Cuba: Architecture and the Social Order

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Cuba
Architecture and the Social Order
Outline

Thesis Statement

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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.
Introduction

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.
Historical Analysis

(XV-XX Centuries)
One single class: the working class

Bohio (hut)

XV Century (up to 1492)

INDIGENOUS MIGRATION

ECONOMIC STRUCTURE

No Hierarchy

Labor Product distributed equally among all

fishing, hunting and agriculture

SOCIAL ORDER

ARCHITECTURAL RESPONSE

Materials: Palm tree and leaves

Types of housing:

Caney

Barbacoa, the first pilotis

Bohio (hut)

XVI & XVII Centuries

SPANISH COLONIZATION

ECONOMIC STRUCTURE

First Governors

Slavery System

Search of gold and natural resources

Beginning of the sugar industry

SOCIAL ORDER

SPANISH INFLUENCE

ARCHITECTURAL RESPONSE

Construction of fortresses as means of protection

Construction of monuments and plazas as symbols of wealth

upper class: the Spanish

Pirates

lower class: African slaves

Bohio (hut)
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
- Migration

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)

XVIII Century
BRITISH INVASION

XIX Century
WARS OF INDEPENDENCE

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

Colonial Spanish housing
Door to door and patio to patio attachment as means of protection.

Spanish governors
Cuban liberator army

Economic enrichment
Sugar cane industry

Feudalism
Administrative and commercial focus
Monopolistic reinforcement

Political Structure
Economic Structure
Social Order
Architectural Response
**American Intervention (XX Century, up to 1958)**

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

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

**Political Structure**
- Based on corruption, imprisonments, assassinations
- Cuban governors under US mandate

**Architectural Response**
- 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)
**CUBAN INDEPENDENCE**

**XX Century (1959-1979)**

**POLITICAL STRUCTURE**
- Utopian communism
- Socialism

**ARCHITECTURAL RESPONSE**

- **New Hospitals (Hermanos Ameijeiras Hospital)**
- **New elementary schools and highschools**

- **Construction of residential buildings**
- **Architecture for the People.**
  - Meeting the needs of the society.
  - Recreation Facility: Coppelia, the cathedral of ice-cream
  - 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”**

**ECONOMIC STRUCTURE**
- First Law of Agrarian Reform
- Strengthening of the relations with the Soviet union
- US imposes embargo prohibiting all exports to Cuba
- Private businesses are closed down

**SOCIAL ORDER**
- 1965. Exodus of Camariocas
  - The upper class in disagreement with the socialist system leaves the country (30,000 citizens)

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

**SOCIAL ORDER**
- 1965. Exodus of Camariocas
  - The upper class in disagreement with the socialist system leaves the country (30,000 citizens)

**ARCHITECTURAL RESPONSE**

- **Construction of residential buildings**
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  - Meeting the needs of the society.
  - Recreation Facility: Coppelia, the cathedral of ice-cream
  - Architecture of Populist Ideology
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Pro-Market Economic Reforms:

- depenalization of the possession of US dollar
- reestablishment of agricultural markets
- establishment of artisanal and industrial product markets

Special Period:
transportation, industrial, and agricultural systems were paralyzed

Collapse of the Soviet Union

The Foreign Investment Law

Permission for Cuban citizens to use tourist hotels
Permission to acquire personal cellular phone contracts
Permission to sell and buy properties and vehicles

1980. Exodus of Mariel
125,000 citizens leave the country

Development of three social groups:

1991

May

Tourists

Tourist now occupy the vacant social class at the top: they play the role of the upper class, being the only ones that can afford the luxurious hotels, resorts, and recreational facilities.

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. (9% of the population)

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.

Renovation and construction of luxurious hotels and resorts for tourism. Contemporary influences.
Melia Cohiba Hotel
Melia Habana Hotel
Jose Marti International Airport

Urban rehabilitation projects aiming to recover "the traditional city"

Tourist constructions less expensive, affordable to the new middle class. Atlantico Hotel, Guarda la Vaca, Holguin

Urban rehabilitation projects aiming to recover "the traditional city"

Recreation Facilities for the lower class.
Ice-cream Parlors
Computer clubs

XX Century (1980-present)

CUBAN INDEPENDENCE

Socialism
Utopian communism

POLITICAL STRUCTURE

ECONOMIC STRUCTURE

ARCHITECTURAL RESPONSE

SOCIAL ORDER

The Foreign Investment Law
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 health care 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.
Modern Architecture of the Revolution

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.
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

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.
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.

The architectural solutions are adapted to the climatic requirements (humidity and extreme high temperatures).

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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 in Other Fields**
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

SPECIAL PERIOD

DEVELOPMENT OF THE SOCIALIST SYSTEM

CAPITALISM

BEFORE THE REVOLUTION

REAL MONTHLY WAGE (PESOS)

GROSS INCOME (MMUSD)
Touristic Constructions after 1991

- Melia Cohiba Hotel, Havana City
- Parque Central Hotel, Havana City
- Melia Las Americas Hotel, Varadero
- Arenas Blancas Hotel, Varadero
- Melia Hotel, Cayo Coco, Ciego de Avila
- Sol Club Hotel, Cayo Coco, Ciego de Avila
- Melia las Antillas Hotel, Varadero
- Brisas Sierra Mar Hotel, Santiago de Cuba
- Tryp Hotel, Cayo Coco, Ciego de Avila
- Pelicano Hotel, Cayo Villa del Sur
- Jose Marti International Airport, Havana City
- Panorama Hotel, Havana City
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.

4. **3.1 Natural Lighting**
   Interior spaces and circulation have to have natural lighting.

5. **3.2 Artificial lighting**
   All the spaces of the building have to have artificial lighting.

6. **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.

7. **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.

8. **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.

9. **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

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)

ACCEPTANCE

Each project proposal has to be approved by the Ministry of Economy and Planning.
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 °F
Maximum average temperature: 91.4 °F
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.
Institutional
Recreational-Entertainment
Recreational-Cultural
Commercial
Residential

Cadeca Exchange House

Site A
415,350 sqft

Site B
332,200 sqft

BAYAMO, CAPITAL OF GRANMA PROVINCE

TRANSPORTATION

- Bus Route
- Horse and Carriage Route
- Horse and Carriage (main stations)
- Bici-Taxi (main station)
- Train Station
- Bus Station
- Cadeca Exchange House

Institutional
Recreational-Entertainment
Recreational-Cultural
Commercial
Residential
Site A
415,350 sqft

Site B
332,200 sqft
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.
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.
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