ABSTRACT

Architects commonly design spaces for primary human needs based on design necessities, but dwelling is much more than just being sheltered; it is a subjective human experience. What you see, hear, touch, smell, or even taste can create a certain impression of a space. Therefore, the perceptions of those experiencing the space should be considered when designing that built space. This is especially important with respect to wineries not only because wine is a significant part of human culture and history, but also because sensory experience in both smell and taste are essential components of wine appreciation. In this thesis, I aim to emphasize the importance of sensory experience in different architectural spaces and how it has and should influence architectural design in general. To prove my points, I will identify three case studies of wineries in Napa Valley, California which emphasize and explore the principal aspects of sensory experience. I aim to further explore this thesis by proposing a design for a winery in Park City which showcases this experience of space through the senses.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>FROZEN MUSIC AND PLACE TEMPORALITY</td>
<td>4</td>
</tr>
<tr>
<td>PHENOMENOLOGY AND GENIUS LOCI</td>
<td>7</td>
</tr>
<tr>
<td>CASE STUDIES: INTRODUCTION</td>
<td>10</td>
</tr>
<tr>
<td>CASE STUDY #1: BRAND</td>
<td>11</td>
</tr>
<tr>
<td>CASE STUDY #2: HALL</td>
<td>16</td>
</tr>
<tr>
<td>CASE STUDY #3: OPUS ONE</td>
<td>21</td>
</tr>
<tr>
<td>COMPARATIVE ANALYSIS</td>
<td>27</td>
</tr>
<tr>
<td>PROPOSAL: TERRA-CORE WINERY</td>
<td>34</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>43</td>
</tr>
<tr>
<td>WORKS CITED</td>
<td>36</td>
</tr>
</tbody>
</table>
INTRODUCTION

In the discipline of architecture, it is common to design a space for primary needs such as shelter or comfort. But dwelling is much more than just being sheltered; it is a subjective experience in which people develop certain interpretations of the space. The things that you see, hear, touch, smell, or even taste can create certain impressions of a space. Therefore, the perception of experiencing a space is highly dependent on sensory experience. For instance, when you first enter your house, you feel comfortable; but why? This is because your house is a place you visit all the time and your personal consciousness becomes accustomed to the particular surroundings provided by both yourself and the building. Your senses have also adjusted to the environment the house provides, from the temperature, to the lighting, scent, and overall visual tonality of the space. If a space establishes a positive and lasting impression through the senses, it is successful. While it is true that senses are subjective, as people have differing expectations in relation to moving through a space, sensory experience is still very critical in architecture. Considering and satisfying a multitude of sensory mindsets as well as finding a commonality of attributes among individuals is difficult to achieve all in one space, which makes it all the more inspiring when one actually succeeds in this feat.

Architects should draw their attention to establishing a notable experience within a place; something that visitors will remember, pass on to others, and even consider revisiting again. Sensory experience is essential to the success of architectural space because of its ability to attract substantial audiences. Some examples of public spaces that commonly establish impactful spatial sensations include museums, commercial malls, concert halls, and theaters. Such buildings require attention to detail in lighting,
soundscape, and atmosphere to enhance the experience of the common patron. But one example that most architects don’t often consider is wineries. Wineries have to especially stand out because, unlike most commercial spaces, wineries require favorable experiences with smell and taste to further enhance the sensation of trying a certain brand of wine. The atmospheric components of smell and taste truly reflect the quality of a winery’s condition and mood and can even represent the quality of the wine that is fermented, stored, and sold there. Furthermore, a winery establishes special relationships between the product and architectural representation. Wine is produced on the land itself, and when customers experience this sensation, it introduces a spatial recognition that is much more distinct than a typical retail setting.

Throughout history, the production of wine has been an essential component of many world economies. Wine has been engrained in our culture for ages, dating all the way back to Greek and Roman times. Wine has always been used as a method of bringing people together for festivals and celebrations while also being a necessity for multiple cultural occasions and customs, particularly religious practices and banquets. Wine is not only a highly profitable commodity, but provides satisfaction to multiple senses. To many people, wine smells and tastes delightful, provides unique and clean aesthetics through the different color values of red and white, and feels fresh and smooth when being tasted. Wine is also a customary tradition in its production, as many different vineyard operators throughout the globe have discovered specific techniques of growing grapes and then crushing, fermenting, and storing them as wine. In addition, it is also necessary to understand a winery’s contextual location. The cultural distinction of wineries within a landscape gives them identity. Thus it is essential for winery owners to
consider site conditions, landscape, and climate in order for their building to suit and respect its local environment. But most importantly, the success of any particular brand sold by a winery is heavily reliant on sight, which is achieved through an identifiable corporate image that can appeal to a certain audience. When visiting a vineyard or winery, stimulating to the senses through components like temperature, lighting, materiality, and even background music, can amplify the experience of smelling and tasting the wine, thus highlighting and promoting the image of the vintner even further.

In this thesis, I will begin by establishing the theoretical backdrop of my research. In this section, I will introduce the topics of *frozen music* and Filipa Wunderlick’s term, *place-temporality*, both of which describes architecture’s apparent connection to music. The next section will touch upon the broad topic of Phenomenology as applied by Martin Heidegger and other architects and philosophers. This section will also discuss Christian Norberg-Schulz’s defined topic, *Genius Loci (Spirit of the Place)*. These theoretical sections will explain why we, as humans, have the capacity and desire to dwell and experience space through the senses. They will also discuss the relevance of sensory experience through architectural space and how it has and should influence architectural design in general. To prove these theoretical points, I will then identify three case studies that will explore the importance of sensory experience in a winery. These case studies will focus on three wineries in Napa Valley, California that I have personally experienced myself. And finally, I further aim to explore this thesis by proposing a design for a winery in Park City, Utah that emphasizes a complete customer experience through appealing to the senses.
FROZEN MUSIC AND PLACE-TEMPORALITY

There are many theoretical means of expressing the importance of sensory elements to the perception of an architectural space. One idea worth considering is the relationship between space and the people moving through it, similar to how music affects a person’s mind and body. In fact, music and architecture have much more in common than one might assume. In the words of Edgar Winters, “We can see that the architecture acts like frozen music upon our living dance. When we live in buildings, move around in them and comport ourselves in them—according to the rhythms delineated in their composition; according to the way the light falls here and is filtered there, according to the detail (or lack of it) that frames our ways of being in the building—our occupation engages the design. We do not merely look at a formal arrangement in space. We take up residence” (Winters, 67). Architecture has the capacity to function as frozen music that influences the way we take up residence in space. The aesthetic properties of a building can act as art pieces and leave impressions on the audience, whether by the attention to detail, the lighting, or the functionality of a room. Architecture is an instrument for experience and impression, and is fully achieved by appealing to the senses. Even simple touches like background music or contextual soundscapes in an environment can make one’s experience of strolling through spaces more impactful.

