Cultural visualization through architecture

Fernando Pizarro
University of South Florida

Follow this and additional works at: http://scholarcommons.usf.edu/etd
Part of the American Studies Commons

Scholar Commons Citation

This Thesis is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.
Cultural Visualization Through Architecture

by

Fernando Pizarro

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Architecture
School of Architecture and Community Design
College of The Arts
University of South Florida

Major Professor: Michael Halflants, M. Arch.
Robert Hudson, B. Arch.
Cesar Cornejo, Ph.D.

Date of Approval:
November 16, 2009

Keywords: Puerto Rico, San Juan, Colonization, Domination, Fusion

© Copyright 2009, Fernando Pizarro
To my wife that has been an unconditional support throughout this entire journey. Without your support this would not be possible. I love you.

To my children everything is possible. You just have to believe.
I would like to acknowledge the professionals who offered their knowledge and support from day one.

Michael Halflants. Excellent professor and master project chair. Thanks for your interest in my project, availability, expertise and constructive criticism.

Robert Hudson. Committee member thanks for your constructive criticism, interest in my project and for having a genuine desire to help.

Cesar Cornejo. Committee member thanks for your dedication and support during the last semester.
# Table of Contents

List of figures ii  
Abstract iv  
1. Introduction 1  
2. Problem 5  
3. Hypothesis 8  
4. Methodology 10  
5. Site Analysis 11  
6. Case Study 17  
   Jewish Museum 17  
   Conclusion 18  
7. Case Study 19  
   Holocaust Museum 19  
   Conclusion 20  
8. Case Study 21  
   Canadian Museum of Civilization 21  
   Conclusion 22  
9. Case Study 23  
   James Turrell 23  
   Conclusion 24  
10. Conceptual Design 25  
11. Program 32  
12. Conceptual Ideology & Design Development 33  
13. Final Schematics 46  
   Conclusion 61  
Bibliography 62
<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Puertorican dish. Yellow rice &amp; pastelon</td>
<td>1</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Dancing salsa</td>
<td>2</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Group of kids Dancing Bomba y Plena</td>
<td>3</td>
</tr>
<tr>
<td>Figure 4</td>
<td>El Morro Fort</td>
<td>4</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Old San Juan street</td>
<td>4</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Vedic Mandalas symbol</td>
<td>8</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Island of Puerto Rico in Relation To Spain, Africa, and the U.S.</td>
<td>11</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Map of San Juan with historic places highlighted in purple</td>
<td>12</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Map of PR. with San Juan highlighted in orange</td>
<td>12</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Map of San Juan with selected site highlighted in orange</td>
<td>13</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Map of San Juan showing pedestrian &amp; vehicular circulation</td>
<td>14</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Aerial view of San Juan</td>
<td>15</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Topography of San Juan</td>
<td>15</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Topography of selected site highlighted in orange</td>
<td>15</td>
</tr>
<tr>
<td>Figure 15</td>
<td>Site description: size, vegetation, ect...</td>
<td>16</td>
</tr>
<tr>
<td>Figure 16</td>
<td>Jewish Museum</td>
<td>17</td>
</tr>
<tr>
<td>Figure 17</td>
<td>Inside view. The void</td>
<td>18</td>
</tr>
<tr>
<td>Figure 18</td>
<td>Inside Holocaust Museum</td>
<td>19</td>
</tr>
<tr>
<td>Figure 19</td>
<td>Aerial view of Canadian Museum of Civilization</td>
<td>21</td>
</tr>
<tr>
<td>Figure 20</td>
<td>Light study Jame Turrell</td>
<td>23</td>
</tr>
<tr>
<td>Figure 21</td>
<td>Sketch model I</td>
<td>25</td>
</tr>
<tr>
<td>Figure 22</td>
<td>Sketch model II</td>
<td>25</td>
</tr>
<tr>
<td>Figure 23</td>
<td>Sketch model III</td>
<td>25</td>
</tr>
<tr>
<td>Figure 24</td>
<td>Diagrams. Site analysis in terms of view</td>
<td>26</td>
</tr>
<tr>
<td>Figure 25</td>
<td>Sketch model of tri parti concept</td>
<td>27</td>
</tr>
<tr>
<td>Figure 26</td>
<td>Diagram I. Interpretation of Colonization</td>
<td>28</td>
</tr>
<tr>
<td>Figure 27</td>
<td>Diagram II. Interpretation of Slavery</td>
<td>28</td>
</tr>
<tr>
<td>Figure 28</td>
<td>Diagram III. Interpretation of fusion</td>
<td>28</td>
</tr>
<tr>
<td>Figure 29</td>
<td>Initial bubble diagrams of development of schematic plans</td>
<td>29</td>
</tr>
<tr>
<td>Figure 30</td>
<td>Section diagram of the three buildings</td>
<td>30</td>
</tr>
<tr>
<td>Figure 31</td>
<td>Diagram of the fusion of cultures to create the Puertorican culture</td>
<td>31</td>
</tr>
<tr>
<td>Figure 32</td>
<td>Sketch of proposed museum in relation to the capitol building</td>
<td>31</td>
</tr>
<tr>
<td>Figure 33</td>
<td>Overall project</td>
<td>33</td>
</tr>
<tr>
<td>Figure 34</td>
<td>Taino statue, dwelling, symbol</td>
<td>34</td>
</tr>
<tr>
<td>Figure 35</td>
<td>Tainos’ dwelling</td>
<td>34</td>
</tr>
<tr>
<td>Figure 36</td>
<td>Tainos’ building methods &amp; materials</td>
<td>34</td>
</tr>
<tr>
<td>Figure 37</td>
<td>Tainos’ village</td>
<td>34</td>
</tr>
<tr>
<td>Figure 38</td>
<td>El Morro Fort</td>
<td>35</td>
</tr>
<tr>
<td>Figure 39</td>
<td>Old San Juan street</td>
<td>35</td>
</tr>
<tr>
<td>Figure 40</td>
<td></td>
<td>35</td>
</tr>
</tbody>
</table>
Figure 40. Street pavers in old San Juan

