overcrowded shelters can become a petri dish of illness and spread infectious diseases when animals are housed closely together (Morris Animal Foundation, 2019). On the other hand, stressors like consistent noise, which is common in most shelters, have been proven to have long-term physiological, behavioral, and anatomical consequences on the animals and the staff (Coppola et al., 2006). These stressors can increase the flow of glucocorticoid stress hormones in pets and cause atypical behaviors like barking and biting, which makes animals less likely to get adopted (Hennessy, 2021). This pattern of healthy animals coming into bad shelter environments has contributed to the spiking euthanasia rates. As a result of the stressful and unsanitary conditions, pets are developing diseases and bad behaviors that prevent adoption and therefore lead to euthanization as a last resort (Janke et al., 2017).

The chief issue that, if solved, would combat many of the previously mentioned problems is the loss of the human-animal bond and our connection to the natural world. The interaction between humans and animals, specifically companion animals like dogs and cats, can have very powerful benefits on one's feelings of isolation or lonesomeness. *The Journal of Experimental*

Social Psychology observed the effects that the presence of a companion animal could have, particularly on the elderly and those who are hospitalized or in clinical environments. The experimental tests showed a positive correlation that the presence of a dog lowers stress, increases self-esteem, and improves mental wellbeing in those who had been socially isolated (Aydin et al., 2012). This human-animal interaction provides similar health benefits to animals too. Hennessy, in his research of the behavior of shelter pets, uses the term "social buffering" to refer to a companion of an animal that helps to reduce physiological stress responses such as glucocorticoid stress hormones (Hennessy, 2021). Essentially, the human-animal connection is fundamental to both people and pets who have felt abandoned or isolated.

1.2. Objectives

1.2.1. Aim

The proposed thesis aimed to resolve the issues of the loss of the human-animal connection that is displayed throughout history and the social deficit and abandonment of the elderly and stray animals in the United States. The project focused on the improvement of shelter design and the reconnection of humankind to the natural world through the incorporation of a memory care facility and other building programs to address these problems.

1.2.2. Proposed Outcomes

The proposed building typology of the project is primarily an animal shelter that is connected to a memory care facility. The shelter will include spaces that improve the interactions between humans and animals, boast well thought-out circulation of spaces that keep sanitation and noise control as priorities, and integrate passive and active design strategies that lower stress levels of the animals and caretakers to promote adoption and a swift flow of animals throughout the shelter. The implementation of these design tactics that aim to improve adoption rates will

ultimately reduce the number of stray animals out in the streets. In addition, the successful

execution of this building will decrease social deprivation, promote healing, and give a purpose

to the elderly and the animals which have been discarded by society. In time, the social

constructs that determine this mistreatment of people and animals may start to break down to

make way for equality in many aspects of civilization.

1.2.3. Significance

This research is key in resolving issues in the field of architecture relating to animal

shelter design and answers questions about the part that older or sick people and animals play in

our society. It is vital to fix the design flaws that are currently part of typical shelter design to

minimize the number of strays and unnecessary euthanasia deaths of healthy pets. If the concerns

that were previously mentioned such as noise control and sanitation were to be eliminated, the

contribution to architecture and the living world would be immense. Stray dogs can contract

disease, bite people, and leave excrement in otherwise clean areas, so drastically reducing the

number of strays would provide a greater level of safety and wellbeing for everyone

(Ghasemzadeh & Namazi, 2015). In addition, the number of resources spent on each animal in a

shelter can be economically overbearing the longer the animal must stay there; thus, ensuring

fast turnaround times is imperative to keeping shelters running. Likewise, euthanasia not only

adds to the expenses of a shelter but presents an ethical dilemma as well. In recent years, no-kill

shelters have become much more favorable due to the underlying moral issues of putting an

animal down (Best Friends Animal Society, 2023). Therefore, decreasing the amount of

euthanasia deaths would benefit society both economically and politically. In addition to the

societal impact, these new design tools and methods will influence architecture as they can also

be related to other similar projects and building typologies such as veterinary clinics, nursing

homes, hospice and hospital care, and outdoor areas that connect people and animals through nature.

The importance of this research on the human animal connection is also vast. The physical health effects of companion animals can lead to healthier aging and a longer life span in the elderly. Similarly, the mental health benefits of human interaction with nature and animals can better the quality of life for all of society (Aydin et al., 2012).

2. BACKGROUND

2.1. History of the Human-Animal Connection

2.1.1. Native American Connections

In Native American culture, the human-animal bond is expressed through the act of storytelling, which addresses themes of philosophy, identity, spirituality, and the legality of the treatment of animals. Animals often play a critical role in many tribes' creation stories which describe the conception of the universe and the start of humankind (Deer & Murphy, 2017). One such story that shows the first interactions between humans and animals is the story of Gluskonba (Bruchac, 2022). The Nulhegan Abenaki tribe explains how a powerful being called Gluskonba was tasked with making sure the Earth was safe for humans when they arrived. He met with each animal to determine if they would harm humans and made the dangerous ones smaller and safer. The last animal he met with was Dog, otherwise referred to as Nidoba, who had been eagerly awaiting the arrival of humans and wanted to be their very best friend. In the story, after Gluskonba determines Dog to be friendly, he states, "Nidoba, my friend, you will be the best friend that human beings will ever have, a better friend than some of them deserve; and so we will know you by this name: Alemos – the one who walks beside us" (Bruchac, 2022, para. 18). This story, though not necessarily proven by facts, proves true today in the way dog is still seen as man's best friend.

The intense relationship that Native American tribes had with certain animals, such as the dog, was often displayed through the carving of totem poles. These totem poles presented carvings of the 3 to 9 animals that the tribe believed to be their kin. The word *totem* is derived from the word *ototeman,* which means "one's relative". The term comes from the tribe's belief that these animals are their actual relatives (Deer & Murphy, 2017). This special connection that

Native Americans shared with animals allowed them a greater understanding, and thus motivated them to treat animals and nature with greater respect than is seen today. These tribes would not hunt or eat their clan animals as they were seen as their "brothers" and "sisters". Even when hunting for non-clan animals, the Native Americans still showed their respect and appreciation for the animals through various rituals. Additionally, they utilized all the remains, wasting none, such as weaving the fur through their clothing and baskets to retain a connection to the animals (Deer & Murphy, 2017).

This relationship to animals was eventually destroyed largely due to the Christian missionaries and settlers who came to America. The settlers misunderstood the Native American's displays and carvings of animals as a form of pagan worship or idolization and forced the removal of totem poles. In addition, they pushed the indigenous population to convert to Christianity which led to an increase in domestic violence and animal abuse among the Native American community (Indigenous Corporate Training Inc., 2018). Perhaps more devastating than the forceful removal of totem poles and the effect it had on the Native American's relationship to animals, was the forceful removal of indigenous peoples by settler Christopher Columbus on his second voyage to the new world. He used attack dogs against the indigenous population to remove them from their homes to claim their land. This consequently led to the destruction of the relationship between Native Americans and animals, specifically dogs (Deer & Murphy, 2017). The view that western settlers had of Native Americans being inferior to themselves, or even savage, relates to the way western society views animals today. Vine Deloria Jr., a theologian, described the equality for humans and animals in Native American communities by stating, "Equality is thus not simply a human attribute but a recognition of the creatureness of all creation" (Deer & Murphy, 2017, p. 712).

2.1.2. Ancient Egyptian Connections

Another historical example of a culture with a profound relationship to animals and nature are the Ancient Egyptians. This relationship can be attributed to their belief in animism which is the belief that inanimate objects, such as the land and sky, are alive and have a consciousness (Oesterdiekhoff, 2008). In addition to their belief in animism, the Ancient Egyptians perceived life by looking outwards towards nature instead of through the western egocentric view of looking in towards oneself. When looking at oneself, one misses the world around them, this is why the Ancient Egyptians were able to have a deeper connection to the natural world (McCann, 2011).

This intense connection can be seen in the representation of their gods and deities as animals. They displayed their gods as certain animals based on the desired characteristics that those animals presented such as protection, strength, and nurturing (Reading Museum, 2020). One of the most revered animals throughout Ancient Egyptian history was the cat. The cat's characteristics were so desirable that a myriad of deities resembled the cat including Bastet, which can be seen in Figure 1, and Sekhmet.

Figure 1

Bastet statue

Note: Unattributed photograph from *10 ¾ Inch Egyptian Goddess Bastet Leaning on Pillar Cold Cast Resin Antique*, by PicClick

Additionally, its popularity stemmed from its use as pest control and as a companion animal (Reading Museum, 2020). Many tomb scenes even display images of cats sitting beside their owners, some cats were mummified with them to provide companionship in the afterlife as well. This speaks to the view of animals as family members in some ancient Egyptian communities (Yuko, 2023). In addition, there were many canine deities as well, the most famous being Anubis, the god of the dead, who symbolizes regeneration. The human-animal relationship was so significant in their society that many of their deities were represented as an amalgamation of a human and animal, typically with the body of a human and the head of an animal (Reading Museum, 2020). An example of this can be seen in Figure 2, which displays the deity, Sekhmet.

Figure 2

Sekhmet from wall of Kom Ombo temple Egypt

Note: Unattributed photograph from Pinterest

2.1.3. Biblical Connections

Another instance of our connection to animals in history is the use of them as symbols throughout the Bible. These symbols are used to teach lessons about faith and to explain God's love for his creation. Some of the most well-known examples include the strong lion symbolizing God's power, the deceptive snake, and the pure lamb that symbolizes Jesus' sacrifice for the sins of mankind (Daily Effective Prayer, 2023). The Bible explains how Jesus is

born again, and how his sacrifice gives humans new life in Heaven, so the lamb too can symbolize the notion of regeneration (1 Corinthians 15: 1-4, John 1:29, John 3:16, and 1 Peter 1:3).