Another obvious connection that can be drawn between music and architecture is the sensory experiences that are essential to each - whether through sound or sight. Music typically operates on a system of dynamics, tempos, and fragmentation in order to remain understandable to the listener. Moving through an architectural space additionally establishes relatable experiences, depending on the place and time. Urban design
professor Filipa Matos Wunderlick defines this feeling as *place-temporality*. Place-temporality refers to the combinations of attributes taken into consideration when moving through a place. Our movements, encounters, rest periods, and repetitive cycles illustrate specific rhythms we experience when traveling through a space. But in addition, the time of day, context of the place, and urban patterns influence our experiences even further. In summary, Wunderlick categorizes place-temporality as being dependent on four counterparts: sense of flow, sense of time or pace, soundscape, and rhythmicity.

Moving through a space easily relates to pace, time, and flow. Flow, in particular, causes people to feel comfortable in their daily routines, as this is how most people prefer to experience their surroundings. Another influence is the sense of time or pace in an urban environment, which is based on people’s personal reactions: “Thus, the sense of time varies according to people’s states of mind and affective engagement with social settings, but also the design of urban space. […] the sense of time in a city is intersubjective and place-specific. It is an experience that is shared by many and intrinsic to both the space and time of urban places” (Wunderlick, 385). It is common for people to change their sense of pace in relation to their surroundings and circumstances. For instance, when moving down a narrow, bustling city street, the mood is fast-paced, with vehicles and pedestrians rushing by, making it difficult for the observer to take it all in. In contrast, moving through a public park is commonly slow-paced, as everything is open and welcoming, giving the visitor time to breath and make observations.
In addition, our movement through space is equally influenced by soundscape, and rhythmicity. Whether listening to the sound of footsteps, the rustling of leaves, or the closing of doors, soundscape creates a repetitive sense of attention and direction that provides focus to the visitor’s experience. Additionally, rhythm is essential to consistency in urban patterning and style, and can be noticed everywhere when observing and walking through a space, from the length of city blocks to the patterned layouts of facades on apartment buildings. Rhythm and soundscape in a space are both influenced by how people react to them on a daily basis. For instance, Wunderlick’s studies provided a series of spectral diagrams displaying sound patterns, and walking and seating rhythms at the Fitzroy Square in London. Her evidence displayed that at certain time intervals throughout the day, the tempo of the place grew more intense, indicating specific soundscape tempos and rhythmic patterns of urban movement. Wunderlick claims that “These are not choreographed activities or tempos. They simply unfold in a synchronized and effortless manner, making up the ‘Fitzroy place-ballet’” (Wunderlick, 389).

Much like listening to an orchestra in a music hall, place-temporality is an experience “perceived through all the senses” (Wunderlick, 399). As with music, we can also perceive space on the basis of what we hear and how our other senses are affected by
the space. Even music itself can change your perspective of space, from simple pop songs playing in the background to a loud, boisterous rock concert where noise is nearly unavoidable. Whether negative, positive, or even neutral, movement through a space leaves a unique sensory impression on the visitor. Thus, by focusing on attention to sense of time, tonality, and tempo, musical terminology provides a vital counterpart for architectural spaces.

PHENOMENOLOGY AND GENIUS-LOCI

Another means of analyzing the importance of sensory experience in space is through the concept of phenomenology. Phenomenology, or the general philosophical study of human experience and consciousness, was first brought to attention by philosopher Martin Heidegger. In the 1950’s and 1960’s, Heidegger and other philosophers argued that architectural styles of the time, particularly modernism, were too visual and straightforward to be considered appropriate environments to satisfy the human condition. Architecture should appeal to more of the senses than simply the visual. Architecture must fully embody all the senses and establish a fully-encompassed sense of place that humans will find meaningful.

Phenomenology can be applied to what is important to the psychological state of human beings when they inhabit architectural space. The phenomenology of spatial experience is something that we as humans, by our own instinctual perception, feel inclined to maintain. In fact, in the words of Heidegger: “We do not dwell because we have built, but we build and have built because we dwell, that is, because we are dwellers” (Heidegger, 148). Based on this observation, it is important to understand the
ties between architecture and being. To Heidegger, building truly encompasses dwelling because it relates to our human existence in general. This is because the manner in which we dwell is the manner in which we are, or an extension of our identity and placement on the earth.

Furthermore, phenomenological perspective requires a broad understanding of the natural connection between humans and the landscape of where a space is to be placed. According to Heidegger, “Space is in essence that for which room has been made, that which is let into the bounds. That for which room is made is always granted and hence is joined, that is, gathered, by virtue of a location […]”. Accordingly, spaces receive their being from locations and not from ‘space’” (Heidegger, 154). Before architectural spaces can exist, there has to be a location for them to exist in. Experiences in space can only be present if the state of the locale has the capacity to further enhance such experiences.

Understanding the environment, climate, and characteristics of a certain site has always been a fundamental step in the architectural design process. Thus, the quality, character, and context of a certain location should always be reflected in the design and construction of a building.