Figure 41. Perforated steel used as the skin of the African bldg.

Figure 42. African weaving technique

Figure 43. African symbol of slavery

Figure 44. Type of African dwelling

Figure 45. Diagram showing relation between the three bldgs.

Figure 46. Timeline of cultural history of PR.

Figure 47. Core and boxes system used in each bldg.

Figure 48. Exploded axo of the Taino bldg.

Figure 49. The core

Figure 50. Top part of the core showing how the different materials are connected

Figure 51. Section model of Taino bldg. showing spaces and materials

Figure 52. Section model showing the spaces & bamboo skin

Figure 53. Roof structure Taino bldg.

Figure 54. Study model of bamboo roof system of Taino bldg.

Figure 55. Interior view Kimbell Art Museum

Figure 56. Skylight of Kimbell Art Museum

Figure 57. Bamboo roof systems and components

Figure 58. Section model showing the different materials

Figure 59. Site Plan

Figure 60. Section perspective west view

Figure 61. Section perspective east view

Figure 62. Section perspective north view

Figure 63. Floor plans condition spaces

Figure 64. Floor plans uncondition spaces

Figure 65. Floor plans voids

Figure 66. Floor plans condition spaces

Figure 67. Floor plans uncondition spaces

Figure 68. Floor plans voids

Figure 69. Overall project showing the three bldgs. in relation to capitol bldg.

Figure 70. Overall project looking from the Atlantic Ocean towards the capitol bldg.

Figure 71. Interior view of Taino bldg.

Figure 72. Exterior view showing the plaza and Taino bldg. on the right

Figure 73. Interior view of Taino bldg. showing proposed channel for water collection on the left

Figure 74. Interior view showing lobby area

Figure 75. Interior view showing how the boxes are connected to the core

Figure 76. Interior view showing circulation, the core, the structure, the bamboo skin, and voids

Figure 77. Summary of three cultures concept
Fernando Pizarro

ABSTRACT

As an important part of our lives, stories help us to form both our personal identities and the identities of the social groups that make up our society. They facilitate us to be in contact with our beliefs, our feelings, our knowledge, our perception, and what is significant to us. Similarly, we understand those very things from the stories of others. These stories are obtained through different ways: family, friends, literature, poetry, religion, teachers, movies, art, and so on. Through these, our culture is born and sustained. There is no doubt that architecture is an important defining element of our culture. For that reason, we must decisively evaluate its essential role in the communication of these stories. Being more than just the planning, design and construction of a building, the architecture design process involves the manipulation of mass, space, volume, texture, light, shadow, materials, program, and other elements in order to achieve an end which is aesthetic as well as functional, and if taken further architecture can be experienced through the senses. When thinking about what architecture involves, I have to ask myself a question, can architecture take a more dynamic role in the transmission of our culture; generally, symbolically, and more particularly, by encouraging and reinforcing the dissemination of stories? In our modern-day western built-environment, museums have taken a most active role programmatically in the transmission of our culture and stories. My thesis will focus on this building type.

During the last 30 years, museums have experienced a change from presenting real things to the creation of experiences. In essence, exhibitions have transitioned from object-oriented to story-centered. How can architecture better provide this recently modified museum experience? Furthermore, what can architecture do to push this focus even further so that people are better able to absorb these stories and experiences? Before attempting to
answer these questions however, I must explain how my thesis question will be explored in actual terms. Consequently, I will investigate how the architecture of a museum can further activate, reinforce, and promote a set of stories important to our culture and country as a whole.

My thesis project will be a museum that portrays the sequence of events and cultural history of Puerto Rico. With this in mind, I would like to explore an effective method to convey and inform people about who we are and where we come from. All the elements that had contributed to its creation give this culture the distinctive attributes to set it as the perfect model to use architecture as the tool that will disseminate our cultural history. Given the fact that it is very compelling for people to learn through visualization, the creation of a museum that reflects the Puerto Rican culture would be an outstanding tool to educate people. However, instead of designing a museum that merely houses artifacts, I want to create a museum that tells a story about Puerto Rico’s past and present.
Architectural works are perceived as cultural and political symbols and works of art. Historical civilizations are often known primarily through their architectural achievements. Such buildings as the pyramids of Egypt and the Roman Coliseums are cultural symbols, and are an important link in public consciousness, even when scholars have discovered much about a past civilization through other means. Cities, regions and cultures continue to identify themselves with and are known by their architectural monuments.

