Cuba: Architecture and the Social Order

Jessica Obregon

Follow this and additional works at: https://surface.syr.edu/architecture_tpreps

Recommended Citation
https://surface.syr.edu/architecture_tpreps/264

This Thesis Prep is brought to you for free and open access by the School of Architecture Dissertations and Theses at SURFACE. It has been accepted for inclusion in Architecture Thesis Prep by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.
Thesis Statement

Introduction

Historical Analysis (XV-XX Centuries)
- Indigenous migration
- Spanish Colonization XV
- British Invasion XVI-XVII
- Wars of Independence XIX
- American Intervention XX
- Cuban Independence XX-XXI

The Social Order

Modern Architecture of the Revolution

Socialist Architecture

Populist Ideology

The New Social Order

Tourism Industry

The Cuban Norm

Project Recovering Identity

Site

Program

References
As the Cuban society emerged and developed, the combined forces of slavery, feudalism, capitalism, and socialism had a great impact on its architecture.

When architecture ceases to be an “effect” to become a “cause”, architecture becomes a tool to affect social change.
Society and architecture have always been an indivisible binomial: the architecture of a moment cannot be understood without understanding its society, and architecture at the same time speaks of the essence of society. Each building is the footprint of a present endowed with certain cultural codes such as the social, economic and political movements that in another era developed in the history of that community. Architecture is a tool to change the built environment and those who live in it.

Cuba’s architecture is a consequence of its colonization, immigrations and invasions. It is a mix of European styles that were emerging throughout the centuries. The styles range from Spanish Colonial, Baroque and Neoclassical to Art Deco, Art Nouveau, and Eclectic Design. Each style was adapted to the climatic conditions of the island, which developed its character and identity.

Cuba’s architecture is also a result of the development of society. As the different economic-social-political formations (slavery, feudalism, capitalism, and socialism) were emerging one as result of the other, material and spiritual needs continued to grow. Society then formed the conception of the use and development of forms and spaces depending on such needs.

However, during five centuries, architecture was not made for the entire society, and the emerging European styles only privileged the higher class and the middle class. The Spanish Colonial style was mainly used for residential buildings, the Baroque for religious and military constructions, the Neoclassical for education and government constructions, and Art Deco, Art Nouveau and Eclectic Design for recreational facilities.

Simultaneously, the living conditions of the lower class were still the same as the aboriginals. They lived in bohios (huts), and didn’t have access to the new constructions. Architecture was never made to meet the needs of the lower class, the working class.
**Indigenous Migration XV Century (up to 1492)**

- **Social Order**: One single class: the working class
- **Architectural Response**: Bohio (hut)
- **Economic Structure**: Fishing, hunting and agriculture
- **Political Structure**: No Hierarchy

**Spanish Colonization XVI & XVII Centuries**

- **Social Order**:
  - **Upper Class**: the Spanish
  - **Lower Class**: African slaves
- **Architectural Response**:
  - Construction of fortresses as means of protection
  - Construction of monuments and plazas as symbols of wealth
- **Economic Structure**: Search of gold and natural resources, Beginning of the sugar industry
- **Political Structure**: First Governors, Slavery System

**Materials**: Palm tree and leaves

**Types of Housing**: Caney, Barbacoa, the first pilotis
Baroque and Spanish Influences: Military and religious fortresses as symbols of security and wealth.

Implementation of the ornament in military, domestic, civil and religious constructions.

Upper class: Feudal landowners
Middle class: Craftsmen
Lower class: Dependent peasants

Moorish Influences: Implementation of the ornament in military, domestic, civil and religious constructions.

Upper class: Spanish settlers
Middle class: Spanish criollos
Lower class: Mambises and dependent peasants

Bohio (hut)

Neo-classical Influences: Creation of theaters and elegant neighborhoods as symbols of power and prosperity. Columns facing spacious courtyards and French inspired lavish interiors.

Upper class: Spanish governors
Middle class: Spanish criollos
Lower class: Mambises and dependent peasants

Bohio (hut)
**Political Structure**
- Capitalism
  - Based on corruption, imprisonments, assassinations

**Economic Structure**
- Cuban governors under US mandate
  - Direct commerce with US
  - Cuba at its highest potential of prosperity and wealth
  - Economy dominated by the sugar and tourism industries

**American Intervention XX Century (up to 1958)**

**Architectural Response**

**Social Order**
- Upper class: sugar mill owners, colonos and sharecroppers under government protection
- Middle class: lawyers, doctors, social workers
- Lower class: peasants

