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Architectural Study for the Extension of the National Museum of Cameroon as Part of its Modernization

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Abstract: The objective of this research is to propose an architectural design for the extension of the National Museum of Cameroon as part of its modernization. This project of extension and modernization of the National Museum of Cameroon aims to revitalize this major cultural institution by improving its infrastructures and meeting the expectations of contemporary visitors. By integrating neoclassical architectural elements, references to traditional Cameroonian chiefdoms, as well as contemporary forms, the study proposes a harmonious approach between heritage and modernity. It is structured around the redesign of part of the existing spaces and the creation of new multifunctional blocks, meeting broader needs. Principles of universal accessibility have been applied to make the museum a modern cultural showcase while respecting Cameroonian heritage.

Keywords*: Museum; Architecture; Extension; Modernization; Cameroon.*

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I. INTRODUCTION

The National Museum of Cameroon is a symbol of the country's cultural identity and history. However, the existing infrastructure, built several decades ago, does not meet current international museum standards, particularly in terms of accessibility, interactive exhibitions and visitor experience. The modernization of this institution aims to transform it into a culturally vibrant and globally recognized museum. The national museum is engaged in a desire for modernization by Cameroonian public services and international institutions, and in the need for research around its implementation. The objective of this article is to propose an architectural design for the expansion of the museum into a multifunctional space. As many national museums around the world undergo transformations to remain relevant in the modern era, it becomes clear that these changes extend beyond architecture. The transformation of museums is not just about architectural changes; it also involves adapting these institutions to their evolving social and cultural responsibilities in the 21st century, as in [1]. Through the principles of classical symmetry, neoclassical grandeur and cultural elements of traditional Cameroonian architecture, the project seeks to fuse heritage and modernity, ensuring that the museum remains a central attraction for local and international audiences.

II. SITE ANALYSIS

A. Presentation of the City of Yaoundé

Yaoundé is the city that houses the National Museum of Cameroon. Yaoundé, the political capital of Cameroon, is a multifaceted city, rich in geographical, cultural and socio-economic diversity. Yaoundé is located in the Central Region of Cameroon, precisely between latitudes 3°52' and 3°56' North, and longitudes 11°27' and 11°35' East. The city covers an area of approximately 304 km² and peaks at an average altitude of 750 meters. Its central geographical position makes it a strategic crossroads connecting the different regions of the country. The main features of the city are described in Table I.

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Table 1: Characteristics of Yaoundé

Characteristics	Description
Climate	The climate is Guinean equatorial with two dry seasons and two rainy seasons. Temperatures vary between 20°C and 28°C, with annual rainfall of about 1,600 mm.
Relief	Yaoundé is built on hills with altitudes ranging from 700 to 1,200 m, requiring specific developments due to the rugged terrain.
Geology	The subsoil is composed of Precambrian metamorphic and granitic rocks, with risks of erosion in certain areas due to heavy rainfall.
Hydrology	The city is crossed by several rivers, including the Mfoundi, with risks of flooding during the rainy seasons and wetlands important for biodiversity.

B. Description of the National Museum of Cameroon

The National Museum of Cameroon is located in Yaoundé, more precisely in the city center, as can be seen in Fig. 1. It is located in the Lac district, in the heart of the city and in the premises of the former presidency of the republic. In the same area, there are many other administrative buildings. The relief of the site has very variable altitudes. However, it is a strategic position, because it also represents the highest point in the area. The museum is surrounded on all sides by asphalt roads, which makes it easily accessible from the outside.