The Bible also includes many verses about animals outside of their use as symbols, and despite ranking humans above them, it places great importance on the respect and treatment of them as a resource given to mankind. The book of Genesis explains that humans are separated from animals because they were created at a different time. Although all creatures could have been formed all at once, God distinguished humans from the rest of His creatures by creating mankind in His image (Genesis 1:26). Chris Northcott explains that God created humans to have a special connection to Him and gave mankind dominion over animals, but he also illuminates on some of the animal rights that are explained throughout the Bible (Northcott, 2023). Scholars have suggested the underlying meaning of many different verses pertaining to animal rights to be that a godly perspective on creation naturally leads to respect for all creatures. These scholars believe that a righteous person resembles the Good Shepherd, Jesus, and the Good Shepherd cares for the basic needs of His flock and protects them (Got Questions Ministries, 2024).

2.2. The Weave

These historic connections between humans and animals unfold to illustrate an even larger weave between humans, animals, and the natural world. This intense connection humans used to share with nature is grasped through the study of the Kogi people of the Sierra Nevada's in Ricardo L. Castro's *Sounding the Path,* where he describes their *enchanted paths,* otherwise known as *senderos de piedra,* which have been virtually untouched by western civilization and modern ideals (See Figure 3). These paths are not just incredible works of engineering for their

day but are a way of life (Castro, R. L., 1999). Castro states, "Thus, for the Kogi, the path itself is the usual destination, and the village at the end of the path is a deviation from it" (1999, p.38).

Figure 3

Pueblito, sendero de piedra

Note: Photograph from *Sounding the Path*, by Castro, R. L.

This is due to their belief in hodological space which comes from the Greek word *hodos*, meaning *way*. Hodological space is not defined by physical changes in the environment, but by the user's own subjectivity and personal experiences (Rainio, n.d). Kurt Lewin explains this concept as, "…hodological space is the space of possible movement. Rather than straight lines, it is characterized by the presence of 'preferred paths' that represent a compromise among several domains such as 'short distance,' 'security,' 'minimal work,' and 'maximum experience'"

(Castro, R. L, 1999, p. 26). The complexities of space are displayed through movement along a pathway instead of an expanse of static area. To the Kogi, these paths are so sacred, in fact, that one is not allowed to wear shoes on them, as they believe that only the delicate, bare skin of the feet should be allowed to connect with the Earth-Mother (Castro, R. L, 1999). This is so different from the Western mindset which aims to create numerous barriers to detach our bodies and lives from living nature.

Perhaps as important as their enchanted pathways, is the act of weaving, which the Kogi people maintain during every spare moment, even as they traverse these paths. To the Kogi, weaving is more than just a physical act, but it is a concept that is integrated into every aspect of their lives (Castro, R. L, 1999). Similarly, the loom and spindle are more than just tools that weave fabric, but also act as mnemonic devices that map out the infrastructure of their society. Ricardo L. Castro explains that "In its geometry, the loom is a closed circuit of conceptual paths that can be experienced in endless combinations" (1999, p. 31). The form of the loom and spindle can be seen in Figure 4. These paths symbolize physical elements of their architecture, farming, the cosmos, their use of hodological space, along with many other areas of their lives.

Figure 4

Kogi loom and spindle
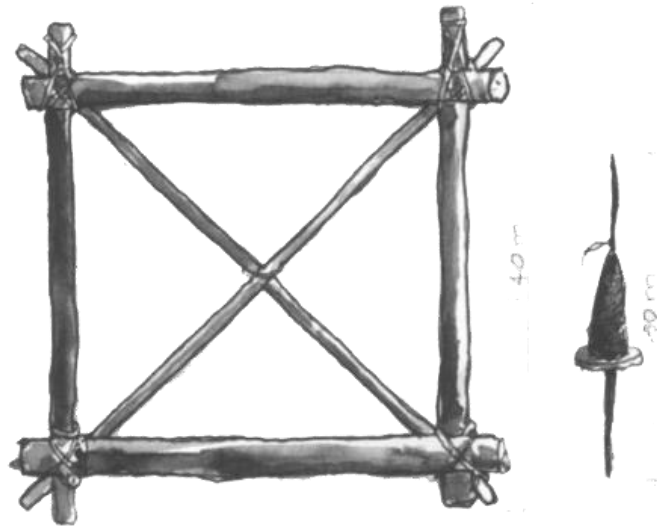
Note: Drawing from *Sounding the Path*, by Castro, R. L.

In Sounding the Path, the author describes how the Kogi people view the form of the loom as a symbol for their agricultural fields, and the act of weaving resembles weaving society's food into the ground: the rows in a garden or field mimics the different rows on a loom. Most importantly, the Kogi relate looms and weaving to the architecture of their dwellings. Ricardo L. Castro says, "The woven walls of their houses, and the pervasive interlacing of structural elements and connections speak unquestionably of an architecture that has been woven physically and conceptually…" (1999, p. 33). The book also explains how the Kogi consider their dwellings and temples to mimic mountains in how they continue in an inverted form underground, which is shown in Figure 5. This inverted form resembles paths crossing, just like the intersecting paths of humans and animals.

Figure 5

The Kogi temple and its conceptual inversion
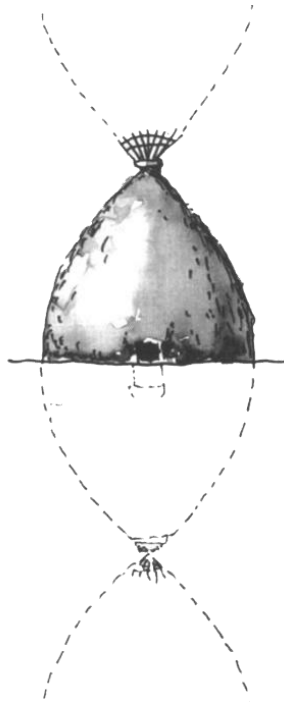
Note: Drawing from *Sounding the Path*, by Castro, R. L.

Unfortunately, human's paths rarely cross through the natural world the way they once did. Russ Slater Johnson from Songlines explains that the spiritual leader of the Kogi tribe expressed his qualms about the way modern civilizations treat the Earth and the damaging lifestyle that they maintain. It is this leader's opinion that the planet faces great catastrophe if the environment is not taken better care of and respected (Johnson, R. S, 2021).

2.3. Technological Impacts

This view is shared with many other environmentalists and scientists who have studied the effects that technology has had on the planet.

Kay Milton, author of "Loving Nature: Towards an Ecology of Emotion", considers the effects that humans have had on the Earth's surface and its systems. Milton questions if

humankind's relationship with the natural world can be saved and suggests the importance of a full understanding of us as a species and as individuals to reflect on the cause of these problems. The primary cause, as she suggests, is the mindset of western culture and the market economy that has removed emotional decision making which is typically seen with environmentally conscious actions. This has altered the way we view the natural world and thus, our decisions towards it (Milton, 2002). In "Architecture and the Vegetal Soul", David Winterton sums up this idea by stating, "The simple shift in gaze from a living, shared world to a dead, usable one has taken us from a rapport with a living nature to a modern 'environment' that is mediated, transformed, and dominated by instruments" (Winterton, 1999, p. 257). The world has gone from being a part of us, something that is alive, and has been transformed into capital and will continue to be until there is no more world to be sold (Winterton, 1999). This change in how we treat the world as well as the new technologies that are products of the Industrial Revolution have introduced many environmental issues such as climate change, depletion of natural resources, and pollution (Edinburgh Sensors Ltd., 2019). These technologies use resources faster than they can be replaced and spit excessive amounts of gases and chemicals into the water and air. Despite the ferocity of the situation, Edinburgh Sensors Ltd speculate that these technologies may be able to fix the problems that they have created.

In addition to the environmental issues that have been established with the creation of new technologies, many social problems have been identified too. These modern devices and societal norms have trained humans to replace dangerous or unpredictable tasks like starting a fire or hunting with just turning up the thermostat or going to a supermarket, which causes humans to disregard nature and its provisions. This has changed our relationship with wild animals that we now put behind glass barriers, like at a zoo, so we can observe them but never

truly interact with them again. Similarly, this behavior is demonstrated in shelter settings by the way many people perceive stray animals as wild and untamed (Greenwood, 2022). Greenwood explains that many people assume that pets are relinquished to shelters due to bad behavior, and this has caused people to treat shelter animals worse than other companion animals. Because technology has made humans crave convenience, many people continue to buy animals from breeders instead of rescuing a shelter pet, even despite the unethical breeding practices of many breeders and puppy mills (National Humane Society, 2023).

2.4. Otherness

The negative perception of shelter pets correlates to how humans view each other. What we view as *self* and what we perceive to be *other* dictates how we treat things and people (McCann, n.d). The term *other* refers to those who are deemed as different or lesser than ourselves and this determines what we choose to nurture or discard. Historically, this phenomenon has led to the mistreatment of different religious or demographic groups that were viewed as *other*. McCann mentions the discrimination against many groups like Jews, African Americans, and women.

These ideas permeate into our relationship with the natural world as well, where nature is viewed as *other* (Winterton, 1999). Winterton explains that humans have been reduced to see significance in the world only through its resources and what can be taken from it. Because mankind has devalued the meaning of the natural world, we now treat it as lesser than ourselves instead of an extension of ourselves. This same insult to the environment has infused itself into our architectural landscape with the creation of architecture that focuses on codes instead of experience (Winterton, 1999). The mundane boxes that we spend the majority of our days in further weaken our ability to perceive the world around us in a meaningful way.