**Contemporary Influences**
- Construction of luxurious residential districts (Miramar)

**Art Deco Style**
- Casinos and Recreation Centers (Marianao)

**Eclectic Style**
- Construction of the Capitol Building as symbol of power (replica of half its size of the Capitol Building in Washington DC)

**Spanish Colonial Style**
- Rental Buildings (El Prado)

**Art Nouveau Style**
- Construction of Recreation Centers (Gardens of The Tropical)

**Bohio (Hut)**
Architecture for the People.
Meeting the needs of the society.
Recreation Facility; Coppelia, the cathedral of ice-cream

New Hospitals (Hermanos Ameijeiras Hospital)
New elementary schools and highschools
ISA University of the Arts

Architecture of Populist Ideology
-Leaving the rectangular shapes of the large buildings and taking advantage of the plasticity of reinforced concrete.

Development of One Single Class “the working class”
1965. Exodus of Camariocas
The upper class in disagreement with the socialist system leaves the country (30,000 citizens)

Strengthening of the relations with the Soviet union
US imposes embargo prohibiting all exports to Cuba
US businesses and commercial property in Cuba is Nationalized
Private businesses are closed down

First Law of Agrarian Reform

XX Century (1959-1979)
CUBAN INDEPENDENCE
POLITICAL STRUCTURE
ECONOMIC STRUCTURE
SOCIAL ORDER
ARCHITECTURAL RESPONSE

1959
May
1960
July
1960
Oct
1960
March
1968

US businesses and commercial property in Cuba is Nationalized
US imposes embargo prohibiting all exports to Cuba
Private businesses are closed down

First Law of Agrarian Reform

Architecture for the People.
The Soviet Influences:
-formal and constructive simplicity
-search for technical solutions of easy execution and low weight,
-obsession for symmetry and space saving
-beginning of the prefabrication
-absence of art and loss of identity.

Construction of residential buildings

Recreation Facility; Coppelia, the cathedral of ice-cream
The Social Order

Social Order XX-XXI Centuries
During the first half of the 20th century, Cuba had reached its highest potential of prosperity and economic growth. The economy was dominated by the sugar and tourism industries, and architecture, once again as a consequence, played a dominant role meeting the needs of the wealthy society. The modernist movement emerged and luxurious districts (Miramar, Havana City) were designed as well as Casinos and Recreation Centers (Marianao, Havana City). However, the political structure was based on corruption and the social order ranged from extreme poverty to extreme richness.

The success of the Revolution in 1959 was the breaking point in Cuba’s history. It radically changed not only the political structure of the island, but its economic structure and social order. The implementation of the Utopian Communism was an idealistic vision and desire to eliminate inequality among social classes by establishing the common ownership of means of production. The country invested in the construction of schools, hospitals, and housing for its citizens, allowing them the access to free healthcare and education. One year after the independence, the United States imposes embargo prohibiting all exports to Cuba, and the wealthy economy collapses consequently. As a result, the upper class in disagreement with the socialist system leaves the country: Exodus of Camariocas 30,000 citizens, 1965; and Exodus of Mariel 125,000 citizens, 1980.

During these years, the economy of the island depended on its relation with the Soviet Union, and this last one, had a great influence in many sectors including architecture.
The Cuban modern architecture was characterized by circular structures and curvilinear forms and landscapes. It was a search for an architecture that symbolized the values of Cuban identity at that time, connecting the modern to the traditional creole architecture. Objective: the confirmation in these works of cultural tradition and the expression of the Cuban identity.

Examples: National Aquarium of Cuba, Superior Institute of Art (ISA), and the National School of Art (ENA). The schools, which were on the same site, were conceived as a small community surrounding the theatre, which was the center of the composition. This utopian ideology fell out of fashion as the Soviet building style acquired dominance in the island. The architect turned into builder and the art and the identity got lost.
Socialist Architecture

1960-1990 Influences of the Soviet Union:

The new socialist system aimed to extend the concept of “equality” to all sectors of the development of the new society. Architecture was then created for the ideal society of one single class: the working class. The Soviet Union didn’t only influence Cuba’s socio-economic-politic structures, but it had a great impact on the physical construction of the new society.

To achieve the concept of the equal society, the architecture was based on formal and constructive simplicity; there was an obsession for symmetry and space saving. It began the search for technical solutions of easy execution and low weight, which led to the beginning of the prefabrication.

The prefabrication system of "large panels", donated by the Soviet Union in the late 60’s, caused a major impact in the construction of houses, schools and hospitals in Cuba. The new urbanization was formed by projects of buildings in the form of prismatic blocks. These blocks were mainly four-storey building, which had been broken down into parts (walls, floors and roofs), to be manufactured separately; however, when the parts where put together, all buildings looked similar.