In addition, Heidegger also stresses that our human condition is based on our temporary existence among things. This is because our human existence is highly dependent on the production of objects. We, as humans, have always fabricated artifacts for specific needs, including for the creation of space itself: “The reality of architecture is the concrete body in which forms, volumes, and spaces come into being. There are no ideas except in things” (Zumthor, 34). Additionally, these defined things are not necessarily physical, but can also be things related to human perception, like feeling and
reason, memories, atmosphere, memories, and even personal childhood experiences. According to architect Peter Zumthor, “It is the reality of the building’s materials […] and the reality of structures I use to construct the building whose properties I wish to penetrate with my imagination […] so that the spark of the successful building may be kindled” (Zumthor, 34). Incorporating the sense of these things into a structure helps to foster an atmosphere that is more compatible with human experience.

An additional way of understanding the methodology for using sensory experience in architecture is to examine the theory of Genius-loci (Spirit of the Place), defined by architect and philosopher Christian Norberg-Schulz. According to this notion, the full experience of the user needs to be recognized before the space is physically built. It is crucial to note the Genius-loci in architecture because, as Norberg-Schulz stresses, “Man dwells where he can orientate himself within and identify himself with an environment, or, in short, when he experiences the environment as meaningful” (Norberg-Schulz, 5). This theory claims that places should satisfy the human condition. Buildings do more than just shelter man, but also encompass the deep essence of how man wants to be sheltered: “To gain an existential foothold man has to be able to orientate himself; he has to know where he is. But he also has to identify himself with the environment, that is, he has to know how he is in a certain place” (Norberg-Schulz, 19). Places must be identifiable and interactive, or at the very least be designed in a way in which the user can understand his placement and inclination within space. In order to establish spatial interaction within dwelling, the architect should recognize the orientation and identification of the dweller within the building so that the space becomes
relatable to the inhabitant. A sense of place generates a sense of belonging and thus a
sense of satisfaction within a space.

In conclusion, architectural spaces should encompass a sense of place in order to
remain relevant to the occupant. Spaces should allow for distinction as well as multiple
methods of interaction and perception. Establishing human perspectives in design is
important to create a place more approachable and acceptable to the majority of
individuals. In fact, art in general is something for humans to perceive within their own
consciousness and understanding. In the words of architectural theorist Juhani Pallasmaa:
“The artistic dimension of a work of art does not lie in the actual physical thing; it exists
only in the consciousness of the person experiencing it. […] Its meaning lies not in its
forms, but in the images transmitted by the forms and the emotional force that they carry.
Form only affects our feelings through what it represents” (Pallasmaa, 449). Emotions
and feelings are necessary for generating spatial impact and memorable experiences, and
such contributions are what should be the focus when creating a built space.

CASE STUDIES: INTRODUCTION

The purpose of these case studies is to not only demonstrate the significance of sensory
experience in architecture, but to express a personal perspective that is essential to
comparing and evaluating the relative merits of differing sensory environments. All three
studies focus on my experiences as well as those of several other architecture students
who were present on the winery tours. In my recent visit to Napa Valley, California, I
took both individual and group observations into account after visiting these venues.
Each winery appealed to a specific focus group, ranging from more private and refined,
to more commercial and broad. However, this was expected because winery companies have to attract the audiences that they feel perfectly matches their type of wine production and branding. Such preset audience expectations also affected my personal reflections on the wineries. In addition, although my visit occurred during the winter season, a time when grapes are unable to be harvested in the vineyards of Napa Valley, I was still expecting top-quality wine showmanship from each winery, as this is what most wine owners should prepare for when the climate turns colder.

CASE STUDY #1: BRAND

My first case study will encompass one of the more remote wineries I visited in Napa Valley, Brand Winery. This is probably the most influential study in my research because it was my introduction to winery tours in Napa Valley, providing me with a stronger sense of anticipation and uncertainty of what to expect. My curiosity was especially intensified throughout the car trip to the destination. Brand was located on the top of a hill, and the lengthy journey featured long, curvy roads surrounded by vast fields of grapes, rolling hills, crisp trees, and homey ranches with farmland. The air was fresh and warm, and the sunlight was certainly plentiful, promoting a bright and clear atmosphere. In fact, while I was gazing at the pleasant scenery, I noticed fellow students in my vehicle commenting about the beauty of the landscape surrounding them, with some even
mentioning that they would settle here if they could afford it. They furthered their satisfaction by opening the windows and letting the fresh air in. I found the blustery wind to be rather chilly, but still refreshing.

Upon my arrival at the site, I was rather discouraged by my first impression of the exterior. Brand hosted a rather simplified form of a basic metal shack with a sloped wooden canopy to welcome customers to the property. This winery in particular was much more private and set-back, settled into the sloped side of the mountain. The design also included a gated parking area which required permission to enter, creating a sense of privacy and exclusiveness. The building established upon first glance the impression of a simple, modified quaint ranch. The color pallet appeared to relate to natural elements, where values of brown, beige, and grey matched perfectly with the surrounding natural landscape and even contrasted well with the greenery around it. The presence of giant stones along the walkway toward the entrance furthered this relationship to the natural elements. The roughness of the stones, metal walls, and wooden posts provided a more organic feel to an otherwise modernized structure.

My impressions altered as I strolled through the entrance into the main lobby, with the guest center and wine bar nearby. The room was clean, open, and filled with
natural light coming from windows and skylights. The overwhelming emptiness further suggested that this winery was meant for private purposes and individual guests. The background music hosted a traditional pop/country radio soundtrack that made the space feel more homely and snug. Scents of fresh wine and grapes coming from the bar filled the space, providing a solid first impression of what to expect on the tour. The walls and floors of grey stone were smooth, but the variable color-palette of the furnishings established more variety and natural connection. Through the sliding glass door was a patio with a small garden, decorative fountain, colorful bushes, and wooden furniture, all of which provided more of a sense of relaxation to the property.

From there, our tour began and we were introduced to the loading station where grapes were brought for processing and crushing, and then stored in immense fermentation chambers. The room hosted a giant skylight from above, allowing great amounts of natural light to ignite the space. Upon my first encounter with the fermentation chamber, I was taken aback by the vastness of the tanks where the wine was stored. The room hosted multiple shades of grey and white, but
despite the dull pallet, the reflected light and fresh air from natural ventilation made the production room feel unexpectedly extravagant. The smell of metallic substances perfectly complemented the industrial mood of the room, along with the slight scent of wine being processed. The sounds of mixing turbines echoing off the walls enhanced this industrial sensation and established how essential the fermentation process is when making wine.