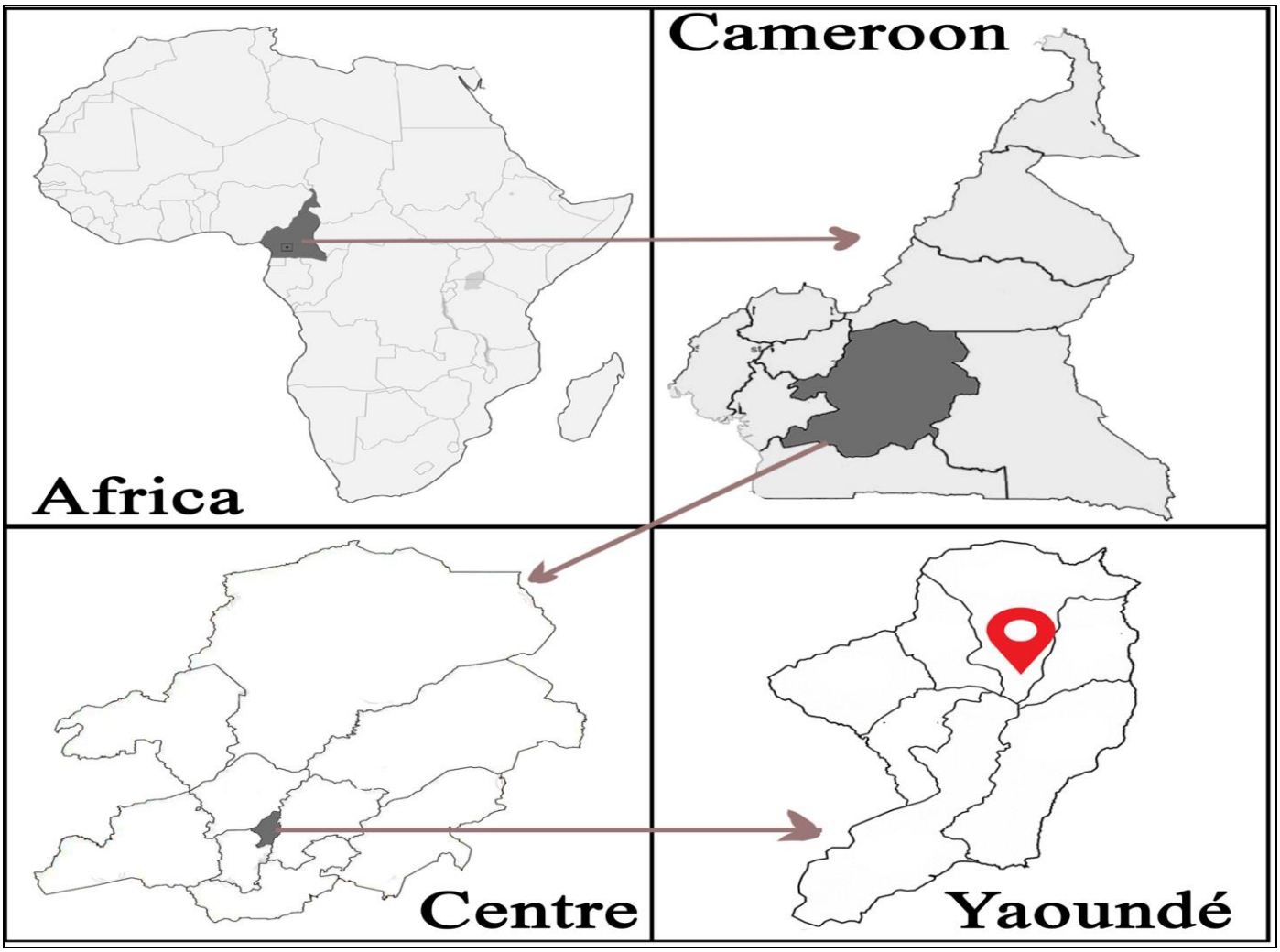

Fig 1: Localisation of the National Museum of Cameroon

The complex, spread over approximately 15,000 m², consists of a central building comprising a central compartment, two blocks of annex buildings and a large garden. The site also contains two large tarmac roads to accommodate people and vehicles, as well as secondary roads leading to the annex compartments. The site is entirely surrounded by a fence that controls the entry and exit of users as can be seen in Fig. 2. Access is via two metal gates controlled by security guards.