On one hand, they did not even meet the requirements of the warm and humid climate of the island. They were built with 4 inches of concrete panels without protection against the sun and rain, and glass windows exposed without sun protection. On the other hand, they weren't adapted to the traditions and local identity. These projects spread throughout the country allowing for quickly and massive constructions; however, there was absence of art and loss of identity.
Populist Ideology

While the Soviet influences transformed many cities into repetitive “neighborhood-boxes”, there were a few Cuban architects who decided to bring back the essence of the traditional city and still maintain the concept of the equal society. One of these few projects is the ice-cream parlor Coppelia, the Cathedral of Ice-cream by architect Mario Girona.

Coppelia was designed through the populist ideology, where the intention was to “support the rights of the masses and to give power to the people in the struggle against the favored upper class.” It was architecture for the people, meeting the needs of the society. Moreover, Girona wanted to “leave the rectangular shapes of the large buildings to achieve expressionism, taking advantage of the plasticity of reinforced concrete.” Coppelia was the real attempt to create a socialist architecture that would best represent the idiosyncrasy of the society.

Following the ideas of the socialist system, this project uses formal and constructive simplicity as well as symmetry to achieve an equal division of spaces. The objective was to make the society feel welcomed and privileged in each space. The design also looked for technical solutions of easy execution and low weight as well as durable materials (prefabrication of reinforced concrete elements). However, distinct to the previous projects, this project was adapted to the climatic requirements of the island by having the interior spaces connected to the exterior spaces and by designing landscape around the architectural composition.

Even though the project Coppelia and the projects of Soviet influences had the same intentions, they had different outcomes. Just by using a circular structure, Coppelia broke away from the rigidness of the box, and it allowed for other means of expressionism. It recovered the art and identity of the society.
Coppelia, the Cathedral of Ice-cream

PROJECT COMPOSITION

1. Main building, located at the center
2. Spacious terraces and gardens with services
3. 4 points of entry
4. Circulation
5. Park
6. Parking

1. Conceptually it was inspired in the Cuban aboriginal towns
2. It has a total of five small spaces
3. Ground floor: wide court divided into three spaces
4. First floor: space separated by sections
5. The building is surrounded by natural vegetation
6. It has a circular structure with massive beams that pass over the terraces and gardens delimits virtually the spaces
7.a. Cast in place reinforced concrete columns
7.b. Prefabricated beams
8. Dome roof with oculus: formed by slabs veined and topped by a skylight of colored glass which is 13’ high and 16’ in diameter.

DESIGN & STRUCTURE

1 (plan view) 2 (plan view) 8 (ceiling view)
The projects Medical School of Santiago de Cuba, Diesel Engine Industry, Isla de la Juventud Center, and the Rec-Center of East Havana, also try to bring back the traditional city; the architects behind these projects start using the thin-shell concrete roof structure for many types of constructions.

Functional meaning: Concrete reduces both materials cost and construction costs; it is relatively inexpensive and easily cast into compound curves.

Structural meaning: the need to span wide areas without the use of internal supports, and the need to be strong enough to resist hurricanes.

Formal meaning: due to its curvature, the roof becomes a surface that seems to be in suspension, and that lightness defines its character of movement: movement of the tropical breezes, and movement of the people in their everyday life.

<table>
<thead>
<tr>
<th>Populist Ideology</th>
</tr>
</thead>
<tbody>
<tr>
<td>equal division of spaces</td>
</tr>
<tr>
<td>symmetry and wide spaces</td>
</tr>
<tr>
<td>formal and constructive simplicity</td>
</tr>
<tr>
<td>expressing the idiocracy of the society</td>
</tr>
<tr>
<td>landscape project as sun protection</td>
</tr>
<tr>
<td>The architectural solutions are adapted to the climatic requirements (humidity and extreme high temperatures)</td>
</tr>
<tr>
<td>prefabrication (walls, floors, columns, beams, and roofs)</td>
</tr>
<tr>
<td>construction with durable materials (reinforced concrete)</td>
</tr>
<tr>
<td>search for technical solutions of easy execution and low weight.</td>
</tr>
<tr>
<td>unique project</td>
</tr>
</tbody>
</table>

Med-School, Santiago de Cuba  Diesel Engine Industry, Cienfuegos  Isla de la Juventud  Rec-Center, East Havana
The fall of the Soviet Union in 1991 led to the country’s so-called Special Period, where transportation, industrial, and agricultural systems were paralyzed. The country was then forced to highly increase the prices in the market, apply a dual currency, and invest on the tourism industry as the main solution to the economy recovery and further development. From then on, architecture was made for tourism and not for the people.