From there, our tour entered directly into the wine storage cave, a chamber completely underground, dimly-lit, and lined with lengthy rows of wooden barrels. The curvature of the walls and ceiling provided a sensation of visiting an ancient tomb. This was especially encapsulated within the overall touch, smell, and sight of the chamber. The space provided minimal light sources and glowing orange reflections and refractions off the walls which enhanced the mysterious tomb-like sensation even further. The room was poorly insulated, but this choice was required not only to help the wine age properly, but to emphasize a rather cold, mystical presence. The curved walls were textured in rough stucco, which was perfect for establishing a more earthly and natural sensation. Scents of earthen rock, soil, wood, and aging grapes provided a sense of historic decay as well as a solid connection to the natural world outside. The chamber also branched off in different directions, creating impressions of a classical maze lined with pathways of barrels.
Towards the exit of the cave, there was a fully-revealed private tasting room behind transparent glass so that visitors could gaze at the beauty of the curved caves as they drank the wine. This room resembled the ranch style presented in the lobby, complete with wood paneling and smooth floor tiles, providing a calm sense of relief from an otherwise chilling environment. And finally, the end of the tour led the customers back into the patio space next to the lobby. The exterior cave door presented a fantastical design like something straight out of J.R.R. Tolkien. The impressive door, to my surprise, was a revolving door, furthering this sense of fascination in the creative design. It also generated a unique sense of exploration at first glance, causing patrons to wonder what was behind such an imposing portal. And then the exploration was completed after exiting through the other side.

In conclusion, the strongest aspect of Brand Winery was the sensation of moving around in a circular path throughout the winery space. This perfectly established a sense of completion and satisfaction for the customer. The layout of the spaces of Brand perfectly encapsulated an understanding of how the wine there is produced, stored, and presented to the public. The materiality and aesthetics were rather simplistic, but still identifiable enough to make the experience of the tour interesting and provocative. Many
of my fellow students were especially impressed with this winery, as the majority of them favored touring Brand the most according to an informal poll of the students. This demonstrates that simplicity in winery design can be effective in sensory experience as long as the wine and the wine production process are well-presented.

CASE STUDY #2: HALL

Visiting Hall Winery was a somewhat similar, but largely differing experience from the previous case study, particularly because of the target audience for this winery. Hall was located in the outskirts of Oakville, California, a town known for attracting both wine connoisseurs and young tasters. Upon our first encounter, the road trip was much more relaxing, without many hills to climb over or winding roads to maneuver. The trip there was simply a straight road lined with ranches and wineries, both gated and public. The wineries along the road hosted a combination of both modern and traditional architectural styles that influenced me and my fellow passengers to compare them and conclude that Hall was the most visually unique from the rest. Once again, there was the presence of green hills, trees, and clean air, but the contrasting flatness of the valley presented a much more graceful first impression than the previous winery case study, Brand. Furthermore, the weather that day was much more rainy and cloudy. This may not appear important,
but in my opinion, if a winery can still provide an enjoyable sensory experience, regardless of the bad weather, it gains an even more favorable impression.

Upon first entering the winery, I received the impression that *Hall* was clearly designed to attract common tourists more than private buyers. The steel statue of the rabbit at the entrance signified a great sense of confidence in brand, making this winery in particular more identifiable among the others surrounding it. The complex hosted two buildings, one of which was a modernized, contemporary structure for wine-tasting customers, and the other a remodeled, ancient stone structure from the 1800’s that housed private banquets, weddings, and other dignified events. The contrasting of architectural styles reflected the nature of the neighboring wineries and landscapes: that being a combination of both old and new. The winery was on a flat property surrounded by fields of grapes, abstract sculptures of animals and tree branches, and thriving shrubbery. The angular pathway toward the entrance furthered this sense of focus and identity introduced at the beginning with the statue at the gate.

At first glance, *Hall* felt more like a museum than a winery, particularly in the public structure meant for everyday wine customers. This was especially revealed by the multiple abstract art pieces that were professionally presented along the walls and
pathways and the fermentation tanks and barrels being displayed behind an observable glass wall. The pathways in particular were more intertwined, making it entertaining to explore the spaces and notice different emphasized viewpoints. The color scheme was incredibly lively and was emphasized everywhere, from the displayed barrel chamber behind glass to even the public restrooms which were completely covered in red paint. Though the experience was a bit overwhelming, it was still a unique choice and matched well with the winery’s abstract style. The presence of abstract artwork throughout the pathways, the combination of natural and neon lighting, and the surrounding quickness of the air made me feel like I was in a rush as I made my way to the tasting room on the second floor.

The experience of entering the wine tasting room felt a bit overwhelming. For one thing, it was insanely crowded and full of boisterous conversation. The music in the background was more edgy and hipster; something that was more recognizable to a younger generation. The room hosted a combination of both straightforward and
extravagant elements. Though the layout of the room was a simple square, the utilization of reflective glass panels, surrounding windows, vibrant colors, neon lights, and angular furniture emphasized a feeling of eccentricity while exploring this space. But despite all these elements, the space still felt relaxing and homely, especially with the inclusion of fresh air rushing in whenever the exterior doors opened, bright values of lighting enhanced by two giant facades of windows, and satisfying scents and tastes of the wine being served.

The contemporary experience continued outdoors in the exterior lounge and patio spaces. The lounge also featured modern, angular furniture and bizarre decorations, particularly a rectangular fireplace near the balcony. After traversing a stairway adjacent to windows revealing more interior production and barrels, the pathway led to a rectangular fountain, large vineyards, abstract sculptures, and even a natural patio filled with twisting tunnels of flexible stick structures. Though the overall sensation of strolling through the outdoor plaza was not truly representative of anything wine-related (with the exception of the vineyards themselves), it was still an entertaining encounter that left an impression of playfulness and excitement after it was
over. In fact, many of the people present with me participated in fun activities such as tag and hide-and-seek while exploring the patio.