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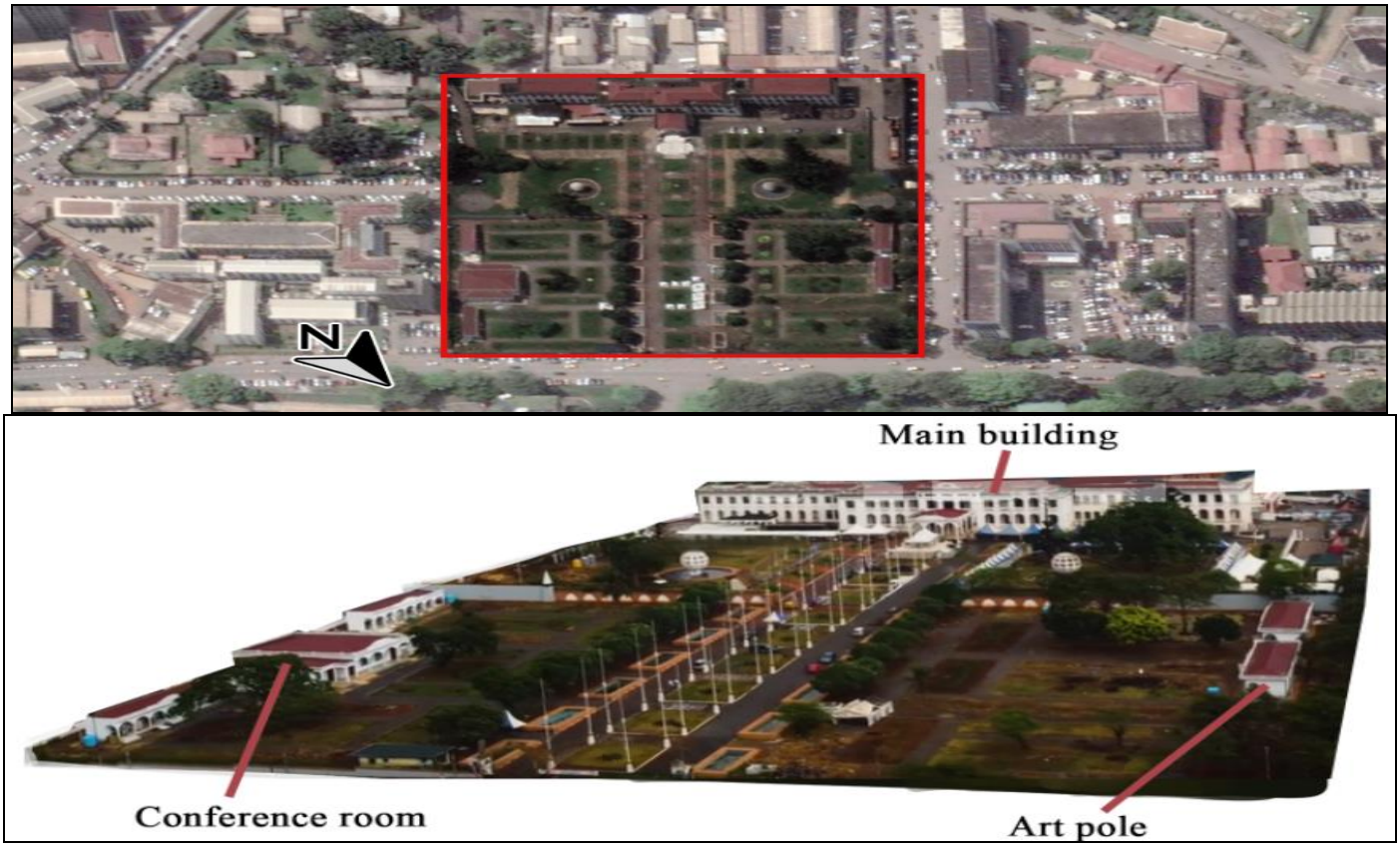

Fig 2: Satellite View and Perspective View of the Site

C. General Condition of the Premises

➢ *Infrastructure*

The characteristics of the infrastructure can be shown in Table II.

Table 2: Characteristics of the Museum

	Aspect	Description
Exterior	Exterior Architecture	The building reflects a blend of colonial and simplified neoclassical architecture. Neoclassicism draws inspiration from Greco-Roman antiquity.
	Symmetry and Proportion	The facade is symmetrical, emphasizing balance and harmony typical of neoclassicism.
	Pediment	A pediment above the main entrance reinforces the allusion to ancient structures.
	Smooth Facades	The exterior walls are plain, with minimal ornamentation.
	Windows	The arched and rectangular windows are aligned and regularly spaced, contributing to the building's geometric rigor.
	Cornices	Projecting cornices crown the facade, adding depth and highlighting the building's horizontal lines.
	Verandas and Balconies	The front features verandas and balconies.
Interior	Interior Organization	The building has a rectangular plan, with rooms organized around a central hall. Ceilings are high, between 4m and 4.5m.
	Organization	Exhibition rooms are spread across multiple levels but lack a fluid layout, causing potential visitor disorientation.
	Lighting and Presentation	Lighting is often insufficient or poorly placed, and some display cases and stands are outdated.
	Climatic Conditions	Temperature and humidity control is inadequate, potentially compromising artifact preservation.
	Conservation	The building shows signs of aging, with parts requiring renovation for structural issues, waterproofing, and wear and tear.
	Accessibility	Accessibility for people with reduced mobility is limited, with inadequate ramps and elevators.

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➢ *Construction Materials and Techniques*

- The walls are built of earth brick masonry, rendered and covered with a smooth coating.
- The roof is made of tiles, with simple shapes.
- The doors and windows are made of solid wood, with elegantly crafted frames.
- The ceiling is also made of wood.