The Puerto Rican culture is somewhat complex, -others will call it colorful. This culture is the product of the fusion of different cultures; the native indigenes (Tainos), the Spaniards, and the Africans with a great influence of the North American, other Europeans, Asians, and Middle Easteners. However, the presence of Spanish, African, and Caribbean groups have had the greatest influence on the development of a distinct Puerto Rican cultural identity, but a political and social exchange with the U.S. has also helped to shape the local culture as well. This fusion has led to a unique food, music, language, religion, architecture, arts, crafts and living style (Middeldyk, 1975).

When addressing European involvement in Puerto Rico, the emphasis must be on Spain, the island’s colonizer. Spanish heritage has left an indelible mark on the island and signs of this cultural exchange can be
found everywhere, from the official language to the local culinary styles. The culture of European countries has also influenced the development of the performing arts on the island, especially in music. Many of the island's musical genres have their origins in the Spanish culture, which is responsible for such genres of music like decima, seis, danza, mamba, and so on. Puerto Ricans even adopted Europe's classical music, which was popular among the members of the elite upper-class society (Middeldyk, 19975).

With the introduction of African slavery to the colony, the island experienced an influx of Africans who brought with them the cultural trappings of their own tribes. These influences are evident in the fields of dance and music, such as salsa, la bomba, la plena, and most recently in reggaeton.

Also this influence is prominent in the particular way the Spanish language is spoken in Puerto Rico. More subtle ties also exist, such as those that connect Puerto Rico's literary history with the
The shared heritage of many Caribbean nations is reflected in cultural pursuits like dance as well as in local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.

Although Puerto Rico has been part of the United States of America since 1898, the island continues to maintain its distinct cultural identity. The island’s rich African tradition of oral storytelling, for instance, is reflected in its cultural pursuits like dance and local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.

Although Puerto Rico has been part of the United States of America since 1898, the island continues to maintain its distinct cultural identity. The island’s rich African tradition of oral storytelling, for instance, is reflected in its cultural pursuits like dance and local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.

Although Puerto Rico has been part of the United States of America since 1898, the island continues to maintain its distinct cultural identity. The island’s rich African tradition of oral storytelling, for instance, is reflected in its cultural pursuits like dance and local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.

Although Puerto Rico has been part of the United States of America since 1898, the island continues to maintain its distinct cultural identity. The island’s rich African tradition of oral storytelling, for instance, is reflected in its cultural pursuits like dance and local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.

Although Puerto Rico has been part of the United States of America since 1898, the island continues to maintain its distinct cultural identity. The island’s rich African tradition of oral storytelling, for instance, is reflected in its cultural pursuits like dance and local culinary styles. The neighboring islands that have had the most influence on Puerto Rico’s dance and music are Cuba and the Dominican Republic. A number of Latin American countries also have exerted influence on Puerto Rico, particularly in helping the island to develop its own distinct cultural identity (Middledyk, 1975).

Culturally, Puerto Rican sentiment for the U.S. tends to vary between emulation and opposition, a result of the complicated socio-political relationship between the two. American influences such as jazz can be found in the development of the island’s unique musical style, but there is also evidence of cultural antagonism, particularly in areas such as literature.
ca for over a century and its culture is a product of the fusion between different cultures, it is the Spanish influence that dominates the cultural fabric. Therefore, it is immediately clear to see that Puerto Rico has had a strong Spanish influence during the course of its history when its architecture is examined. For example, the narrow winding cobblestone roads are reminiscent of Andalusia, South of Spain. San Juan is said to be home to over 400 historic sites ranging from examples of classic architecture and old military power. Puerto Rico houses some of the most interesting 16th and 19th century architecture in the Caribbean and indeed, in the United States. Here you can find Spanish colonial, neo-classical, medieval-style and baroque architecture in close proximity to one another. There is even an example of true Gothic architecture in the San José Church which was built in the 16th century (Middeldyk, 1975).
Culture is defined as a series of visual manifestations and interactions with the environment that make a region and/or a group of people different from the rest of the world. Puerto Rico, without a doubt has several unique characteristics that distinguish our culture from any other.

Skin color and other physical characteristics are used by residents in the island of Puerto Rico to identify themselves in terms of race. The terms trigueño (olive-skinned, golden-brown), blanco (White skinned) and moreno (dark-skinned) are perceived by Puerto Ricans as racial classifications. Other aspects considered for racial identification are color, class, facial features and hair texture, thus resulting in a variety of racial classifications that are not recognized by other societies.