This detachment from meaning and experience is unfortunate because humans are physically built for relationships (Abram, 2017). Our senses, such as sight, touch, and hearing are all used to determine "otherness". Abram exclaims how our senses and perceptions of our experiences dictate everything that we are and that we believe; life itself is really only how we interpret the world around us. This is why fixing the way we think about the world, and mending the broken relationship mankind has with each other, animals, and nature is so important, because society has forgotten the benefit of learning from an *other.* Abram states, "We are human only in contact, and conviviality, with what is not human" (2017, p. 22). Despite this, we now live in a time where our only interactions are with other humans or human-made instruments that teach us nothing new about ourselves and the world that surrounds us.

In the contemporary climate, this view of the *other* has led to the avoidance and ignorance of groups such as stray animals and the elderly. Likewise, society has placed an increasing importance on productivity which leads to many older people getting sent to homes where they feel a loss of purpose and don't get to interact with many people, animals or nature anymore (Silverado, n.d).

This need for love and care from shelter animals and the desire for purpose and interaction from the elderly present a unique opportunity to undo the adverse effects of *otherness. Wild Beauty*, from Rachel McCann, states, "When two subjects approach each other in wonder, each experiences the delight another can give when approached with no sense of opposition or instrumentality" (n.d, p. 7). This implies that both subjects need to meet each other with no preconceived notions. In the case of my project, people need to meet animals in a shelter environment without preconceived notions that animals are loud, dangerous, or lesser than, and my design needs to provide a way for animals to greet humans with no predetermined fears.

Only once this has been achieved can both groups give to and take what they other has to offer, which according to McCann is a sense of wonder and joy.

2.5. Project Type

I believe the first step to achieving this is by providing spaces in a shelter for humans and animals to interact without any barriers. My project aims to connect humans and animals in many ways by connecting a new animal shelter to an existing memory care facility. This dual facility will weave together many other building programs as well to provide ample spaces for interaction and to promote the surrounding community to gather and connect to each other and the natural world, even if they are not looking to adopt.

2.6. Project Issues

2.6.1. Shelter Design

One issue that my thesis looks to improve upon is the typical design of animal shelters. Most animal shelters today are not conducive to humans and animals interacting and are not designed to make animals more adoptable. One contributing factor to this issue is that most shelters are incredibly overcrowded (Perkins, 2018). Overcrowded shelters are statistically more difficult to keep clean, and therefore become a petri dish for disease. In *Good Shelter Design is Good for Animals,* an article by Cary Perkins, she mentions that sick and stressed animals are harder to adopt out to people and can be euthanized to make more room in a shelter. One way to combat this issue is to focus on the flow of companion animals throughout a shelter, specifically on decreasing the length of stay for each pet. According to Perkins, multiple factors contribute to the flow of animals, including community engagement, curb appeal, designated space allocation, and efficiency. An important note for space allocation is to break up the dog and cat wards into smaller rooms. This breaks up the noise from barking, separates the dogs and cats, and gives

people less options to promote faster decision making about which animal they want to adopt. In addition, the creation of multiple rooms allows for separation between sick animals and well animals, as well as provides alternate housing for the animals that don't acclimate well to a typical shelter environment. The same article also explains the benefit of having separate mechanical and plumbing systems to promote sanitation in the different wards. This design strategy is not just preferred by Perkins but has proven to increase adoption rates by over 40% in Aiken County Animal Shelter in South Carolina.

Another factor that drastically increases the flow of animals through a shelter is better adoptability. This perceived level of adoptability can stem from a number of characteristics such as animal behavior, sanitation, opportunity to interact with the animals, and overall experience in the shelter. As previously mentioned, many people perceive animals in shelters to be dangerous, so when dogs in a shelter are constantly barking, jumping up, or even biting, people are less likely to adopt. Unfortunately, most people don't realize that these behaviors are not typical and only present themselves in dogs that are stressed and afraid. UC Davis' Koret Shelter Medicine Program explains how to design facilities to lower the stress levels that animals experience when in them (University of California, 2015). One way to reduce stress and allow staff to take better care of the animals and their facilities is to provide double-compartment housing for each animal in the shelter (See Figure 6). A double compartment allows for separate spaces for an animal to rest and relieve itself, which makes cleaning the excrement and keeping the facility and animals smelling and looking clean much easier (University of California, 2015). Likewise, if designed correctly, a separate room can give animals who are shy or nervous the choice of privacy.

Figure 6

Low stress dog housing
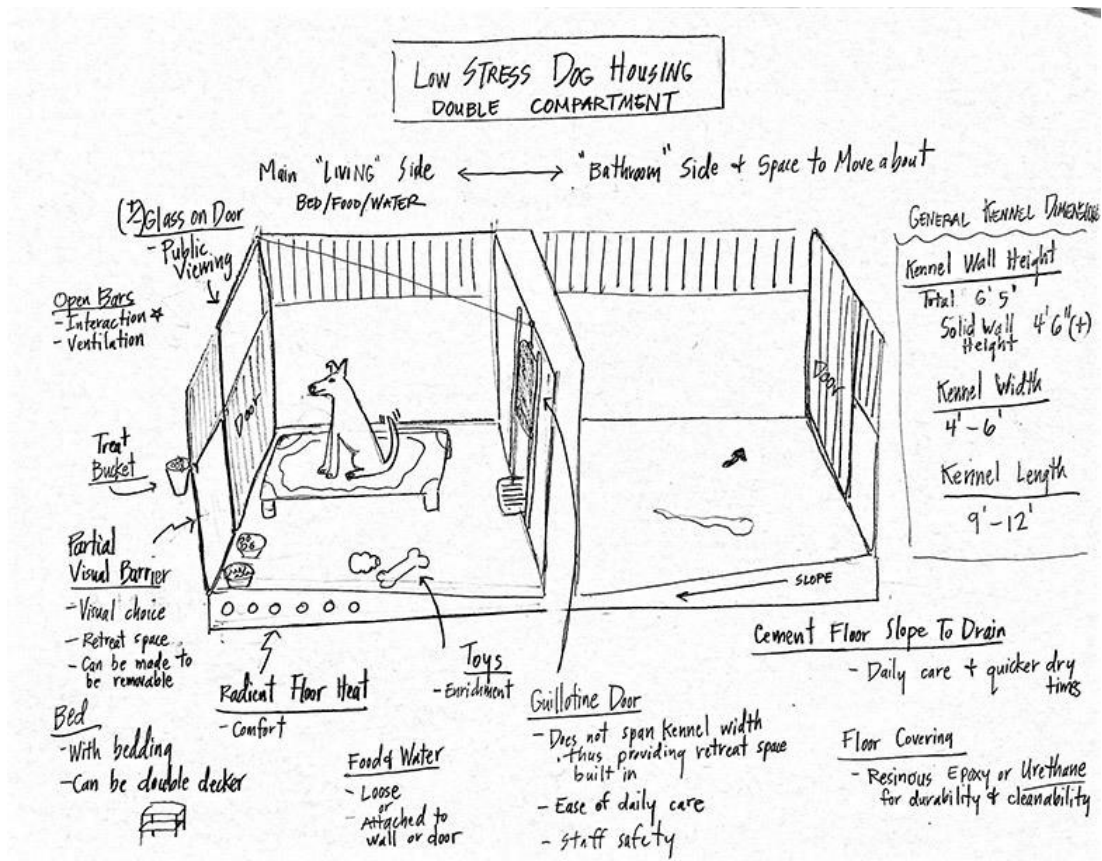
Note: Unattributed photograph from *Facility design, shelter animal housing and shelter population management,* by UC Davis

Another factor that must be dealt with in order to relieve the stress on the animals and make the all-around experience for guests, animals, and the staff better is to address the sound levels. Noise levels in a shelter environment can consistently sit at well over 100 decibels, which is likened to the sound of a motorcycle or using a jackhammer (Coppola et al., 2006). Anything over 70 decibels for a 24-hour period is considered harmful and can cause pain and hearing loss, so it is no wonder that dogs are feeling stressed out due to this over stimulation and new environment, and that guests who visit loud shelters leave before adopting (Decibel Pro, n.d).

The last major design problem that I want to resolve is how shelters handle the relinquishing of pets. Despite the popular view that those who relinquish their pets to shelters are lazy or don't care about their pets, the process of relinquishing a beloved pet can be harrowing, embarrassing, and heartbreaking for many pet owners who feel forced to leave their furry friend behind (DiGiacomo et al., 2015). Most often pet owners who release their animal to a shelter are forced to do so due to allergies, lifestyle conflicts, financial problems, and many other issues that are out of the owner's control, and these owner's usually try to find the animal a good home first (DiGiacomo et al., 2015). Regrettably, many shelters don't have separate areas for people to relinquish pets, so they are forced to endure the tragic moments of saying goodbye in front of all the visitors and staff members in the lobby. This can add insult to injury for the owner's who are already distraught about their situation and can cause other guests visiting the shelter to feel uncomfortable. I have personally experienced these situations first-hand when volunteering at my local animal shelters and have felt both pity and awkwardness watching someone break down in tears in a crowded lobby full of potential adopters. This is why it is essential to create a separate space for those surrendering their cherished pets to a shelter, to not only improve the experience for other adopters but to provide a place of solitude for final farewells.