➢ *Ancillary Facilities*

- Sanitation: Sanitation facilities for visitors are limited in number and require improvements in terms of hygiene and accessibility.
- Shop: Located in the basement, it is not very visible, which deprives many visitors of the possibility of acquiring souvenirs or publications related to the museum.
- Conference room: built on the left wing of the site, mainly serves as a conference room.
- The art pole: built on the right wing serves the activities of the art pole. They are of modest size compared to the available space.

III. CHALLENGES AND OPPORTUNITIES

➢ *Major Challenges*

- Renovation needed: The building needs renovation work to improve museum activities, security, accessibility and conservation conditions.
- Lack of suitable structures to accommodate the different activities of a multifunctional museum, namely: the library, the research center, a welcoming shop
- Lack of maintenance of the large garden.

➢ *Opportunities and Prospects*

- Tourism development: By modernizing its facilities and improving the visitor experience, the museum can become a must-see destination for tourists. Regularly organizing events, conferences and temporary exhibitions can boost the museum's activity.
- Promoting National Heritage: By highlighting Cameroon's cultural wealth, the museum can play a key role in promoting national identity. Developing an educational block can strengthen the museum's role in learning and cultural awareness.
- International collaborations: Partnerships with other museums and cultural institutions can promote the exchange of exhibitions and the sharing of expertise.

➢ *Analysis and Interpretation of Survey Data*

Surveys carried out among the various stakeholders and users of the museum have highlighted specific expectations as in Table III.

Table 3: Expectations of Stakeholders

Stakeholders	***Expectations***
Museum Management	The management aims for the museum to become an international cultural hub. However, the current infrastructure is insufficient, hindering these ambitions. They plan to build new exhibition spaces and a modern library to meet international museographic standards.
Museum Staff	The staff faces challenges related to the infrastructure. Workspaces are insufficient, exhibition rooms are overcrowded, and the conditions for preserving artworks do not always meet international standards. The lack of meeting rooms and training spaces is also highlighted.
Visitors	Visitors find the museum outdated and not aligned with modern expectations. Reception areas are not functional, the exhibitions lack interactivity, and the facilities are not accessible to people with reduced mobility. Young people and international tourists express a desire to see digital technologies, interactive spaces, and temporary exhibitions.
Artistic and Cultural Community	Local artists want the museum to play a more active role in promoting contemporary Cameroonian culture. They encourage the creation of spaces for temporary exhibitions, artistic performances, and creative workshops.
Institutional Partners	Both national and international partners are willing to support the museum's modernization project. They recognize the importance of having infrastructure that meets international standards to facilitate collaborations and cultural exchanges.

IV. ARCHITECTURAL PROGRAMMING

A. Program

➢ *Based on the Analysis of the Current Situation, the Design of New Buildings is Structured Around Several Major Axes:*

- Reinterpretation of the central building's steps
- New exhibition halls
- Attractive shop
- Library and research room
- Cultural center and educational workshops
- Restaurant
- Enhancement of green spaces

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➢ *These Different Axes have been Grouped into Different Design Sections:*

- Redesign of the central reception steps
- Block A

➢ *Designed to House:*

- Exhibition spaces: designed to be flexible and modular, allowing a variety of exhibitions to be hosted, whether permanent or temporary. They will be equipped with:
- An attractive and spacious shop included in a logical visitor route, offering souvenirs, publications and craft works.

➢ *Block B*

Designed to accommodate:

- A modern library space with rich and diverse documentary resources. A research room accessible to researchers, students and the general public.
- Staff offices will be redesigned to promote collaboration and efficiency, with ergonomic workspaces and equipped meeting rooms.

➢ *Block C*

It will host a cultural center open to the community, offering:

- Artistic workshops for different audiences.
- Multipurpose spaces for performances, screenings and conferences.

➢ *Block D*

Designed to accommodate:

- Meeting and conference rooms, equipped with state-of-the-art audiovisual equipment and a modular configuration to adapt to specific needs.
- Restaurant offering local and international cuisine, open to the public on the one hand and intended for conference snacks on the other hand.

➢ *Green spaces*

- Gardens and terraces for visitors to relax.

B. Architectural Party

➢ *Global Vision*

The architectural project aims to create a museum that is both a tribute to Cameroon's cultural heritage and a showcase of modernity. It involves designing spaces that reflect national identity while integrating contemporary and innovative elements. The blending of neoclassical elements with traditional Cameroonian architecture mirrors the revitalization efforts seen in other post-colonial nations. As noted in [4], By combining neoclassical elements with traditional Cameroonian architecture, this project reflects a symbiosis between global and local cultures, similar to architectural projects in post-colonial nations aimed at revitalizing cultural identity.