Race as a form of identity is a recent concept in human history according to Audrey Smedley of the Department of Sociology and Anthropology at the Virginia Commonwealth University. She goes on to say that race has become equivalent and the dominant source of human identity, in many cases surpassing all other aspects of identity.

The problem Smedley sees with that is that no social ingredient in our understanding of race has allowed for mixed-races expressions of which are recognized by many Spanish-speaking cultures as in the Puerto Ricans trigueños and morenos. This problem is highlighted by the misunderstood attempts in other societies such the American to establish a mixed-race category. The result is that a large group of Puerto Ricans are left feeling an absence of identity because they do not exist formally. Puerto Ricans as a unicultural, multicultural, integrated group entering a multiethnic, biracial, segregated society is intriguing, for instance, nearly every Puerto Rican has heard, at least once in his or her life, “you don't look Puerto Rican”. The implication is that there is a Puerto Rican ‘look’ – although, given the racial diversity of Puerto Ricans, it is hard to tell what this would be. Are Puerto Ricans black or white because of their skin? Do Puerto Ricans have an American culture? What
kind of culture do they have? Why do they all look so different?

These are only some of the questions that many societies have about Puerto Ricans. Puerto Ricans of all colors and ancestry would say that they are just Puerto Ricans. The most telling fact about Puerto Rican culture is its emphasis on difference, and most notably, on the distinction between cultures of colonial peoples and that of imperialists society. Puerto Ricans are neither black nor white, they are simply Puerto Ricans, as illustrated in the following poem:

Indians of a fierce race and warlike passions,
Were encountered by the discoverers,
There in my lost land.
Women of bronze complexion,
Of the Borinquen tribes,
With her encouraging gaze, that
She displayed to the white man.

Resulting in their crossing:
The Puerto Rican Race.
Those sons of the Iberic lands,
Upon arriving at my shores,
Conquered the love
Of the charming Indian maid.
In the brook and the hill,
To the white man who was her ruin,
She gave her enchantment and charm.
And from both was born the mestizo
Of Latin lineage.
Responding to his destiny,
The Indian brave succumbed;
Then the Landino Spaniard
Brought the black slave;
He was treacherous with the black woman.
And against divine law
Made her his concubine
Within his household.

So then was born the brown-skinned man
Within him a mixture of fine blood.

Between Africa, where the sun scorches
And Siberia, with its frozen lava,

Amongst opulence and misery
My race was established.

Where it is not rare to see married
A white man and a brown-skinned woman

Or, a northern blonde
With a dark prestigious man,

Because that is rightly the vestige
Of the Puerto Rican race. (By Placido Figueroa)

It is nearly impossible to explain with simple words the Puerto Ri
By designing a cultural museum whose architecture will reflect the sequence of events and cultural history of Puerto Rico, it will result in a compelling tool to educate people by disseminating our cultural history and all the elements that contributed to its creation. Architecture as a profession contributes to different aspects of society, but more importantly, it also plays an important role in a culture of a country. For that reason, there are institutions with great responsibility to collect, preserve and exhibit our tangible and non-tangible heritage and culture. Every city has at least one, and great cities often have more. From the Louvre to the Bilbao Guggenheim, the museum has had a long-standing relationship with the city. In such circumstances, museums as integral part of society can play an important role by showing people the cultural aspects of a country. Museums are one platform where one can learn about different cultures throughout the world by viewing intriguing exhibits, which display artifacts and art and showcasing the history and diversity of multicultural communities, and fostering greater understanding, appreciation, tolerance and pride of our heritage. One of the missions of the museum is bridging the gap through exhibits and programs, by providing visitors the opportunity to foster an understanding and appreciation of diverse ethnic and cultural heritages.

If well designed, museums can certainly become more than just a plain structure that merely houses artifacts. The architecture itself should provoke emotion in even the most careless visitor. To achieve that, the use of symbolism must play an important role in such a task. Symbols have always been an important part of an architect's design vocabulary. For example, in recent years some architects in India have used ancient symbols such as Vedic mandalas as a basis for planning and design of buildings. This can be seen
in the way we use symbols to give meaning to the world around us. Human cultures have also seen meaning in many geometric shapes often associated with religious and spiritual concepts. The effect of such symbols is usually subconscious therefore; it can be very powerful and instinctive. When using symbolism, architecture can also create environments for introspection, reflection, and celebration of the stories (“Fegshui Seminars with Roger Green”).
There are three concepts that are projected to communicate to one another in order to inform the characteristics qualities of the overall design.

1. Symbolism
2. Materiality
3. Circulation

It is essential to state that one element on its own cannot develop a successful cultural museum.

The central design method of the three is the concept of symbolism in architecture. Symbolism is defined as the practice of representing things by means of symbols or of attributing symbolic meanings or significance to objects, events, or relationships. Therefore, understanding how the culture of Puerto Rico was created it is crucial in order to successfully manipulate the architecture of the building in a symbolic way.

The second method entails in depth the understanding of materiality in architecture. Materiality in architecture is the concept of, or applied use of, various materials or substances in the medium of building. Materials are endowed with meaning, can evoke feelings, trigger connotations and address deeper levels of our understanding. Putting materials to best use involves an appreciation of their innate sensory qualities as well as their technical potential.