After I was given permission from the owner to explore the other building at hall, the restored stone structure, I received a contrasting experience that resembled something more dignified. The ground floor was filled with lines of wine barrels and wood columns, as well as a central, giant, log table reserved for special events. Much like the underground barrel caves in Brand, the air of the space was chilled and the lighting was dim. But this time, the walls were lined with rough, earthy stone. The aroma was not only that of settling, old wine, but also that of dusty soil, and rotting wood, signifying a mysterious sense of historicism that remained inside the space. The giant log table smelled strongly of clear lumber and conveyed a link to nature that was most likely present at the time the ancient warehouse was constructed. The light glowed with faint orange and reflected off the walls, keeping the light refracted and minimal. The upper floor of the cabin was much more vibrant, with giant windows on the north and south facades to let in natural lighting. The natural light provided a glow in extravagant shades of light brown and gold, and the wood columns, joists, and supports smelled fresh and new. This space was built primarily for wedding festivities and social events, which explains why the room felt different compared to the cellar room downstairs.
Overall, the unique contrasting of styles among the two buildings on the site provided an overall pleasing sensation after exploring both of them. One of them was more vibrant and colorful while the other was more subdued and historic. *Hall* appeared to emphasize the experiencing of traversing the spaces rather than actually demonstrating how the wine is produced there, as the production chambers are mostly closed off from the public and used for display only. *Hall* was probably the most mainstream out of the three studies, but appealing to a larger audience is essential to many wine companies. And with the ability to steadily control movement of satisfied customers throughout the building and the grounds, *Hall’s* style and structure appears to be efficiently displaying their product. Most of the students present with me found the experience of *Hall* to be rather artificial, but were still entranced by the sights around them. They mostly took note of the large numbers of patrons interacting in the social spaces and how excited and satisfied they appeared within the environment. They were especially impressed with the sense of interaction and engagement in the tasting chamber and event hall.

**CASE STUDY #3: OPUS ONE**

![Opus One Logo](image)

In opposition to the two previous examples, the third winery I visited posed much more of a flavor of neo-classicism with a touch of postmodernism added into the design. But this classical style is intentional because Opus One winery primarily hosts private events,
as most people have to make plans ahead of time before entry. Similar to *Hall*, this winery is located just outside of Oakville and is surrounded by rolling hills with trees, giant fields of grapes, and many other wineries. The building is not easily observable from the outside, mainly because of a barricade of trees upon the approach. Another aspect that established its sense of separation was its placement out in the middle of a vast field, far away from the street. The property was gated, suggesting that a few select customers are allowed entry. Upon entry through the gate, I was taken aback by the long, axial entrance to the building. The giant colonnade of trees reflected a sense of dominance upon entering the gated property.

The building itself was embedded onto a man-made circular hillside featuring small trees, bushes and a freshly-mown lawn, which contrasted nicely with the white mass located in the center. This dissimilarity also gave the building a sense of permanence and priority, similar to that of an ancient Greek temple. As our vehicle approached the property, I noticed the powerful use of curvature that consistently drew people toward the huge entrance of white. The curvature was especially effective in the pathway toward the entrance, as the stairs were gradual, clean, and provided a sense of anticipation as you got closer. The central plaza space...
furthered this sense of cleanliness and power, illustrated by the curved colonnade and dominant archway leading to the lobby.

The main lobby was round and imposing, scented by air-fresheners and a hint of stone. I was unable to smell wine though, which disappointed me vastly. The central staircase and rounded skylight above further echoed the circular symmetry of the space. The study rooms and public tasting rooms were mostly silent, aside from the pleasant, classical music playing in the background. These spaces felt dignified and noble, especially with the inclusion of clean marble floors, elegant furniture, and rhythmic skylights. The hallways of colonnades were tinted with orange and yellow lights, presenting the heavy, white walls in a more unique value of color. The branching colonnade hallways were consistently decorated with fresh, smooth tiles of limestone and rough, white stucco. Though the hallways were consistently laid out with doorways and structural pillars, the curvature established a sense of discovery, as it made customers curious as to what was around the corner.

After traversing a whitewashed flight of stairs, the experience of visiting the natural balcony space provided a nice contrast to the formal white columns experienced beforehand. This space is composed of a central circle that connects two lookout spaces.
from which one can see the expanse of the vineyard, showing off the natural beauty of the surrounding landscape. The central chamber was covered by a rounded wooden gazebo composed of small slats for shade and natural lighting as well as artificial orange light fixtures that matched the glowing sensation of the colonnades. Although the space was filled with the sounds of nature, from the blustery wind to the chirping of birds and crickets, you could also hear the sounds of civilization and cars in the distance.

Afterwards, the tour led us to the first floor of the production chamber, which was much more industrial compared to the magnificent cleanliness of the public spaces. The only fascinating component about this space was how the fermentation tanks were embedded into the floor to allow for more efficient production process. Aside from that, the chamber was rather empty, filled with generic machinery, shades of dull gray and very little reverberation along the walls. However, the basic nature of the room changed drastically as we made our way down to the bottom floor where the tanks were located. This room was darkly lit, immensely cold,
and looming in atmosphere. The spaces, while rather open, felt tight due to the surrounding tanks and wine barrels. The room had a predominant scent of fresh steel and fermenting wine (something I had been anticipating for a while). But what made this space so imposing was the sense of mystery as to what was hidden behind each colonnade of tanks.

Our tour concluded with a visit to an enormous cave filled with curving, gradual lines of barrels that appeared to extend to infinity. The air in the cave was chilled, and the walls resonated with echo, much like the fermentation chamber. The barrels smelled of natural wood and aging wine, providing a feeling of wine-making tradition. But what made the chamber so memorable was the scope, as everyone present with me at the tour was exploring it from top to bottom to see what was at the end of the pathways of barrels. Adjacent to the cave was a private room suitable for wine-tasting and social events. The glass wall separating this room from the cave provided a comfortable sense of confinement within an otherwise overwhelming space. As we left the tasting chamber, the curved staircase of white stone that led back to the lobby created an important moment of identity in the space. This was emphasized by the concentrated use of natural and artificial lighting in the spot, marking a
memorable encounter for patrons to reflect upon after they leave. Patrons had the pleasure of experiencing the incredible dominance of the staircase as they approached it, escalated it, and even left it.