2.6.2. Reconnecting Humankind and Natural World

One reason architecture does not provide a space for this type of interaction is because mankind no longer treasures our relationship to animals and nature. Instead of viewing ourselves as part of the world, we view our surrounding as separate and lesser than ourselves. David Winterton says, "Modern architectural thought has generally coincided with the scientific paradigm of mastery over nature" (1999, p. 257). This notion that technology and science has replaced our connection with nature is baffling considering that the natural world has provided

many of our scientific theories and technologies, such as osmosis, electricity, gravity, and the continual cycle of oxygen and carbon dioxide between humans and plants (Abram, 2017). Society has lost sight of how scientific tools and knowledge came from an understanding of how the natural world operates. The author explains the interconnection of science and technology in nature:

> Thus, the living world-this ambiguous realm that we experience in anger and joy, in grief and love-is both the soil in which all our sciences are rooted and the rich humus into which their results ultimately return, whether as nutrients or as poisons. (Abram, 2017, p.34).

As previously mentioned, the technologies that have damaged our environment and ecosystems also have great potential to restore them. Through the partnership of technology and architecture, our environment and relationships to nature can be reestablished.

In order to achieve this, thoughtful architecture must be used to create facilities that advertise this issue and provide educational opportunities. The problem our society faces is not knowing we have a problem. The lack of attention on the treatment of the elderly, stray animals, and the environment will cause calamity if not recognized and addressed. Thus, one of the main goals of my project was to bring awareness of these issues to the guests and surrounding community through the introduction of educational and community spaces.

In addition to bringing awareness, my project addressed the levels of interaction and the user experience to improve the human-animal connection within the shelter. Architecture can aid this issue by focusing more on experience over building codes, especially on inter-subjective experiences. If one focuses too much on their own subjective experiences, they may render themselves unable to empathize with others (Abram, 2017). This lack of empathy often leads to

poor architectural design that overlooks accessibility. Most ADA code guidelines only accommodate those with disabilities, but don't actually support inclusion and experience. In addition to the lack of design focused on experience, most buildings are lacking opportunities for interaction. In the case of my project, animal shelters and memory care facilities are especially in need of these spaces for interaction. Animals have environmental and social needs that are not being met due to their domestication (Aiello, 2023). Aiello states that home and shelter environments that confine animals to small indoor spaces all day with only brief moments of social interaction are detrimental to an animal's physical and mental health. Figure 7 shows what little amount of space animals in shelters, especially overcrowded shelters have. Unfortunately, shelters don't have the space or the staffing required to adequately enrich an animal's quarters and experience (Aiello, 2023).

Figure 7

Harris County animal shelter

Note: Unattributed photograph from *Surge of animals puts Harris County shelter in critical condition*, by Ortiz, A.

This issue is mirrored in memory care facilities where patients are often limited to short social and environmental interactions each day. A strategy to solve both of these problems is to use the memory care patients to socialize the shelter animals and to allow the shelter animals to provide interaction and company for the patients. A design such as this would not only provide the experience and interaction needed but would be an example to the rest of the community of how to look past ourselves and interact with those who are different from us.

3. METHODOLOGY

3.1. Process

My process throughout this project involved 4 main components: research, development of an artefact, building models, and the final design.

The research portion of my project focused on learning about the relationship we once had to nature, how we severed this connection, and how our society functions today because of this disconnect. This information was essential to understanding how to provide a solution through design and architecture.

The purpose of creating an artefact was to provide a mechanism for design that turned metaphor into something physical. This offered me a starting point to begin designing a physical building from ideas. I contemplated many metaphors that sprung from my research touching on topics such as pathways, weaving, nature, otherness, interaction, and perspective. I eventually landed on the use of a map to connect and weave together the locations surrounding my site through paths that cross through the multiple important destinations (See Figure 8). The spaces in between the paths were filled with imagery and stories from the cultures and people that each location represented and how they historically and currently interact with each other, nature, and animals. I then used this same linework to direct my design, directing certain aspects of the building such as entrances and windows towards the culturally important locations to draw the attention back there. In addition, where the linework intersected dictated where the spaces for the best exchange between people and animals would be or where their paths would cross in the building.

Figure 8

Artefact linework
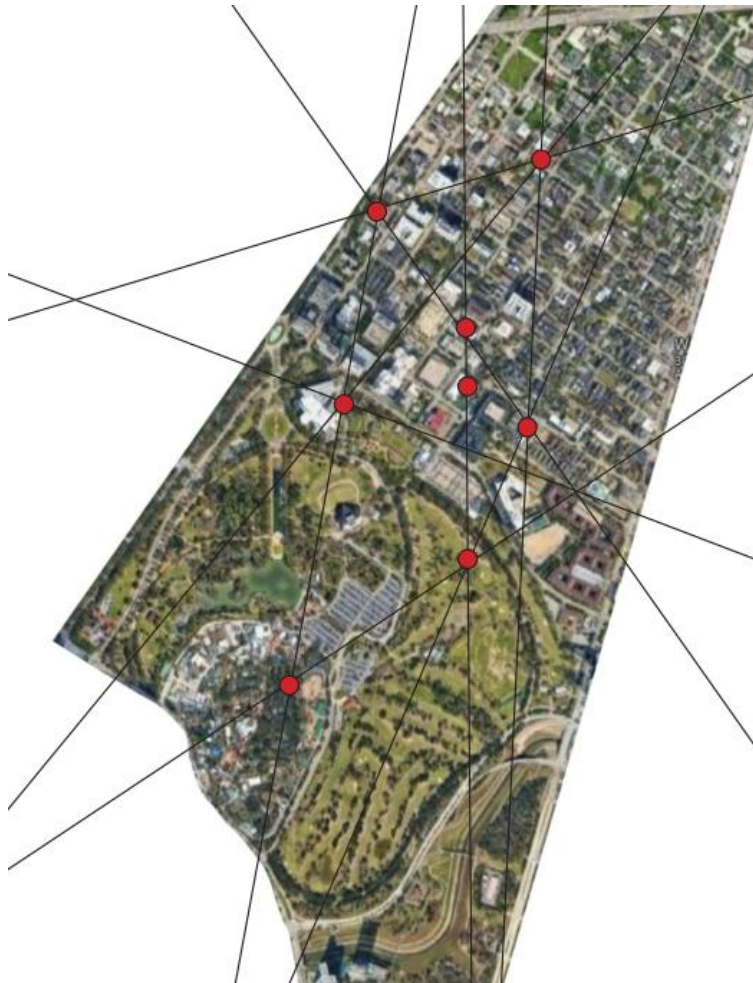
Note: Digital artwork layered on top of image curated by Google Maps

The next step was to design iterations of progress models to get a feel for the physical spaces and the emotions they invoke that cannot be determined from a computer model. These practice models allowed me to try new things and gain fresh ideas and perspectives.

Lastly, I used a conglomeration of my research, artefact, and models to start designing a building that would both solve shelter design problems and reconnect people to the natural world

around them by creating spaces for people to be healed by the animals and the animals to be healed by the people.

3.2. Project Location

3.2.1. Large Scale Location

A site that is in desperate need for this kind of healing is Houston, Texas. This is due to the devastating number of stray animals they have roaming the streets right now. Houston has over a million strays and is ranked #1 in shelter deaths in the country (Smith, 2023). This is due to the culture and the climate there; a large portion of the population views animals as property instead of pets, and Smith explains that the warm climate allows for breeding year-round and avoids the cold season that typically wipes out many strays. Houston's coldest month, January, maintains average temperatures of 46°-64° which is warm enough for strays to survive (Time and Date, n.d). In addition, Houston is a city that is currently facing the problem of *otherness* itself. Since Texas is on the border of the United States, there has been an influx of immigrants in recent years, and the view of them as *aliens* correlates to how they view the animals there.

3.2.2. Small Scale Location

My site is located just between Hermann Park which hosts tons of outdoor spaces, and Museum Park, which hosts over 19 museums in a culturally rich 1.5-mile radius. Hermann Park is a recreational hub that boasts spaces like the Houston Zoo, Japanese and Rose Gardens, an outdoor theater, a golf course, the McGovern Centennial Gardens, and the Houston Museum of Natural Science (American Planning Association, n.d). The Museum District is home to many more museums including the Holocaust Museum, the Czech Center Museum, the Museum of African American Culture, the Children's Museum, and several other important destinations (Houston Museum District Association, 2024). The connection that my site has with these

locations is crucial. It allows those in the community who visit the site to make connections between the past and present. The past being a strong connection to the natural world, and the present showing a disconnect from the natural world by observing animals from a far away and safe place like the zoo. In addition, the museums remind us of how we once viewed different groups of people such as Jews, African Americans, or children as *other*. This kind of connection allows guests to go into a memory care facility or animal shelter on my site without bias, to fully experience others in a meaningful way.

3.2.3. Specific Site

My proposed site is 1661 Hermann Dr. on the corner of Jackson and Ewing St., which is shown outlined in red in Figure 9, right across the road from the Hermann Park Silverado Memory Care Community, in what is currently an open green space being used as a temporary parking lot. I chose a site next to the Silverado Hermann Park Memory Care Facility because the staff members and community understands that sometimes in order to heal the body you have to start with healing the spirit and the soul (Silverado, n.d). I believe that this facility would be not only willing, but excited to connect with the animal shelter to promote healing in their patients and the shelter animals.

Figure 9

Project site

Note: Hermann Park Silverado Memory Care facility is filled in with a dark color to denote its importance to the project site

Because my site is between the park and museum districts that are shown in Figure 10, my shelter incorporates both outdoor and indoor spaces that physically and metaphysically connect both the districts and connect the shelter to the memory care facility. This location provides the perfect opportunity to weave the people of the museum district back to the natural world of the park district and promote interaction between the two.