The third method used involves circulation. In the field of architecture, circulation refers to the way people move through and interact with a building. In public buildings, circulation is of high importance; for example, in buildings such as museums, it is key to have a floor plan that allows continuous movement while minimizing the necessity to retrace one’s steps, allowing a visitor to see each work in a sequential, natural fashion. Structures such as elevators, escalators, and staircases are often referred to as circulation elements, as they are positioned and designed to optimize the flow of people through a building.
5. **Site Analysis**

The proposed site will be located in San Juan, Puerto Rico.

San Juan is the capital and largest municipality in Puerto Rico. As of the 2000 census, it has a population of 433,733, making it the 42nd-largest city in the United States. San Juan was founded by Spanish colonists in 1521, who called it Ciudad de Puerto Rico (“Rich Port City”). Puerto Rico’s capital is the second oldest European-established city in the Americas, after Santo Domingo, in the Dominican Republic.[3] Several historical buildings are located in San Juan; among the most notable are the city’s former defensive forts, Fort San Felipe del Morro and Fort San Cristobál, and La Fortaleza, the oldest executive mansion in continuous use in the Americas.

![Figure 7. Island of Puerto Rico in relation to Spain, Africa, and the U.S](image)
Today, San Juan serves as one of Puerto Rico’s most important seaports, and is the island’s manufacturing, financial, cultural, and tourism center. The city has been the host of numerous important events within the sports community, including the 1979 Pan American Games, 2006 and 2009 World Baseball Classics and the Caribbean Series. During the Spanish colonial times most of the urban population resided in what is now known as Old San Juan. This sector is located on the western half of a small island called the Isleta de San Juan, which is connected to the mainland by two bridges and a causeway. The small island, which comprises an area of 47 mi² (122 km²), also hosts the working class neighborhood of Puerta de Tierra and most of Puerto Rico’s central government buildings, including the Commonwealth’s Capitol. The main central part of the city is characterized by narrow cobblestone streets and picturesque colonial buildings, some of which date back to the 16th and 17th century. Sections of the old city are surrounded by massive walls and several defensive structures and notable forts.
Figure 10. Map of San Juan with selected site highlighted in orange
The main central part of the city is characterized by narrow cobblestone streets and picturesque colonial buildings, some of which date back to the 16th and 17th century. Sections of the old city are surrounded by massive walls and several defensive structures and notable forts. These include the 16th century Fort San Felipe del Morro and 17th century Fort San Cristóbal, both part of San Juan National Historic Site, and the 16th century El Palacio de Santa Catalina, also known as La Fortaleza, which serves as the governor’s mansion. Other buildings of interest predating the 20th century are the Ayuntamiento or Alcaldía (City Hall), the Diputación Provincial and the Real Intendencia buildings, which currently house the Puerto Rico Department of State [20], the Casa Rosa, the San José Church (1523) and the adjacent Hotel El Convento, the former house of the Ponce de León family known as Casa Blanca, the Teatro Tapia, the former Spanish barracks (now Museum of Ballajá), La Princesa (former municipal jail, now head-quartering the Puerto Rico Tourism Company), and the municipal cemetery of Santa María Magdalena de Pazzis, located just outside the city walls.[21][22][23] The Cathedral of San Juan Bautista (construction began in the 1520s) is also located in Old San Juan, and contains the tomb of the Spanish explorer and settlement
founder Juan Ponce de León Old San Juan, also known as the “old city”, is the main cultural tourist attraction in Puerto Rico; its bayside is lined by dock slips for large cruise ships.

Figure 12. Aerial view of San Juan

Figure 13. Topography of San Juan

Figure 14. Topography of selected site highlighted in orange
Figure 15. Site description: size, vegetation, etc....
6. Case Study

Jewish Museum

At this level, the Jewish Museum by Daniel Libeskind is a good example of how this could be achieved. The Danish Jewish Museum is based on the unique story of Danish Jews who were saved by the Danes in October 1943. The concept for the Museum was developed from the Hebrew word Mitzvah - an obligation or a good deed - which is symbolized in the form, structure and light of the Museum. Also the design has a foundation on a rather involved process of connecting line between locations of historic events and locations of Jewish culture in Berlin. These lines form a basic outline and structure for the building. The design of the Danish Jewish Museum has both urban and architectural aspects. On the urban level it ties together the new library and the old library by activating the pedestrian walk along the Proviantgården in the interior of the Royal Library courtyard. It does so by turning one of its internal planes, Exodus, into an urban space in which water and a symbolic row-boat dramatically speak to the uniqueness of the survival of the Danish Jewish community. Libeskind also has used the concepts of absence, emptiness, and the invisible—expressions of the disappearance of Jewish culture in the city—to design the building. This concept takes form in a kinked and angled sequence through the building, orchestrated to allow the visitor to see (but not to enter) certain empty rooms, which Libeskind terms 'voided voids.' The ideas which generate the plan of the building repeat themselves on the surface of the building, where voids, windows, and perforations form a sort of cosmological composition on an otherwise undifferentiated zigzagging zinc surface.
The intellectual narrative which generates Libeskind’s work is complicated and inaccessible to the uninitiated, the building itself should stir emotion in even the most casual visitor (Schneider, Bernhard and Libeskin, 1999).