➢ *Form and Aesthetics*

In post-colonial contexts, museums often face the challenge of balancing global architectural trends with the need to preserve local heritage. Many museums in post-colonial contexts now integrate local architectural traditions, creating a dialogue between global architectural trends and indigenous cultural symbols as in [3]. The new buildings will be characterized by:

- Clean, contemporary lines combined with traditional elements.
- Glazed and open facades to promote natural light and interaction with the exterior.
- The use of local materials to create harmony with the environment.

Integrating contemporary architectural elements into classical museum structures is a strategy that respects historical heritage while meeting modern needs. This is illustrated in Pei's work at the Louvre, as noted in his reflections [9]: 'Integrating contemporary architectural elements into classical museum structures is not about erasing the past, but about building a bridge between historical heritage and the needs of modern audiences, as seen in Pei's work at the Louvre.'

➢ *Traffic and Accessibility*

Museums must ensure that their spaces are accessible to all visitors, regardless of physical abilities. This idea is reinforced in [7], Universal design in museums aims to create spaces that are accessible to everyone, incorporating ramps, elevators, and clear signage to ensure a seamless visitor experience for all, regardless of physical abilities.

- *Traffic within the Museum will be Optimized to:*

✓ Make it easier for visitors to navigate with clear and well-signposted paths.
✓ Separate flows between visitors, staff and logistics services.
✓ Ensure universal accessibility by integrating facilities for people with reduced mobility (ramps, elevators, adapted signage).

➢ *Zoning and Reception Capacity*

The museum will be organized into distinct but interconnected zones, allowing for efficient space management and a coherent visitor experience. Capacity will be increased to accommodate anticipated attendance, with modular spaces to accommodate different types of events.

➢ *Sustainability and Energy Efficiency*

- The project integrates sustainable construction principles:
- Orientation of buildings to optimize natural lighting and reduce air conditioning needs.

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- Natural ventilation thanks to patios and strategic openings.
- Use of sunshades to control solar gain.
- Ecological materials: compressed earth bricks, local stone.
- Renewable energy: installation of solar panels for electricity production

➢ *Water Management and Sanitation*

- Rainwater collection for irrigation of green spaces.
- Environmentally friendly wastewater treatment systems.
- Reduction of water consumption through economical sanitary installations.

➢ *Safety and Security*

- Modern surveillance systems to protect the works and ensure the safety of visitors.
- Fire-fighting devices complying with international standards.
- Clearly marked and regularly updated evacuation plans.

➢ *Green Spaces and Landscape Integration*

- The outdoor spaces will be designed to:
- Provide relaxation and walking areas for visitors.
- Integrate the museum into its environment by creating continuity with the urban landscape.
- Promote biodiversity by using local species for plantations.

V. CONCEPTUAL INSPIRATION

A. Redesign of the main entrance of the museum

We propose to remodel the entrance. The steps were recently added in 2015 and have some construction defects. The inventory revealed construction defects in the arches and stairs. Thus, to create a more suitable model, we are inspired by the entrance of several old museums in a style close to neoclassical, such as the British Museum and the Ashmolean Museum in England.

By applying a similar model, we can obtain the transformation in Fig. 3:

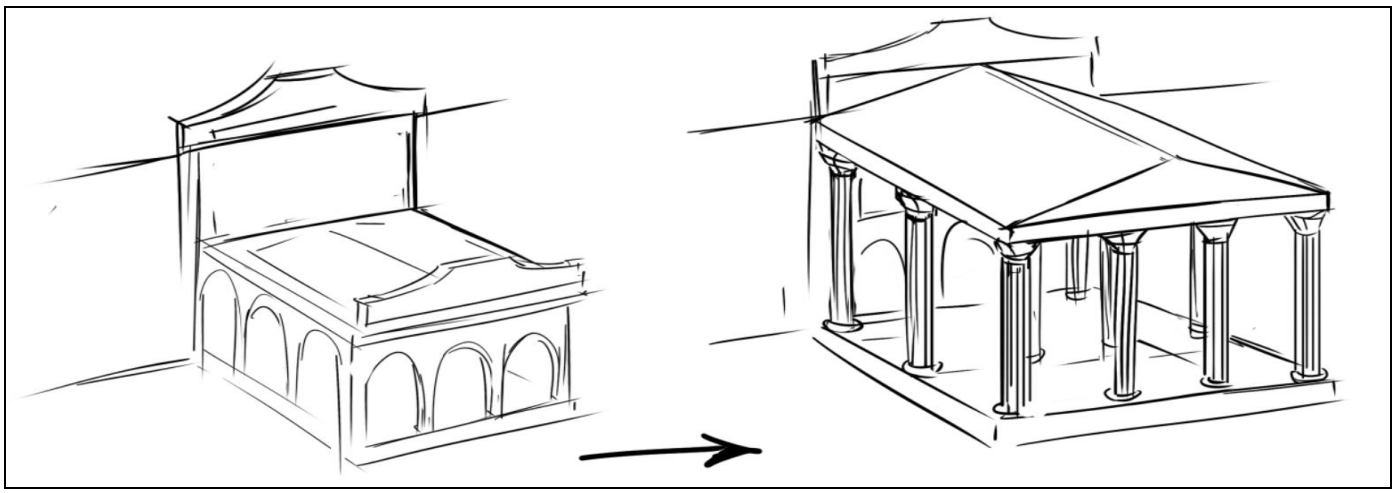

Fig 3 : Museum Entrance Transformation Model

For this modification, the addition of ten columns decorated with Corinthian capitals readapted to Cameroonian culture offers a symbolic fusion between classical heritage and national cultural identity.

Corinthian capitals, known for their acanthus leaf ornaments, have been reinterpreted in different architectural contexts. During the Italian Renaissance, architects such as Brunelleschi incorporated them into churches with Christian adaptations. The Baroque amplified their complexity, as illustrated by Bernini's works in Rome. Neoclassicism, on the contrary, simplified their form while remaining faithful to antiquity, visible in buildings such as the Arc de Triomphe in Paris. In the United States, Corinthian capitals symbolized grandeur and power, especially in the Capitol. Finally, Islamic and Ottoman architecture adapted them with more geometric motifs, as in the Blue Mosque in Istanbul.

➢ *In our Case, Several Arguments are in Favor of this Choice:*

- Representation of the 10 regions: By installing 10 columns, each region of Cameroon is honored and highlighted. Each column is adorned with symbols representing a plant specific to the region it represents as can be seen in Table IV. The style of Corinthian capitals, emblematic of classical architecture, evokes elegance and grandeur. Their readaptation with Cameroonian motifs allows to connect universal historical references to local identity, creating a contemporary architecture that resonates with both world history and Cameroonian tradition.
- Symbol of national unity: The columns, united by their shape but differentiated by their capitals, would symbolize the unity in the diversity of Cameroon. This harmony would reflect the idea that, although each

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region has its own identity, they all contribute to the overall cultural heritage of the country.

- Cultural enhancement: By integrating visual elements inspired by Cameroonian cultures (mask sculptures, ethnic motifs, typical plant forms), these capitals become works of art in their own right, transforming the museum entrance into a monumental tribute to the cultural wealth of the country. This would promote the cultural awareness and pride of visitors.
- Architectural Dialogue: The repurposed Corinthian columns offer a dialogue between local and externally influenced architectural styles, reminding us that museums are places where different eras, cultures and ideas meet. This will reinforce the idea that the museum is not only a space of conservation, but also of transformation and cultural exchange.

Table 4: Representative Plants from the Ten Regions

Region / Plant	Use and Symbolism
Adamaoua / Millet (Pennisetum glaucum)	Staple cereal for several ethnic groups, used in ritual meals and offering ceremonies. Symbol of fertility and prosperity.
Centre / Cola tre (Cola acuminata)	Kola nut offered during traditional ceremonies, symbol of respect and friendship. Consumed on important occasions, with symbolic value in Beti and Fang cultures.
East / Moabi tree (Baillonella toxisperma)	Tree revered for its precious wood and its oil, used in traditional pharmacopoeia and body care.
Far North / Shea tree (Vitellaria paradoxa)	Used for the production of shea butter. Prized for its cosmetic and medicinal virtues. Integrated into several traditional rituals.
Littoral / Raffia palm (Raphia vinifera)	Essential in traditional crafts (making mats, roofs, clothing). Plays an important role in initiation ceremonies and rites.
North / Kapok tree (Ceiba pentandra)	A sacred and venerated tree, at the center of many animist myths and practices. Its roots are used in traditional pharmacopoeia.
Northwest / Banana tree (Ensete ventricosum)	Known locally as " Mbo'o ", sacred in some cultures, used in funeral rituals and spiritual protection ceremonies.
West / Tree of Peace	Symbol of reconciliation, harmony and end of conflicts, anchored in the Bamileke culture and widespread in Cameroon.
South / Ebony (Diospyros crassiflora)	Sacred wood used for the manufacture of masks and ritual objects. Noble tree in Bantu traditions.
Southwest / Safou tree (Dacryodes edulis)	Fruit called "plum tree" or "safou", integrated into traditional dishes, symbolizes abundance. Culture anchored in local agricultural practices.