Figure 10

Hermann park and museum park
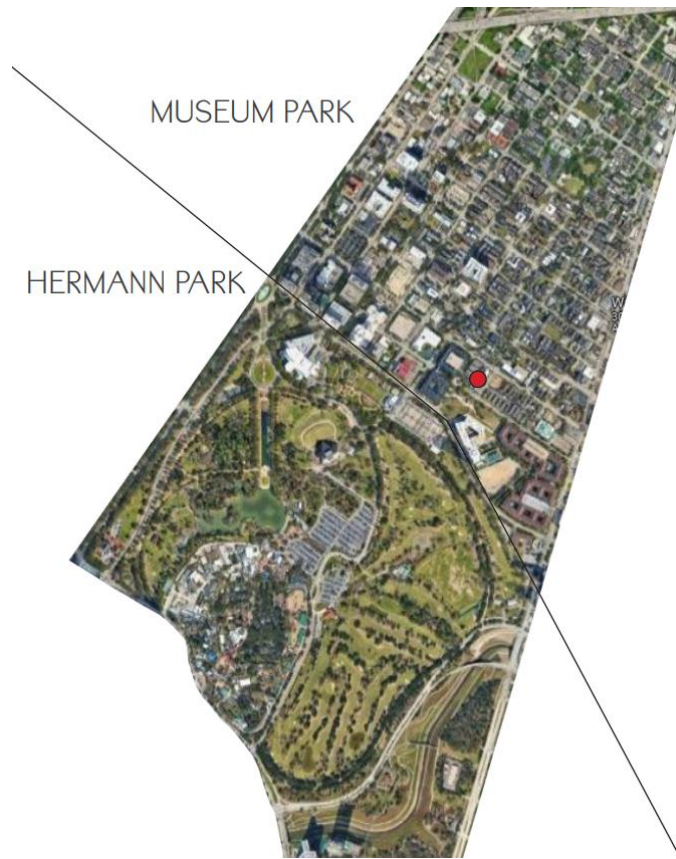
Note: Digital artwork layered on top of image curated by Google Maps

3.3. Pertinent Research

3.4. Case Studies

3.4.1. Cat Town Café

One example that has broken down the boundaries that promote observation instead of

interaction very well is Cat Town Café in Oakland, California. This place focuses on the old,

sick, and stressed, or otherwise unadoptable cats that get overlooked in shelters and gives them a

place where they can socialize with people in their own time and way (Cat Town, n.d). Unlike

regular shelters, the café has provided the ability to get to know a cat before adoption, which prevents relinquishing the pet back to the shelter later. In addition, not only does Cat Town Café provide the space for human-animal interaction to take place, but they are actively pursuing the creation of relationships by matching potential adopters with cats that suit their needs and wants (Arvizu, 2014). According to Cat Town, this design has helped reduce the euthanasia rates at the nearby shelter by an overwhelming 70%. This is proof that a connection with people can be very healing to shelter pets, and this relationship works both ways.

3.4.2. Catalina Springs Memory Care

A great illustration of that is the partnership between the Pima Animal Care Center and the Catalina Springs Memory Care, where an influx of orphaned kittens caused the animal center to reach out to the senior center for more hands (Richman-Abdou, 2016). The seniors were given a few kittens to take care of, and the results were tremendous. Not only were the kittens growing stronger, bigger, and faster than in a normal shelter environment, but the senior's health and mood were greatly improved too. Figure 11 shows one of the seniors delighting in the task of taking care of the kittens. Richman-Abdou quotes Catalina Springs Memory Care director Sharon Mercer by stating:

> To some, it may seem peculiar at first: Residents who are in need of around-the-clock care themselves, given the task to care for these young kittens, but there are skills, emotions, and needs that do not just leave a person with Dementia or Alzheimer's. The desire to give love and receive love remains. (Richman-Abdou, 2016, para.3).

This precedent provided a lot of inspiration for my project as proof of the ability for animals to heal people and people to heal animals.

Figure 11

Old woman with kitten

Note: Photograph from *Animal shelter partners with elderly care facility to save both orphaned kittens and elders,* by Vaičiulaitytė, G.
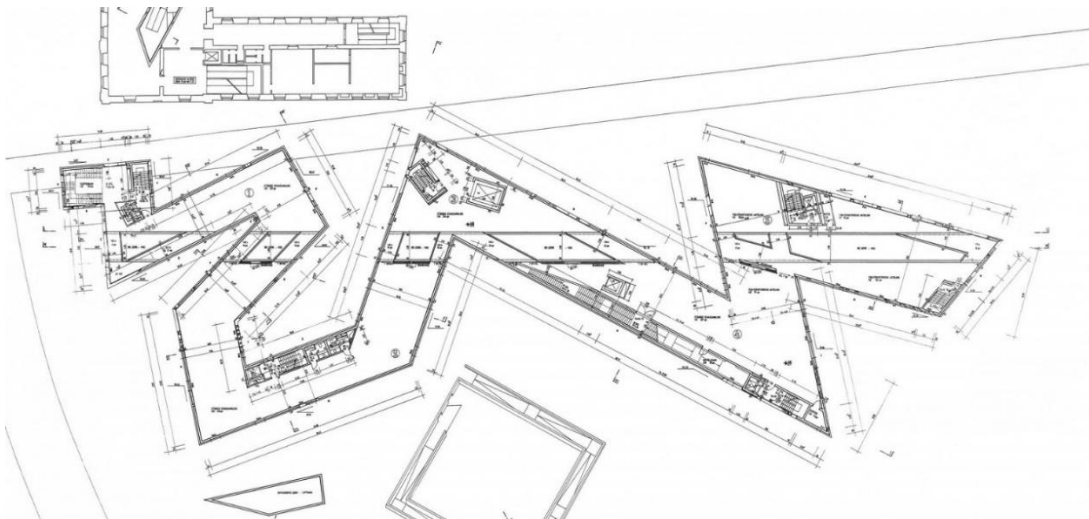
3.4.3. The Jewish Museum

The linework from my artefact was used to bolster connections and to reinforce the idea of the path. Since hodological space and pathways is such a large aspect of my design, I found a precedent that demonstrated pathways through architecture in a meaningful way.

Daniel Libeskind's Jewish Museum, which he calls *Between the Lines*, boasts a zig-zag form with a straight path cutting through it (Jewish Museum Berlin, n.d). The floor plans demonstrating the cut through the entire building form can be seen in Figure 12. The article, *The Libeskind Building,* provided by the Jewish Museum Berlin, explains that this form has been said to resemble a disassembled Star of David, and the voids that are created by the intersection of the

straight and the zig-zag paths put the absence that the Jewish community felt during the holocaust on display for guests to experience and not just view. This same article covers how these voids were left unheated and with minimal lighting to highlight the emptiness felt by that community. The Holocaust Tower void displays this lack of light and spirit the best (See Figure 13). Daniel Libeskind's ability to incorporate culture and history into his architecture inspired me to connect my building back to the historically and culturally important locations near my own site.

Figure 12

Ground floor plan

Note: Photograph from *AD Classics: Jewish Museum, Berlin / Studio Libeskind* by Esakov, D.

Figure 13

Daylight only penetrates the unheated concrete silo through a narrow slit

Note: Photograph from *The axis and the Holocaust Tower,* by Ziehe, J.

3.5. Detailed Space Program

My project takes the vernacular architecture of Texas and the site into account, and through research it was noted how similar the historical architecture of Texas was to the nomadic lifestyle of the previously mentioned Kogi people who focus on the journey and the path (Graham, 2023). This information led to the extensive use of hodological space throughout the site, specifically with the creation of 3 paths leading to the entrances of the animal shelter (See Figure 14). These paths use the notion of hodological space and the addressing of specific characteristics to provide different experiences. The first path focuses on maximum experience by allowing the user to take their time, meander through twists and turns of nature, and

appreciate its beauty. The second path focuses on shortest distance and provides an ADA accessible straight shot to the building. Because this path does not linger in the nature of the site, the path itself is a glass walkway that allows one to view the bare Earth underneath without fully interacting with it. This draws attention to the barriers people have created between themselves and the natural world. The final path is directed not towards the main entrance, but towards a hidden entrance for those surrendering a pet to the shelter. This process is extremely difficult for people, so this area of the building is separated from the lobby to provide privacy. In addition, this path is less hidden in the trees and therefore provides views of the exterior of the building, which is clad in a reflective, metal material. This allows the users to see their own reflection standing amongst nature and ponder their place in the natural world. These 3 paths have Earth built up around them, have large tree canopies above of them, and lead to an oversized building entrance to make the user feel smaller and closer to the ground so that they can observe the world through an animal's perspective. This is designed to offer some insight into the lives of an *other* that cannot strictly tell us how they feel, in hopes that by the time one enters the building, they are free of bias towards the animals.

Figure 14

Hodological pathways

One of my project's main goals was to provide spaces for significant human-animal interactions, so in addition to an animal shelter, my building program includes: a cat café on the third floor, a dog library on the second floor, a veterinary clinic, gallery, and senior center on the first floor, and a recessed group play/ educational area. These building programs are woven together both horizontally through the layout of the floor plans, but also vertically through an open atrium that connects them all.

The dog and cat wards are located on the exterior walls of the shelter to ensure all animals receive natural daylight. In addition, these wards are separated into small-breed dog, large-breed dog, quarantine, and isolation dog wards, as well as separate adult, kitten, quarantine,

and isolation cat wards. The separation of these wards into smaller rooms allows for better control of the sanitation mechanisms, noise control, and disease prevention.

The interior spaces of the building are filled with veterinary exam rooms, separate dog and cat grooming spaces, administration spaces, offices, a pet store, a small animal room, laundry, kitchen, storage spaces, catios, and public restrooms on each floor. The combination of these programs and spaces creates an efficient and clean building that is conducive to a fast flow of animals throughout the shelter.