Simultaneously, the idealistic social order of one single equal class was not held. The current social order could be analyzed as being divided into three social groups.

The Tourists

The tourists occupy the space of vacant higher class, being the only ones that can afford the luxurious hotels, resorts, and recreational facilities.

The Working Class

The citizens working in the tourism industry play the role of the new middle class; even though their monthly salary is low and paid in Pesos, they earn up to 15 Convertible Pesos in tips daily.

The citizens working in any other field play the role of the lower class; they only earn a maximum of 30 Convertible Pesos monthly and represent the vast majority of the society.
TOURISM INDUSTRY: THE DRIVING ENGINE OF THE CUBAN ECONOMY

CUBANS MONTHLY WAGE

VISITORS & GROSS INCOME
The Cuban Norm

The project that will aim to validate the argument of architecture as change is based on the populist ideology, and follows the steps of the project Coppelia. In order to achieve this, one has to play by their rules, meaning that the project is based on the so called Cuban Norm. The Cuban Norm is the document that each project has to follow in order to be approved for further development and construction. So based on this document I created my own in response to the populist agenda.
The Cuban Norm

MATERIALS & STRUCTURE

- Precast reinforced concrete
- Marble “cream of the valley”
- Thin Concrete Shell
- Marble “rosa aurora”
- White stone
- Granite
- Sand
- Tile

PHYSICAL CONDITIONING

1. Noise Control
   The acoustic conditions of each space must comply with the requirements required for its best performance.

2. Ventilation
   Interior spaces have to have natural ventilation directly to the exterior.

3. Lighting and Orientation
   The design of the facades will follow orientation:
   - Dealing with the morning sun: South facade with horizontal louver to minimize direct sun penetration while maximizing natural daylight.
   - Dealing with the afternoon sun: North facade with vertical louver to minimize direct sun penetration while maximizing natural daylight.
   - Dealing with the most intense sunlight: East and West facades with opaque walls.

3.1 Natural Lighting
   Interior spaces and circulation have to have natural lighting.

3.2 Artificial lighting
   All the spaces of the building have to have artificial lighting.

4. Thermal Packaging
   Will be reduced to minimize the solar heat gains within the building and will be designed for natural ventilation even in cases where there is air conditioning.

5. Adaptation to the urban context
   In addition to other formal aspects, aesthetic and/or cultural will seek to insert harmoniously the building within the context.

6. Internal Circulation

   6.1 Corridors
   The minimum width will be 6 feet.

   6.2 Stairs
   The minimum width will be 3 feet.

   6.3 Lifts
   Its capacity and speed will be determined depending on the volume of people to move at times of peak movement and should not constitute an architectural barrier.

7. External circulation
   Ramps shall comply with the established by the NC 199.
**FINISHES**

1. Flooring
   The interior floors will be of durable material, waterproof and easy to clean, with surfaces that contribute to avoid falls and slips. The floors of the building exterior should avoid excessive reflection of the sun's rays, and will allow the proper evacuation of storm-water.

2. Roofs
   On roofs it is recommended that smooth finish and white in color.

3. Interior walls
   On interior walls are recommended smooth finish and light-colored.

4. Sockets
   The sockets of the health services will have a hygienic termination - health in all its walls to a minimum height of 6 feet. The finish of the rest of the walls should be resistant to moisture.

**GENERAL CONSTR. CHAR.**

1. Electricity
   Three-phase supply energy, voltage 230/400V, 60 Hz
   Emergency circuits and a stable electricity service
   Earthing system
   System against lightning

2. Regulations
   Potable water for human consumption in all the hydraulic outlets

3. Air Conditioning
   Individual control for each space where there is air conditioning output

4. Sun Protection and/or thermal insulation
   In facades S, OS, and OR and in covered

5. Acoustic Insulation
   In walls
   In decks, against impacts

**ACCEPTANCE**

Each project proposal has to be approved by the Ministry of Economy and Planning.

**PARKING**

**LOCATION DENSITY**

The location and micro location of these buildings is determined by the General Plan of Urban Management, the Partial Plan or the Special Plan as an instrument of management approved by Physical Planning and they define the following basic aspects:

1. Urban Indicators
   Area, density, coefficient of occupation of the block and index of habitability.

2. Technical parameters
   technical networks, roads and parking lots.

3. Zoning Regulations
   Coefficient of occupation and land use (COS and CUS).

**PROJECT SUSTAINABILITY**

The aim is that each project will finance itself with its own income to avoid economic burden to the state.