Out of the wineries I visited, this one was my personal favorite, but I believe this is because of my personal perspective. In fact, many of the students who accompanied me on the tour disliked the space because they felt it was too artificial, like something along the Las Vegas strip. Though I disagree, I completely understand this mindset. While the limestone panels and other decorations in the spaces were cleanly furnished and consistent, the purity of the space felt manufactured and rather inauthentic. The clean, sophisticated nature of the winery made the place feel sterile and out of place to many people. *Opus One* focused more on being clean and pleasant than establishing a connection to the environment around it. The sterility was too overbearing and it took many of the observers out of the experience.

However, I greatly appreciate cleanliness and consistency in architectural design. Even though I knew the spaces were filled with fake-looking materials, the layout of spaces still provided an overall pleasant experience for me. I understand there is more to architecture than just aesthetics, but here, I believe it was utilized efficiently. On top of that, the building had a great sense of flow and discovery and hosted a symmetric layout that was both simple and unique to explore. But most importantly, it emphasized important moments and landmarks throughout the spaces with the usage of lighting, sound, and axial pathways. I understand that this winery is not for everyone, but my personal satisfaction of visiting *Opus One* was just too positive to ignore.
COMPARATIVE ANALYSIS

With all this information in mind, it is important to consider all the components of sensory experience that were either successful or unsuccessful in each of these buildings. The observations made previously about each winery were not only aspects which affected me personally, but also those that should be considered in order to appeal to a larger audience. After reflecting on my experiences in these wineries, I established a general set of conclusions as to what makes the experience of visiting a winery impactful. The following comparative study is a list of the positive and negative aspects of each winery as well as a series of suggestions for elements that winery owners and architects should consider in order to achieve success in creating an affecting sensory experience for their visitors. All three wineries may have their differences in style and tone, but what essentially matters is whether or not they communicated their styles and tones effectively to their customers.

1. CONNECTION TO NATURE

One significant component of a winery is connection to the local natural environment. All three wineries were located in a warm and calm climate, which is immensely important to a winery’s success. Being built in a suitable climate is not only beneficial for the farming and production process of wine-making, but is also contextually relevant to the components that people typically associate with wine and wineries. Simply put, if a winery is located in an environment that is pleasant all year, patrons are more likely to visit it, even during the winter to possibly avoid the crowds (which is what I and the other architecture students did). Moreover, all three case studies also provided utilization of
natural light and natural ventilation by using the clean, fresh air from outside the building. This method was especially utilized in the wine caves where the walls were thinly insulated so that the rooms could remain chilled, preserved, and dependent on nature. Additionally, each barrel chamber employed scents of grapes and earth, establishing a firm link to the outside world.

Furthermore, the relationship to the natural world was encompassed by plentiful access to natural air which helped each winery to not only feel fresh, but also exhilarating to the senses. All three wineries presented outdoor components for patrons to refresh themselves, from artistic parks to outdoor balconies. Being outside is a pleasurable sensory breath of fresh air and is a suitable location for people to interact and enjoy themselves. In fact, I would argue that the sensation of drinking wine is enhanced when you have a visual cue to the natural world where the grapes are grown. Connection to nature is based on context, and applying phenomenology, the vineyard context provides something relatable for the visitor.

2. SENSE OF PLACE

Another theme that is essential to capture in a winery is a defined sense of place; a place that is identifiable and relatable to an everyday visitor; a place in which one can feel at home, comfortable, and secure. In other words, wineries should perfectly encompass the concept of Genius-loci in which each space should establish a sense of security and preservation while also successfully appealing to a certain audience through familiarity as in ranch homes, art museums, and classical temples. The case studies were hit and miss in this department. One positive component that the three wineries implemented was a
consistent use of building materials which encompassed a distinct style to appeal to a certain crowd. Constructing a building out of a material that matches how a space is meant to be conveyed provides consistency and relevance to design. For instance, the use of smooth, limestone panels perfectly matched the cleanliness of the overall design and tone of Opus One. Additionally, the rough stone in the ancient cabin of Hall matched perfectly with the sense of history the building displayed. The use of a consistent color palette is also relevant in this situation. The color scheme of a building should reflect the sensory mood of how the building wants to be presented. Even in a space like the restroom in Hall, where the walls were wrapped in extravagant red, the palette perfectly matched with the overall vibrant style, excitement and eccentricity that Hall was emphasizing. As established by Peter Zumthor, materiality and visual appeal of a space can create memories and impressionable moments for the visitor.

However, with the exception of Brand, none of the wineries felt like they were suitably placed in their environments. The ranch-like mood emphasized by Brand matched perfectly with the context of the area because the landscape was filled with components associated with ranches, including barn houses, giant fields, and stables with horses and cows. In contrast, even though Hall and Opus One were aesthetically unique and profound, their artificiality made them feel out of place in context to their landscapes. This was especially revealing in both structures’ site placement in vast, open fields, where they significantly stood out and felt completely separate from the natural elements around them. Opus One attempted to make up for this by building a man-made hillside into the structure itself, but even then, the manicured green lawns were significantly
different in color and value in comparison to the natural hues and roughness revealed in the vineyards, rolling hills, and trees.

3. SENSE OF ATMOSPHERE

Another aspect that wineries should successfully convey is a sense of atmosphere, whether it be vast or contained. The *frozen music* expressed in all three examples was reflective of something memorable and lasting, particularly through the utilization of rhythm, sound, lighting, shadows, and air temperature. The sensation of *frozen music* was especially present in the production chambers and underground caves. All three case studies provided dim lighting which made the spaces feel more enigmatic, strong scents that established components of history or nature, and chilly air that further enhanced the tone of mystery. For the most part, particularly in *Brand*, the lighting of the spaces was reflected off the walls and ceilings, filling the central chamber with less light, thus creating a moment of importance within in the space. Also the reverberations of the spaces reflected a sense of vastness and even spirituality, similar to the experience of visiting a cathedral.