**Conclusion:**

Certainly, the importance of the museum was as much to inform of the historical struggle of the Jewish people in Germany as it was an icon situated in the heart of Berlin. It is simultaneously strange while being wonderful; it is the architectural construct of Libeskind’s symbolic representation of the Jewish struggle. The ideas that formed the foundation for the museum are successfully seen in the way the architect manipulated architecture. Using symbolism the Jewish Museum exhibits the social, political and cultural history of the Jews in Germany from the 4th century to the present.

The design of the Museum engenders a fundamental rethinking of architecture in relation to its program.
Holocaust Museum

Likewise, The Holocaust Museum in Washington DC by Architect James Ingo Freed, of Pei Cobb Freed & Partners, created an architectural relationship between the museum building and the exhibitions within. To inform his design, he visited a number of holocaust sites, including camps and ghettos, to examine structures and materials. The result is not a neutral shell. Instead, the architecture, by a collection of abstract forms — invented and drawn from memory — refers to the history the Museum addresses. Architectural allusions to the Holocaust are not specific. Visitors make their own interpretations. Freed wants the visitor to experience the Museum building “viscerally.” Just as the Holocaust defies understanding, the building is not meant to be intellectually understood. Its architecture of sensibility is intended to engage the visitor and stir the emotions, allow for horror and sadness, ultimately to disturb. As Freed says, “It must take you in its grip.” The subtle metaphors and symbolic reminiscences of history are vehicles for thought and introspection. In Freed’s words, “There are no literal references to particular places or occurrences from the historic event. Instead, the architectural form is open-ended so the Museum becomes a resonator of memory” (22).
Conclusion:

What is interesting about this Holocaust museum is what the architect intentions were. This museum is about creating a rather different experience characterized by or dealing with coarse or base emotions. The museum emotional response deliberately takes on the visitors blending their emotions in a way that will perhaps result in a variety of unique judgments depending on each individual. Therefore, using architecture to tell a story is really important for this type of building, but also evoking emotions to make visitors feel the anxiety of the architects intentions will certainly make the experience to a certain extent more remarkable.
Canadian Museum of Civilization

In another case, designed by native-Canadian architect Douglas Cardinal, the Canadian Museum of Civilization is considered one of the most striking architectural masterpieces of the twentieth century. The award-winning building, with its dramatic, curved lines, attracts admirers from all over the world and is considered essential viewing for anyone visiting the National Capital Region. When asked about his design for the Canadian Museum of Civilization, architect Douglas Cardinal replied, “The Museum will be symbolic in form. It will speak of the emergence of this continent, its forms sculpted by the winds, the rivers, the glaciers. It will speak of the emergence of humanity from the melting glaciers, of man and woman living in harmony with the forces of nature and evolving with them. It will show the way in which men and women first learned to cope with the environment, then mastered it shaped it to the needs of their own goals and aspirations.” The project to build CMC brought Cardinal squarely into the national architectural arena. His understanding of his task was embodied in the opening paragraph of his conceptual design proposal: “Symbols are the way we communicate. Words and sounds are symbols and writings are symbols of words and sounds.”

Figure 19. Aerial view of Canadian Museum of Civilization
Pictures are symbols of feelings, events, and can communicate impressions beyond words in two dimensions. Sculpture goes beyond pictures to symbolize impressions. Architecture, perceived as living sculpture, symbolizes even more the goals and aspirations of our culture. My challenge is to evoke images, creating images in sculptural and architectural forms that symbolize the goals and aspirations of this National Museum” (“Canadian Museum of Civilization”1).

**Conclusion:**

In the expression of form, the architect is free to communicate his own personality and concepts. However, the architect’s principal responsibility in the formation of style is to create meaningful form. That is exactly what the architect achieved in this particular building. It is really interesting seeing how the architecture of the Canadian Museum of Civilization was manipulated to actually tell the story of the Canadian civilization. Its architecture speaks of the materialization of the Canadian shield and the elements that contributed to its creation. The way that the architect understood the task and how he used symbolism to create this building whose architecture tells a set of stories will certainly be very helpful for my project because it gives me a better understanding how to deal with forms and how to make the forms of my project meaningful.
James Turrell

In final analysis, the works of artist James Turrell involves explorations in light and space that speak to viewers without words, impacting the eye, body, and mind with the force of a spiritual awakening. “I want to create an atmosphere that can be consciously plumbed with seeing,” says the artist, “like the wordless thought that comes from looking in a fire” (“Art in the twenty-first Century: The Artists”1). Informed by his studies in perceptual psychology and optical illusions, Turrell’s work allows us to see ourselves “seeing.” Whether harnessing the light at sunset or transforming the glow of a television set into a fluctuating portal, Turrell’s art places viewers in a realm of pure experience.