4. RESULTS AND CONCLUSIONS

4.1. Final Project Description

This project is an amalgamation of an animal shelter, veterinary clinic, and memory care facility that is located in between the Museum and Park Districts of Houston, Texas, which has over 1 million stray animals. The site aims to weave the surrounding nature of the parks and the zoo with the culture and history of the nearby museums, as well as connect the new shelter with the existing memory care facility. This connection is achieved by using pathways that consider hodological space and invite the user to reconnect with nature; the opportunity to reflect on one's relationship with nature prepares the users to connect with the animals and people in the shelter without bias.

4.2. Project Objectives

4.2.1. Improve Shelter Design

This project's solution to overcrowded shelters was to focus on the rate that animals got brought into the shelter and subsequently adopted. In order to decrease the length of stay for each pet, my building addresses multiple typical design flaws seen in shelters.

My animal shelter incorporates different types of kennel spaces such as double compartment indoor-outdoor kennels, double compartment indoor-indoor kennels, and separate rooms for large dogs, small dogs, and sick and healthy dogs. This provides options for the animals that don't acclimate well to a certain space or kennel type. The small dogs, who are typically more afraid or nervous in the shelter environment, have their own room away from the loud barking and chaos of a large dog ward. In addition, they have an indoor-indoor double compartment kennel which gives more privacy to help reduce anxiety and make them more adoptable. Each kennel has a mix of a glass pane door, a solid opaque panel, and a semi-open

ventilation panel. The opaque panel is designed to provide privacy by blocking the views towards people and the dogs across the ward in a portion of the kennel façade, while the glass still allows humans a clear image of what the animals look like. The large dog, isolation, and quarantine wards all have double compartment indoor-outdoor kennels to provide fresh air, visual stimulation of nature, and better sanitation capabilities.

Another design feature that I felt was necessary to include was the use of the color blue. Most animals and humans feel more comfortable in areas with natural lighting and calming colors, such as blue, so the walls and exposed ventilation ducts are painted blue. In addition, dogs are partially color blind, and blues and yellows are the only colors that their vision registers, so it was important to allow them to experience the building in the same way as the human guests.

The ventilation system is another large aspect of the design, not only for its function, but for the metaphor behind it. The separate dog and cat wards have their own fresh air ducts, painted in blue, and return air ducts, painted in grey to provide the best air quality possible, prevent disease, and to make visual the circulation of air throughout the building. This is why the portion of the walls where the ducts enter into a new room is made glass, to show the continual flow of air throughout the building, and not just portions of ductwork. To show the whole building as it breathes.

My shelter knits together air, light, and architectural tectonics by illustrating how they cross and interact. Some lines of the building welcome the elderly or animals, like the hallways and ramps, some welcome the air, such as the ductwork, some introduce structure, and others introduce light, such as the skylights. This overlapping of elements weaves the building pieces and the natural elements together like the Kogi's loom and spindle. Another facet of the building

that achieves this is the clerestory window above the atrium; the vertical connection between the recessed group-play area and the window suggest a metaphysical pathway between the deep Earth reaching up to sky, and allow the user to feel this connection to the natural world both beneath and above them.

Many of the design features of this building place an emphasis on education and beg the user to question their relationship to nature, light, air, and those around them. Another example of this is through the overall form of the building which is broken up into 3 main sections. The largest section represents the expanse of the natural world around us, the second, smaller section resembles humans, and the last, smallest section represents animals (See Figure 15). All three of these sections come together to form the atrium space where they are all connected as one and act as a metaphor for the bond humans share with animals and nature.

Figure 15

3 Building sections
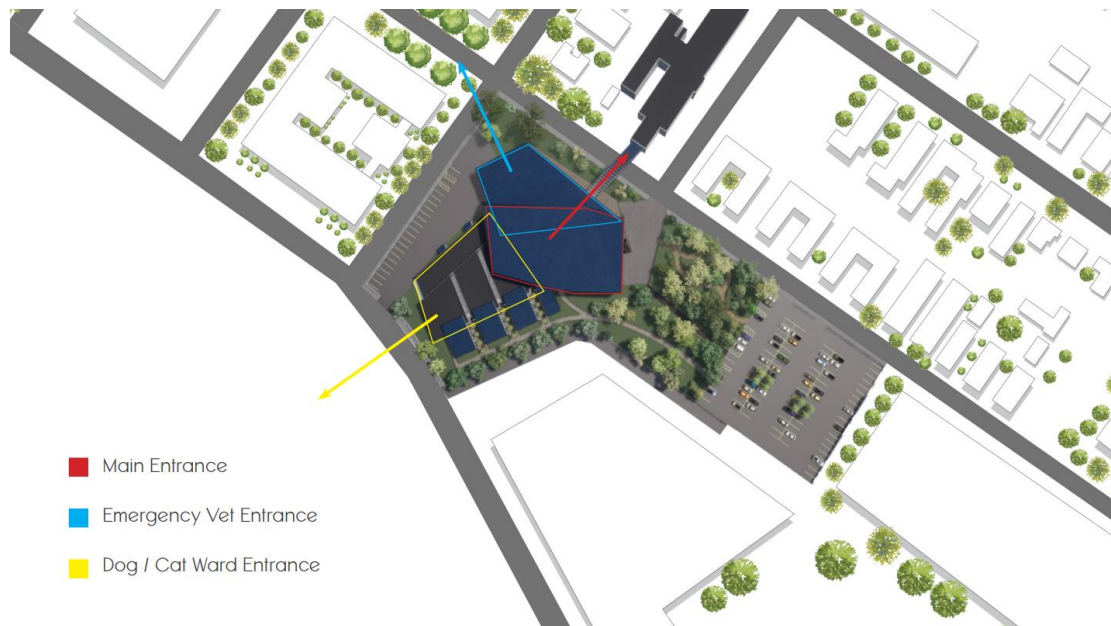
Note: The section outlined in red resembles nature, the section in blue represents humans, and the section in yellow, which contains the dog and cat wards, resembles animals.

4.2.2. Reconnect Humankind and Natural World

The most important part of restoring our connection to nature is to educate people about this connection, how we have lost it, and how to reconnect.

My design includes spaces that educate the users through technical teaching and metaphor. The gallery and the group-play area are both used to inform users of these ideas through physical aspects such as works of art, videos, presentations, and speeches. Specifically, the seating in the group-play area is designed like a classroom setting to allow for people to gather and learn. Other aspects of the shelter provide a more conceptual form of education, using metaphor to compel our imagination to view things differently. These aspects include, but are not

limited to, the three building entrances that are angled towards the holocaust museum, children's museum, and the memory care facility, as well as the ventilation systems that show the circulation of nature throughout the building, the glass pockets that let plants and nature stretch into the hallways, and the sightlines that are exposed through wall openings, windows, hallways, and ramps. These features reveal the hidden or forgotten histories of the surrounding museums and natural parks and draw the user's attention back to the overall connection between humans and nature.

These features merge the historical to the contemporary by bridging the past and the present, interior and exterior, self and other, and new and old. It is important to teach these histories as they put the present into context and give meaning to the world around us. The envisioned building demonstrates the link between new and old and past and present by utilizing the existing site entrances and connecting a new animal shelter to an existing memory care facility.

An additional concept that was focused on was the level of interaction throughout the building which was made possible through building programs, architectural tectonics, and the integration of spaces that promote contact between humans, animals, and nature. The additional building programs that provide this interaction include the cat café, dog library, and senior center which allow humans to connect with animals without barriers. In addition to the connection to animals, the senior center also provides an opportunity for community members to interact with the seniors and to see how they interact with the animals. The goal is to realize that if the seniors are not scared of the animals in the shelter, then others do not need to be either. Other spaces that provide connections are the outdoor kennels and the catios, or cat patios, which allow the animals a much needed outlet and connection to nature.

Lastly, the final step to restoring our relationship to the natural world and animals is by achieving true relationships with others. The acceptance of an *other*, human, animal, or tree, is the only way to gain meaning from our interactions with them. My design approach was to lead by example through the acceptance and accentuation of the elderly and the disabled. Instead of designing accessibility features such as elevators or ramps after every other space has been allocated, where these features are bond to be pushed into the last empty corner of the building, I constructed the building and its features around a grand ramp that connects all of the floors through the atrium space. In addition, I put a glass elevator on display to show the progression of people moving up and down through the building. The grandeur of the elevator and the ramp teach the guests that, although our differences make us unique, they do not need to separate us or define our experiences in a building.