Spaces that are more confined can be effective as well, depending on the overall goal of the space. For instance, in *Opus One*, the entry plaza’s curvature design created a sense of surrounding which provided a safe feeling of enclosure from an extensive series of vineyards around the property. Also, in *Hall*, the lobby, wine tasting room, and other social spaces were surrounded by vast facades of glass that not only showcased impressive views, but let in massive amounts of natural light. These vast façades enhanced the already vibrant quality of the space, and the attractiveness of this vibrancy
was demonstrated by the fact that many of the patrons interacted near the windows. The inclusion of skylights was also instrumental in creating a comforting mood, as both *Brand* and *Opus One* utilized this effectively in their showrooms.

Atmosphere was also achieved through the utilization of lighting, particularly in the curved hallways at *Opus One*, only in a more divergent technique. The orange glow of the artificial lights not only presented a unique visual image from outside the building, but felt even more imposing when observed more closely from inside the building. Many people feel overwhelmed being surrounded by nothing but white, which is stressful for the eyes. But the subtle inclusion of small touches of orange and yellow values presented in several of the winery spaces established a more comforting, mellow, experience. And finally, all of the wineries took advantage of playing background music that reflected the style each winery was seeking to portray, and the music was played at a low enough volume to prevent it being a distraction. In summarization, creating a sense of atmosphere in a winery space establishes solid feelings that humans can use to relate themselves in a space in a positive way, as well as experience a space that, as stressed by Heidegger, is both impactful and meaningful to them.

4. **FLOW AND PROCESSION**

Furthermore, wineries should maintain a consistent use of procession through their architectural spaces. The building design should be able to guide people through the spaces as if they are experiencing the story of the winery. All three examples posed a consistent sense of progression through the spaces, particularly in the winery caves. The chambers flowed with efficiency and mostly led back to the entrance where the
customers had first arrived. All three examples provided the sensation of going around in a rhythmic loop throughout the spaces at least once, a solid technique to prevent people from getting lost while additionally providing a satisfying sense of completion. The place-temporality defined in each place was successfully rhythmic and understandable, with additions like symmetric plans and consistent wall-patterns throughout.

Also, the soundscape was conveyed effectively in each winery, as the public spaces were more boisterous while the private spaces were more subdued and filled with natural, calming sounds. The rhythmicity, tempo, and sense of time displayed in each winery emphasized consistency and satisfaction in spatial design. Rhythm was also emphasized in material use and spatial dimensions. All three examples were simplistically planned in methods by which the spaces and materials provided patterns of interest and gradual progression for customers. All of them also demonstrated and conveyed a thorough knowledge of the central significance of the process of wine production, as the spaces were programmed in procedures that demonstrated this process throughout the building. The solid connections between spaces made the flow of movement and senses of time and pace gradual and satisfying. And most importantly, all three wineries created a perception of discovery, with the inclusion of corridors and walkways that made one curious as to what was around the corner or in the next room.

5. REFLECTION OF SMELL AND TASTE
And finally, wineries should be reflective of the context of wine itself. As established by phenomenology, space sensation should attract all of the senses, even those that you might not expect to be engaged. Simply put, wineries should reflect the complete sensory
experience of drinking wine, achieved primarily through the senses of smell and taste. In locales within the building wine is present, the scent of wine should not be hindered. Wine cannot be sold through looks alone; it needs to be smelled and tasted to be fully appreciated. In all three case studies, the sense of smelling, and even tasting wine was most certainly present. It was especially powerful when the aroma of mixing grapes filled the production chambers, establishing something fresh, natural, and filled with quality.

This was also effectively communicated in the barrel chambers, where the smell of fermenting wine was combined with aging wood, stone, and metal, demonstrating that the wine was successfully maturing. The presence of aging materials also provided a sense of historicism, an attribute that many customers associate with top-quality wine. But it is most essential to establish an aroma of wine at the very beginning in the entry space, where first impressions are paramount. This is why I was so disillusioned by my first encounter within Opus One, because I could hardly smell the wine they were selling, as it was overpowered by the scents of Febreeze and stone paneling. Also, the wine bottles in the public tasting rooms were displayed well, but they did not provide a true scent of what was being showcased. The major reason people visit a winery to begin with is to drink wine, and this experience will be benefitted by the inclusion of a scent that gives a hint as to what the wine they will be experiencing will taste like.
PROPOSAL: TERRA-CORE WINERY

In support of all these observations and suggestions, I am proposing a design for a winery located in Park City, Utah. The winery will be located on the top of a high, sloping hill with access to beautiful views of the mountains, historic Park City buildings, and ski-resorts. Because of Utah’s cold, arid climate, the grapes will not be grown on site. Instead, they will be transferred from foreign vineyards and then crushed, processed, and stored in this winery. Additionally, the building will be advertised more for private connoisseurs than mass audiences because of this building’s emphasis on the total wine-tasting experience over consumerism. The brand name of the winery will be “Terra-Core”, an identity that will be explained later in this proposal. In conjunction with my study of the importance of sensory experience in space, the major accomplishment of this building will be to emphasize the physical aspects of experiencing the process of wine-making. Patrons will be able to see, hear, touch, smell, and taste the wine produced at Terra-Core as they make their way through the spaces.

This main objective will be accomplished by fabricating a central core of circulation (hence the brand, Terra-Core) where patrons can gaze at the wine making process around them as they traverse from one public space to another. This mission will
be accomplished with the construction of a ramp that gradually slopes down from the entry lobby to the tasting room. The central ramp will be surrounded by programs devoted to the steps used to produce wine. Patrons will be able to physically see, hear, and even smell all these wine-related components, particularly a giant production room with fermentation chambers on the left and wine labs, storage chambers, mechanical rooms, and a giant collage of wine bottles on the right. In addition, patrons will have the unique experience of viewing wine barrels being rolled down another ramp right below them, as the ramp they are traversing down will be made of transparent glass. Finally, the building will be embedded into the ground to establish natural connections between the building and the earth and also for improved aging conditions for the wine barrels in the underground caves.