Situated near the Grand Canyon and Arizona’s Painted Desert is Roden Crater, an extinct volcano the artist has been transforming into a celestial observatory for the past thirty years. Working with cosmological phenomena that have interested man since the dawn of civilization and have prompted responses such as Stonehenge and the Mayan calendar, Turrell’s crater brings the heavens down to earth, linking the actions of people with the movements of planets and distant galaxies. His fascination with the phenomena of light is ultimately connected to a very personal, inward search for...
mankind’s place in the universe. Influenced by his Quaker faith, which he characterizes as having a “straightforward, strict presentation of the sublime,” Turrell’s art prompts greater self-awareness through a similar discipline of silent contemplation, patience, and meditation. His ethereal installations enlist the common properties of light to communicate feelings of transcendence and the Divine. In essence, the use of symbolism seems as the most dominant strategy used to create an environment that tells a series of stories without words. Therefore, exploring light and space in depth will actually strengthen the creation (“Art in the Twenty-First Century: The Artists”).

Conclusion:

Lighting considerations influence the entire design process and incorporate both conceptual and aesthetic issues as well as technical issues. The importance of considering lighting at all stages of the design process is stressed by presenting lighting as part of a cohesive design approach. Therefore, the works of James Turrell are examples of how light is explore depth to actually strengthen the entire creation.
10. Conceptual Design

At this stage of the thesis process, the introduction of possible building schemes begins to take shape. The initial schematics of the overall building are influenced by the existing site conditions. The sketch models depict a bridge that either rests on the site or extends from the existing plaza to the water. After the parti was developed, three distinct schematic concepts were devised. Using the main parti and site as the driving force, each schematic began as a diagram. The next step was to further evolve the schematics into physical models.
The consideration of the view was an important factor for the development of the scheme because right in front of the proposed site is where the capitol building is. Therefore, immediately I started responding to the site conditions and the surroundings.

Figure 24. Diagrams. Site analysis in terms of views
In this sketch model the building in the center even though in terms of height is lower than the other two, still was not enough to actually frame the view for the Capitol building. Therefore, I continued with the exploration.

Figure 25. Sketch model of tri-parti concept
Colonization

Slavery

Fusion
Figure 29. Initial bubble diagrams of the development of schematics plans
The solution to frame the view was to actually design the building in the center from street level going down while the other two raise from street level up.

Figure 30. Section diagram of the three buildings scheme
The sketch below shows how the view has been framed for the Capitol building without disrupting the existing plaza that will act as the inviting element.

Figure 31. Sketch of proposed museum in relation to the capitol building

Figure 32. Diagram of the fusion of culture to create the Puertorican culture
## 11. Program

<table>
<thead>
<tr>
<th>Description</th>
<th>Size (sq. ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lobby</td>
<td>2,800</td>
</tr>
<tr>
<td>Classrooms</td>
<td>1,800</td>
</tr>
<tr>
<td>Lounge</td>
<td>500</td>
</tr>
<tr>
<td>General Administration Space</td>
<td>1,200</td>
</tr>
<tr>
<td>Storage</td>
<td>600</td>
</tr>
<tr>
<td>Crating &amp; Uncrating</td>
<td>700</td>
</tr>
<tr>
<td>Gift Shop</td>
<td>800</td>
</tr>
<tr>
<td>Library</td>
<td>800</td>
</tr>
<tr>
<td>Exhibition Space Spanish Culture</td>
<td>9,000</td>
</tr>
<tr>
<td>Exhibition Space Native (Tainos) Culture</td>
<td>9,000</td>
</tr>
<tr>
<td>Exhibition Space African Culture</td>
<td>9,000</td>
</tr>
<tr>
<td>Permanent Art Work Collection</td>
<td>1,300</td>
</tr>
<tr>
<td>Temporary Art Work Collection</td>
<td>1,300</td>
</tr>
<tr>
<td>Hanging Art</td>
<td>3,500</td>
</tr>
<tr>
<td>Rest Rooms</td>
<td>600</td>
</tr>
<tr>
<td>Elevators</td>
<td>200</td>
</tr>
<tr>
<td>Mechanical Room</td>
<td>sq. ft</td>
</tr>
<tr>
<td>Restaurant</td>
<td>6,000</td>
</tr>
<tr>
<td>Outdoor Exhibition</td>
<td>4,000</td>
</tr>
<tr>
<td>PR. Culture Gallery</td>
<td>2,000</td>
</tr>
<tr>
<td>Auditorium</td>
<td>4,000</td>
</tr>
<tr>
<td>Computer Room</td>
<td>2,500</td>
</tr>
<tr>
<td>Children Gallery</td>
<td>1,500</td>
</tr>
<tr>
<td>Parking</td>
<td>sq. ft</td>
</tr>
<tr>
<td>Open Public Space (Transition Space)</td>
<td>sq. ft</td>
</tr>
<tr>
<td>Cinema</td>
<td>sq. ft</td>
</tr>
<tr>
<td>Conference Center</td>
<td>500 sq. ft</td>
</tr>
</tbody>
</table>

Total approx. for each bldg. 49,200 sq. ft
At this stage of the project it has been already established that the entire composition is based on three buildings that are the representation of the three different cultures: Spanish, Tainos, and African. However it is necessary to state that only the building that represents the Taino culture is the one that has been developed in more detail.