4.3. Project Design and Documentation

Figure 16

Main entrance

Figure 17

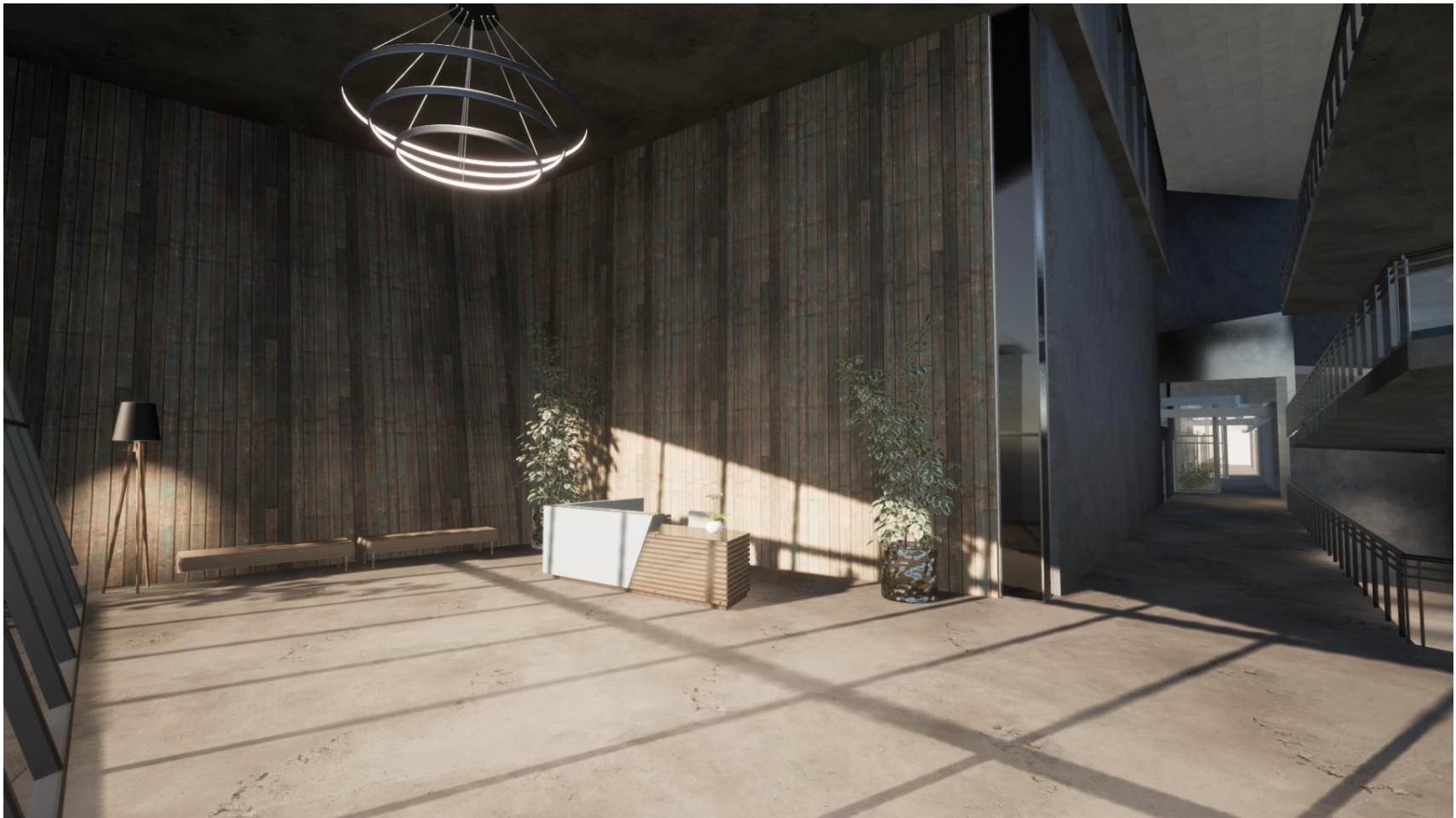*Lobby*

Figure 18

Skyway

Figure 19

Path 1: Maximum Experience

Figure 20

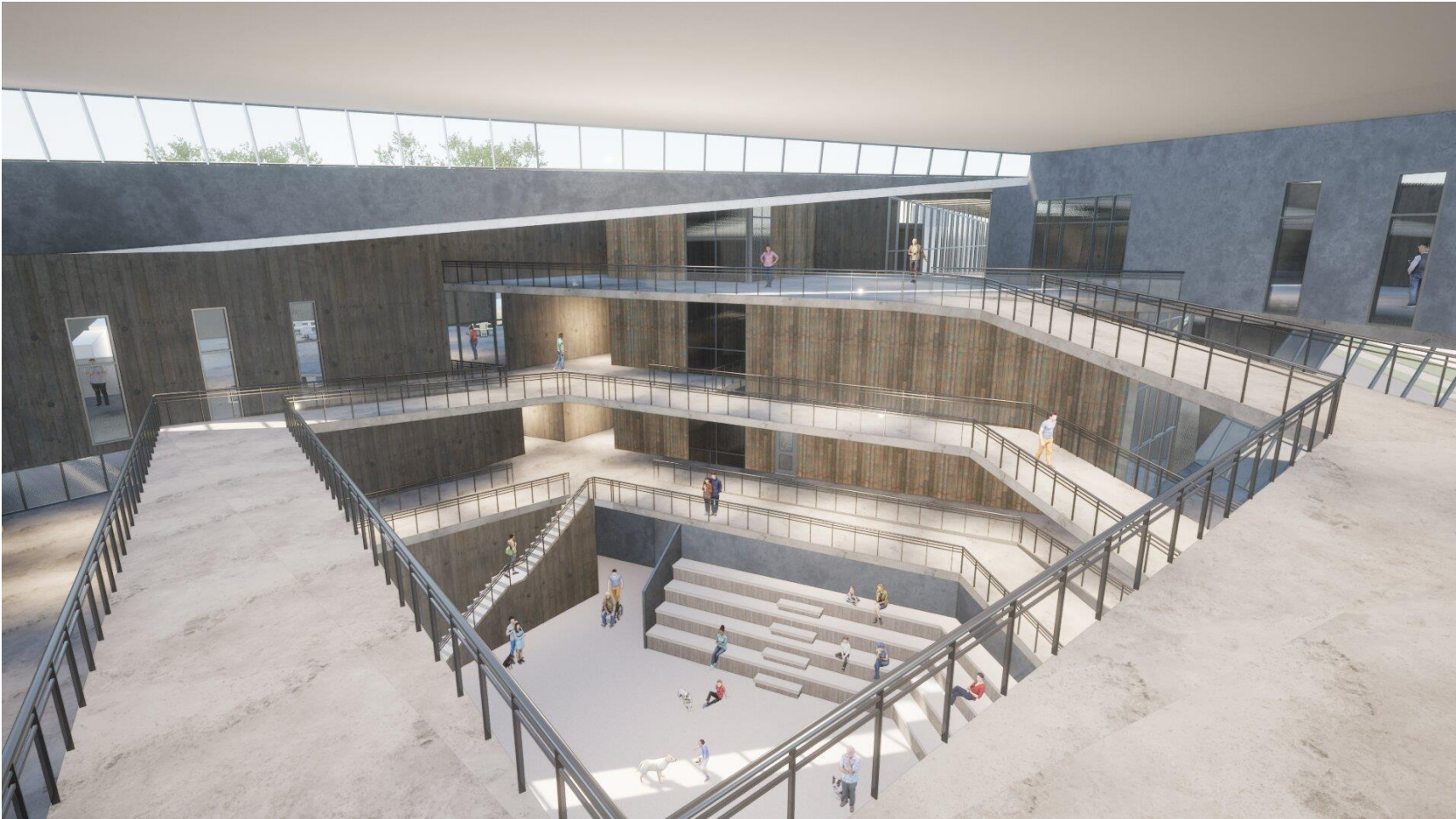*Path 2: Shortest distance*

Figure 21

Atrium

Figure 22

Section perspective of Atrium space

Figure 23

Outdoor dog kennels

Figure 24

Connection between skylight, ventilation and nature

Figure 25

Visual ties between skylights, cat rooms, and catios

Figure 26

Plant, air, and light penetrate the building
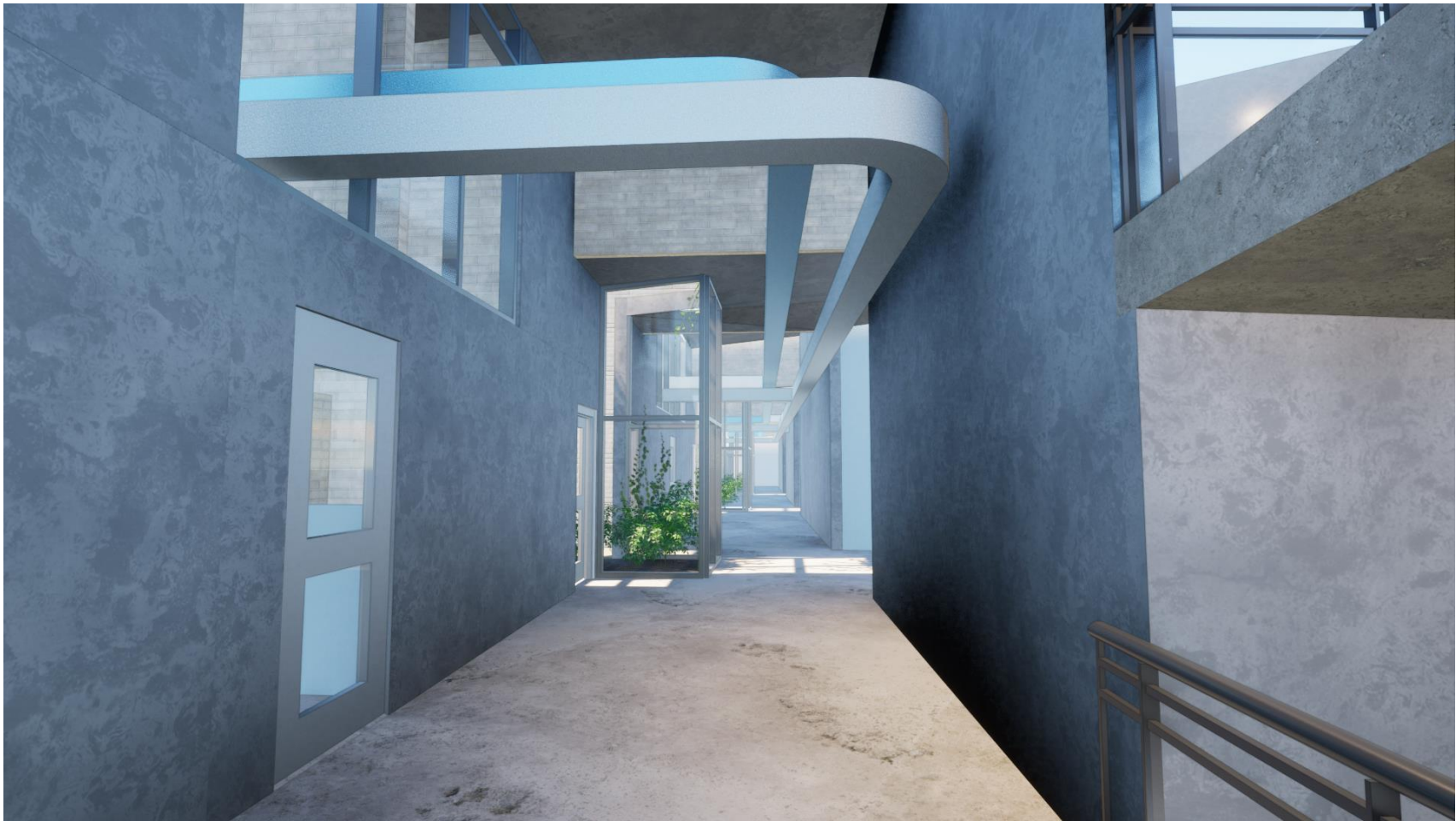
Figure 27