Figure 35: Terra-Core – Parti Diagram

Figure 36: Terra-Core – Concept Diagram
Figure 37: Terra-Core – Site Plan
Figure 38: *Terra-Core* – Floor Plan – 2nd Floor

Figure 39: *Terra-Core* – Floor Plan – 1st Floor

Figure 40: *Terra-Core* – Floor Plan – Basement
After entering the tasting room, patrons are given two options. One option is to make their way to the underground chamber by traversing another ramp where they can explore the dimly lit caves filled with rows of wine barrels and chilling atmosphere. Patrons can then make their way back to the top floors either through an elevator, the emergency stairs or a mirrored ramp on the other side of the barrel ramp. The building will be embedded into the earth in order to keep the barrels preserved and fresh, (hence the word “Terra” in the brand). The other option patrons have is to go outside to the exterior patio adjacent to the tasting room to enjoy their wine and appreciate the natural air and wonderful northeastern views of Park City.
Above the central ramp will be a skylight to highlight the central core where patrons traverse. The light travelling through the skylight will be partially obstructed by a combination of reflective OKASOLAR Double-Paned Glass Panels and thick steel beams that horizontally cross the ceiling. The beams will also be used as structural devices to support the central ramp with cables as well as components of natural ventilation, air ductwork, and acoustics. The utilization of the beams will allow people to hear the sounds coming from the neighboring spaces and also smell the fermenting wine being processed in the production and storage spaces and the wine being chemically tested in the labs.
The overall style of the building represents the shape of a monolith. The building cuts through the space in the form of a simple rectangular block of concrete that has been set into the ground. The building will match with the layered landscape of the hillside by being composed of horizontal concrete slabs. The slabs will not only be aesthetically distinct, but will allow for thermal massing and solid insulation. In addition, the simplicity of the form matches with the context of the simple idea: that of leading people through the straight-forward process of wine production. The spaces where wine is produced will additionally be highlighted on the exterior by narrow windows that match with the horizontal style of the concrete walls and illustrate where the wine-production rooms are in relation to one another.

![Figure 47: Terra-Core Winery – Northeast Elevation](image)

This simplified concept provides a sense of *genius loci* within the building because people can identify themselves as being in a relevant location where wine is produced. Establishing simplicity in the building’s design is an intentional integration that enhances the overall sensation of providing a memorable and meaningful experience that visitors can clearly associate with wine-making. The building also establishes a sense of *place-temporality* by creating a rhythmic, consistent movement through the space by way of the ramp. Patrons will be able to observe the layout of the production spaces around them as they move down the ramp. The rhythmic attention is furthered by the
patterned spacing of the beams partially obscuring the skylight as well as by the arrangement of the cables supporting the glass ramp. People can also notice the rhythmic and spatial distinctions between the widely-spaced fermentation tanks on one side as opposed to the crowded wine bottle chambers on the other side.

CONCLUSION:

Wine has maintained a historical and cultural significance to many people all around the world and still holds a strong place in the global marketplace to this day. Though many options might be considered when creating a space for selling wine to customers, the most essential component to success in this endeavor is formalizing an authentic experience for the visitor to the winery itself. The architectural space of a winery needs to be something that leaves an impression that is identifiable with the essence of the brand and is also easy to physically navigate. It needs to contextually match with its surrounding environment to create a sense of belonging and satisfaction within the space. It should present an overall experience that not only clearly displays the historical and emotional story of the particular winery and its methods of production, but also fully maintains the unique scent and savor of their produced wine. Such details establish a lasting impression that will satisfy customers, convince others through social media or word-of-mouth to pay a visit, and encourage return trips.
In conclusion, the major reason why many wineries are created with an architectural significance in their design is because of this approach to appealing to all of the senses in spatial experience. Based on these case studies and the Park City winery proposal mentioned above, phenomenology in architectural spaces not only establishes architectural design which focuses the experience as belonging to a particular place, but also establishes a connection with the history of the enjoyment of wine which causes patrons to appreciate and remember the experience. Attention to details like natural connection, sense of place, atmosphere, transgression, and contextual reflection all come into play to contribute to the success of the wineries mentioned in the case studies above. Furthermore, wineries that were not connected to the natural environment or failed to emphasize the sensory appeal of wine were less successful. The built spaces of these wineries should also encompass an authentic combination of history, nature, and sensory experience to fabricate a structure that is at once comfortable and exhilarating to visitors. The building should also recognize common human experiences with wine as a natural product that is a part of everyday life, as well as a contributor to many celebrations and spiritual practices. Architects have the duty to satisfy the feelings and senses of human occupants before generating the physical building, as this is what creates an artistic expression of the human consciousness: “As architects, we do not primarily design buildings as physical objects, but the images and feelings of the people who live in them. Thus the effect of architecture stems from more or less common images and basic feelings connected with building” (Pallasmaa, 450).
WORKS CITED


Image Sources:

Figures 5-11, 14-15, 17-22, 25, 27-30, & 34: Photographed by Drew Emeney

Figures 33 & 35-48: Drawn and Rendered by Drew Emeney & Shi Xu

Figure 1: shutterstock.com

Figure 2: dreamstime.com

Figure 3: https://napavintners.com/winery/brand-napa-valley/

Figure 4: http://www.napawineproject.com/brand-napa-valley/

Figure 12: https://www.prlog.org/10351755-hall-wines-logo.jpg
Figure 13: http://napavalleyregister.com/lifestyles/food-and-cooking/wine/bunny-foo-foo-traipses-upvalley/article_c83d9f66-ab22-11e3-a046-0019bb2963f4.html

Figure 16: https://www.nicolehollis.com/work/hall-wines

Figure 23: https://twitter.com/opusonewinery

Figure 24: http://www.apex-trans.com/blog/opus-one-winery/

Figure 26: http://www.opusonewinery.com/The-Estate/Photo-Tour

Figure 31:


Figure 32: http://fredschaadphotog.photoshelter.com/image/I0000gUScYX1LDIU
Name of Candidate:  Drew Emoney
Birth date:  September 27th, 1993
Birth place:  Orange, California
Address:  1888 Foxmoor Place
Sandy, Utah, 84092