As stated before, there are three concepts that are projected to communicate to one another in order to inform the characteristics qualities of the overall design.

1. Symbolism
2. Materiality
3. Circulation

Starting with the Tainos' building, I looked at Tainos' vernacular architecture to understand about the materials and methods used by them. When researching the types of materials it is obvious that what they used to build their dwellings was found in nature. The Tainos used two primary architectural styles for their homes.
The general population lived in circular buildings with poles providing the primary support and these were covered with woven straw and palm leaves. Subsequently, the challenge was to carefully select materials that were appropriate for a modern cultural facility and at the same time the selected materials becoming a symbolic representation of the materials used by the Taino culture.

Figure 34. Taino’s statue, dwelling, symbol

Figure 35. Tainos Dwelling

Figure 36. Tainos building methods & materials

Figure 37. Tainos village
Likewise, the building that represents the Spanish culture was influenced by also studying their vernacular architecture. As a result, the building is strongly responding to the axial condition established by the capitol building which is front of the proposed site.

The main challenge was to create a structure with a strong sense of power. That is represented in the way that the building is anchored in the ground creating this sense of colonizantion in other words “I came to plant my flag”. Another reason why the building is anchored in the ground is to frame the view of the capitol building instead of blocking it.

By sinking the Spanish building the top part becomes a plaza that actually creates the sense that is a continuation of the imposing colonial architecture of the capitol building.

The selection of material for this building was another important aspect for the development of it. Therefore, concrete is the dominant material for this building because it better relates to the materials used in the colonial architecture.
Correspondingly, the building that represents the African culture as well as the Tainos and Spanish buildings, symbolism is the designing guide to create a representation of the African culture and what they faced when brought as slaves to Puerto Rico by the Spanish people. The research for this particular building was concentrated in the way that africans build their dwellings and the weaving techniques use by them.

More importantly, how to translate slavery into this building was crucial in the development of it. That was achieved by the use of a perforated steel sheet that becomes the skin of the building and at the same time is an interpretation of the of the African symbol that represents slavery seen in figure 43.

Figure 41. Perforated steel. Used as the skin for the African building

Figure 42. African weaving techniques

Figure 43. African symbol of slavery

Figure 44. Type of African dwelling
Figure 45. Diagram showing the relation between the three buildings.
The diagrams on the right shows the core & boxes system used in all three building. The idea of this concept came from the cultural timeline of Puerto Rico. The core represents the timeline and each concrete box represents a different period of time and how the Puertorrican culture was influenced at each particular time.

Figure 46. Timeline of cultural history of PR.

Figure 47. Core & Box system used in each building
Figure 48. Exploded axo of the Taino building
Figure 49. The Core.

Figure 50. Top part of the core showing how the different materials are connected.
Figure 51. Section model of taino building showing spaces & materials
Figure 52. Section model showing the spaces & bambo skin

Figure 53. Roof structure of Taino building
One of the challenges of the building that represents the Taino culture was the roof. In order to allow natural light coming from above, I came up with this idea of spacing the bamboo in such a way that a light pattern is seen when inside the facility as seen on figure 54. Moreover, this idea came after researching the Kimbell Art Museum by Louis Kahn. See figures 55 and 56.
Figure 57. Bamboo roof system and components
Figure 58. Section model showing the different materials proposed. Bamboo, Steel, and concrete.
Figure 59. Site Plan
Figure 60. Section Perspective west view
Figure 62. Section Perspective north view
Figure 63. Floor Plans. Condition spaces

Figure 64. Floor Plans. Uncondition spaces

Figure 65. Floor Plans. Voids
Figure 66. Floor Plans. Condition spaces
Figure 67. Floor Plans. Uncondition spaces
Figure 68. Floor Plans. Voids
Figure 69. Overall project showing the three buildings in relation to capitol building
Figure 70. Overall project looking from the Atlantic Ocean towards The capitol building
Figure 71. Interior view of Taino building
Figure 72. Exterior view showing the plaza and Taino building on the right
Figure 73. Interior view of Taino building showing proposed channel for water collection on the left
Figure 74. Interior view showing lobby area
Figure 75. Interior view showing how the boxes are connected to the core
Figure 76. Interior view showing circulation, the core, the structure, the bamboo skin, and voids
Figure 77. These two images are the summary of the concept of the three cultures and how that was translated into architecture.
In conclusion, After several months of research and designing to create a facility that evokes the cultural identity of Puerto Rico, this project has come not to an end but to a point of further exploration. A point that, hopefully, will motivate myself and others to explore more in depth how symbolism, materiality, and circulation can be translated into architecture in order to use architecture as the medium that will communicate a series of stories.
Bibliography