First floor plan

Garage
Exam Rooms
Grooming
Administration
Offices
Public Restrooms
Senior Center
Group Play Area
Pet Store
Real-Life Room
Kitten Ward
Catio
Cat Ward
Catio
Cat Ward
Cat Quarantine Ward
Cat Isolation Ward
Small Animal Room
Dog Isolation Ward
Real-Life Room
Pet Surrender/ End of Life Care
Small Dog Ward
Dog Quarantine Ward
Large Dog Ward
Large Dog Ward

Figure 28

Programs on each floor

Veterinary Clinic

Senior Center

Gallery

FIRST FLOOR

Dog Library

SECOND FLOOR

Cat Cafe

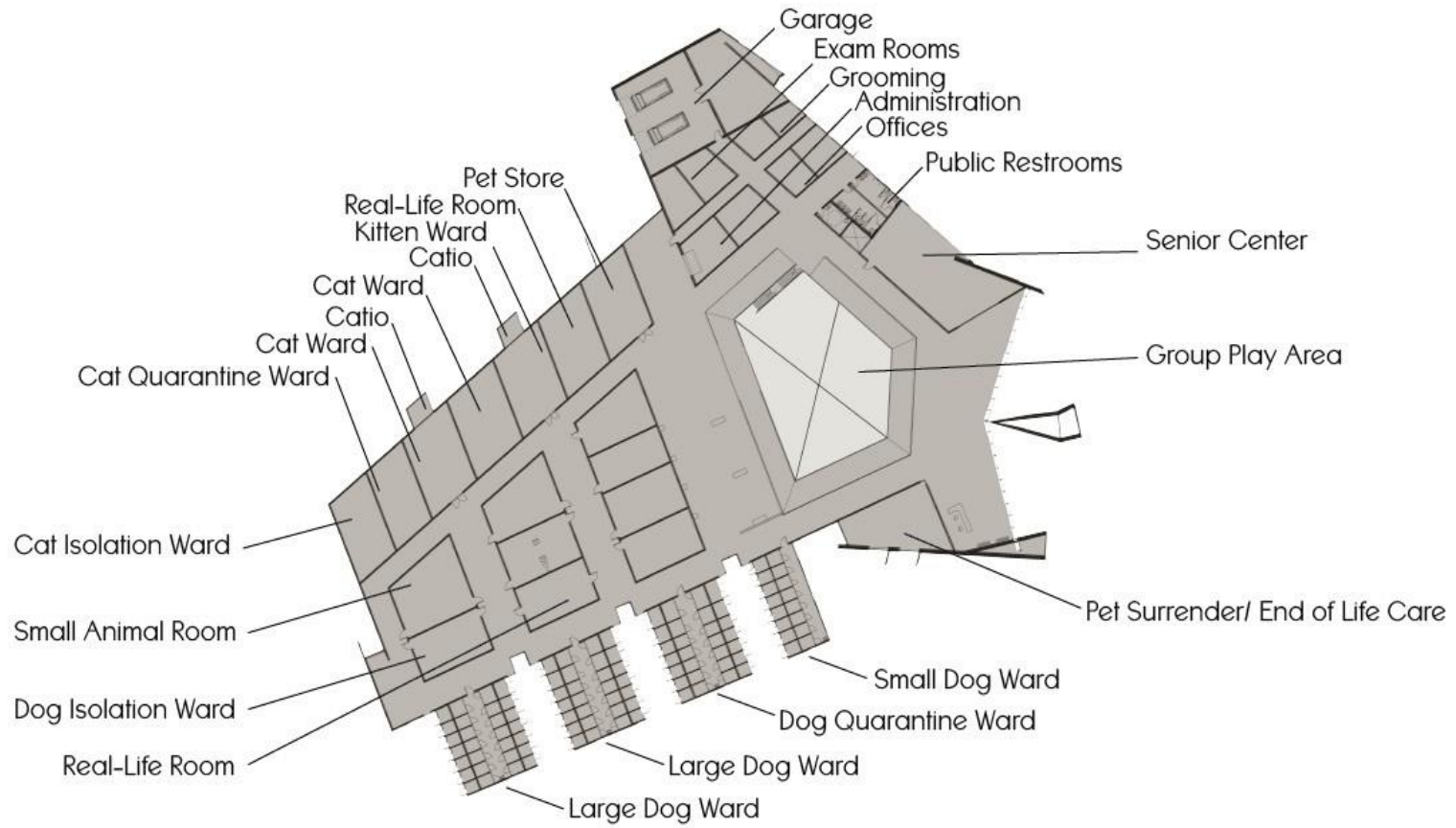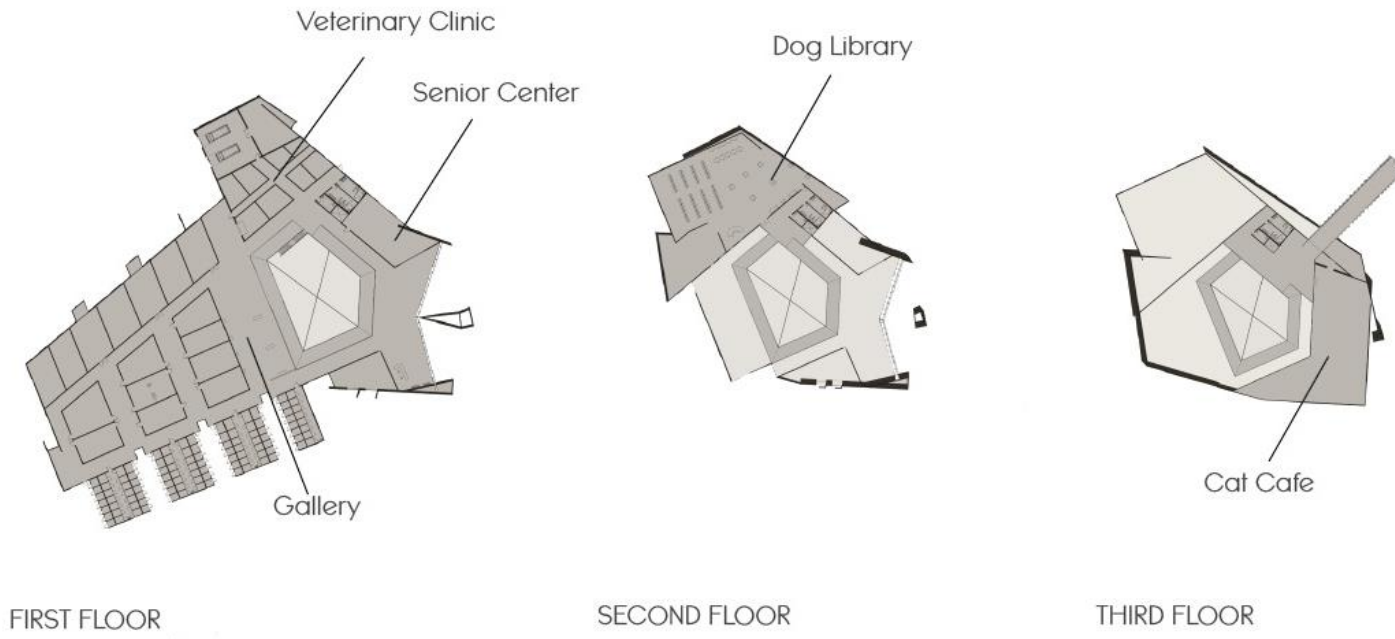THIRD FLOOR

4.4. Conclusions

While the project successfully improved the design and efficiency of a typical animal shelter and laid the ground work to allow humans to reconnect with animals and the natural world, there were some items and details that were not addressed.

Although the creation of leasable spaces, such as the café, group-play/educational center, and library would turn a profit for the shelter, the mere scale and building materials would prove over budget for a non-profit organization such as an animal shelter. Other cost-effective strategies would need to be incorporated to make this project more feasible.

In addition, very little attention was given to the structural integrity of the building and the grand ramp, as most of the design features are meant to be conceptual and compatible with other building typologies such as nursing homes, hospice care, natural parks, and other community spaces. Likewise, the addition of structural elements and construction details would be necessary to determine the practicality of this project. In general, the architectural features that address the aforementioned problems and provide metaphors make this project an effective prototype.

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