**FUNDING**

- Cuban companies: ALMEST y EMPRESTUR (Investment Company for tourism)
- Foreign company: MELIA (International chain for tourism)
The objective of this project is to create a prototype that can be studied and varied to be developed in the different cities of the island. It’s a prototype for future projects, being a catalog for a specific type of agenda that reflects the ideology of a large segment of the population.

Conceptually, these projects will be inspired in the country’s cultural expressionism (music, dance, theater, and craft). These works will reflect a search for harmony between the assimilation of the values of tradition and the contemporary language.

The building type will be: Cultural and recreational complex of national character with touristic expectations; once you create architecture for both, the citizens and the tourists, you guarantee economic, cultural, and social development.

The first site is the city of Bayamo, capital of the province Granma. Bayamo is the birthplace of the Cuban Nation. In 1869 and during the independence wars, the Bayameses decided to burn the entire city to prevent this one from being taken by the Spanish. It was an urban disaster that led to a new cultural growth. From then on, the city has been reconstructed through “cultural borrowing” from the other cities (colonial, neoclassical, and eclectic styles). The result was a greater ethnic and cultural integration. Bayamo is also the region of greater historical tourism. Tourists visit in search for its history and traditions, given their historic constructions, transportation methods, and constant dance and music manifestations. Bayamo represents the greatest cultural movement in Cuba. For instance, there is not a single tourist that doesn’t go to the Casa de la Trova, or that doesn’t visit a cultural peña (“en cada barrio hay una peña” neighborhood projects) in search of tradition.
Bayamo, Granma

Area: 2681.74 ha
Predominant tropical climate: hot and humid
Minimum average temperature: 66.2 ºF
Maximum average temperature: 91.4 ºF
Relative humidity: 77 %
Wind direction: North-East
Wind speed: 11 km/h.
Risk of simian activity: classified under the area 2 of grade VII in the scale MSK-64
Located to the southeast of the Cauto River, on the East of the Bayamo River

Bayamo was founded on November 5, 1513; second villa founded by the Spanish in Cuba. Bayamo has great richness in terms of history, architecture, urban planning, culture and socio-political aspects.
Since I’m designing for two social groups there are two set of programs that respond to each group, and there’s then a moment of overlap which engages both.

The primary program for tourist and secondary program for citizens will be the theater, the culture houses and the gallery. This will give the tourists what they seek and will allow for traditional cultural events to happen simultaneously in the complex.

The primary program for citizens and secondary program for tourists will be the outdoor movie theater, the skating and biking field, the bowling alley, and the food court. This is because things that are normal entertainment in a developed country, in Cuba they become a theme park. So I’m taking the citizens, who live in a bubble with no access or understanding of what the exterior world is, and creating for them part of that external world within this existing bubble.

In the moment of overlap, which will attract both groups, there is the restaurant dance hall (Cajon de rumba-box of rumba), the cadeca exchange house, the atrium and the park. The Cajon de rumba is the time capsule bubble inside the bubble because it’ll be inspired by the classic Cuban supper clubs of the 40’s. It’s a multi-level restaurant, lounge and bar that transforms into a dance hall at midnight. The cadeca exchange house is the architectural devise that addresses one of the concerns, here is what will allow the citizens to pay with a different currency and rate as of the tourists; and, its positioning, diagrammatically and physically, in the complex is critical. The atrium will function as the point of panoramic engagement/interaction with the programs, and these will be open and flexible spaces, with seamless transitions to the outdoor spaces. Lastly, the landscape design of the park will feature reflective pools and trees as shading devises against the severe climatic conditions.
Ideally, this project will develop an architectural language that is not necessarily circular, but rather sculpted spaces, in which each part arises from another.
Design Vision

I modeled these structures in Rhino to explore the Structural Concept of Shells in Architecture. I needed to understand the different geometries in order to create the best composition that will lead the general design.

Top Views with Geometric Mesh

Elevations

Sections
Website: Academia.edu Cuba: actualization of the economic model and the external politics in a multipolar world.

http://www.academia.edu/2962496/Cuba_la_actualizacion_del_modelo_economico_y_la_politica_exterior_en_un_mundo_multipolar

Book, “La Arquitectura Socialista” (Socialist Architecture)
Book, “Sintesis Historica Municipal Bayamo” (Bayamo Municipal Historical Synthesis) by Ludin B. Fonseca
Book, “Architecture and Urbanism of the Cuban Revolution” by Roberto Segre

Normative References
NC 166:2002 Buildings. General principles for environmental design of the interiors of the buildings.
NC 199:2002 Elimination of architectural barriers, design and construction requirements.
NC 53-123:1984 multifamily buildings and public. Specifications of the Project