Thus, we keep the proportions of the Corinthian model while replacing the acanthus seen in Fig. 4, leaves with the leaves of the plants mentioned as can be seen in Fig. 4.

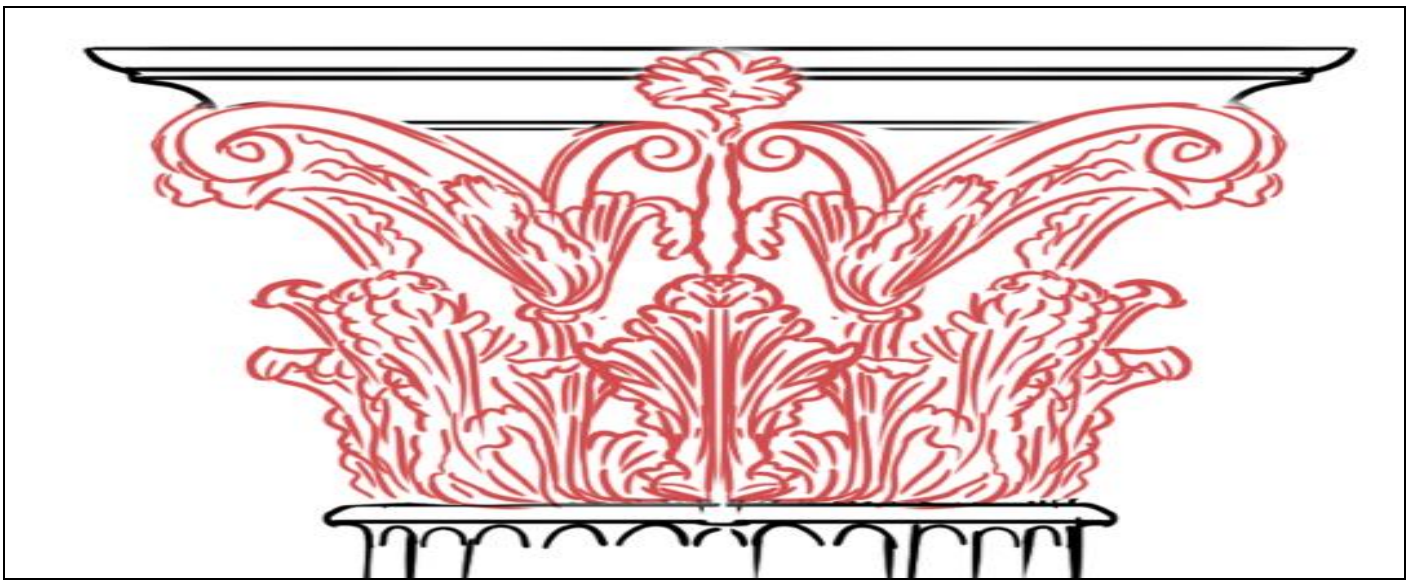

Fig 4: Marquee Reference to be Replaced

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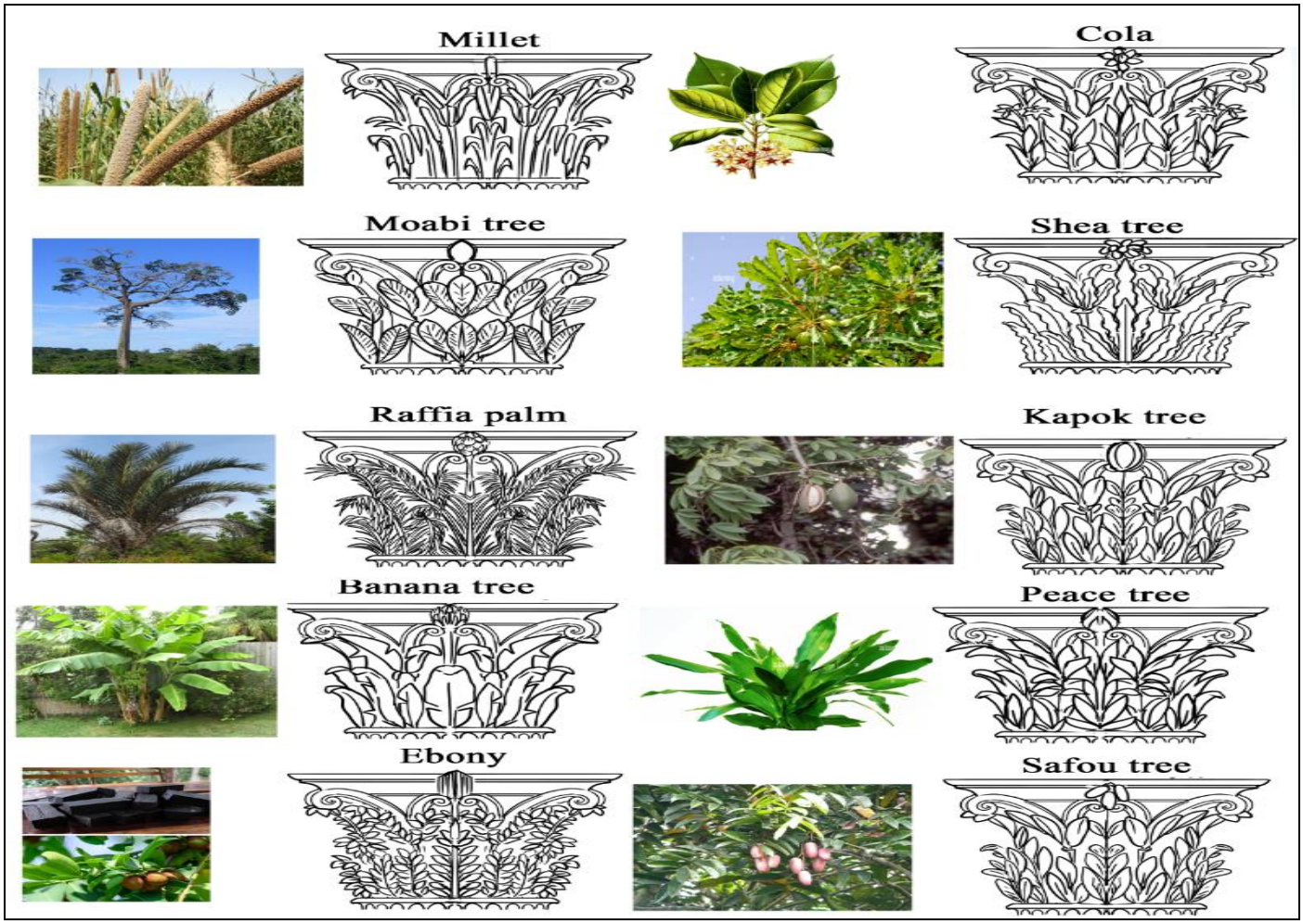

Fig 5: Variations of Cameroonian Plants in Capitals

- Cultural Motifs on Columns: After the reinterpretation of the capitals, the cylinders of each column can be carved with motifs representing each region, created by various local artists in a collaborative design process, as can be seen in Fig. 6.

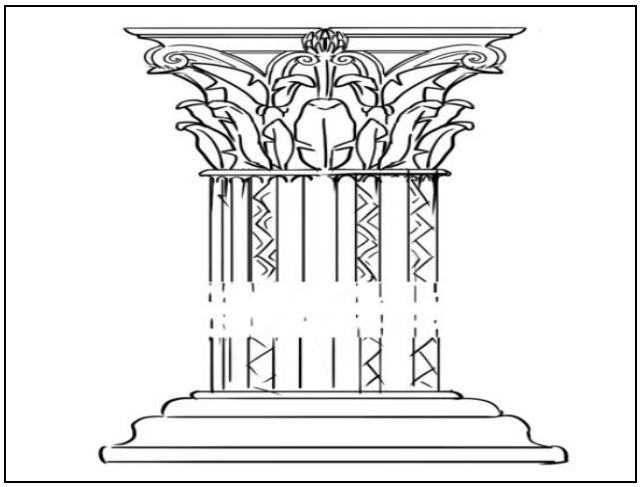

Fig 6: Cylinder Ornament Sketch with Cultural Motifs

B. Design of new blocks A and B

➢ *Position anf Form of New Blocks*

The design of the new National Museum blocks harmoniously integrates historical and contemporary influences. Inspired by the characteristic symmetry of the neoclassical style, renowned for its balanced proportions and rigorous elegance, the project aims to create an imposing and orderly architecture. Added to this is the influence of traditional Cameroonian chiefdoms (Fig. 7), whose majestic entrances serve not only as symbols of protection, but also as guardians of a living cultural heritage. These monumental doors, often decorated with geometric patterns and symbolic sculptures, inspire the museum's reception structure as a portal to Cameroonian history and identity. The arrangement of the new blocks can be seen in Fig. 8.

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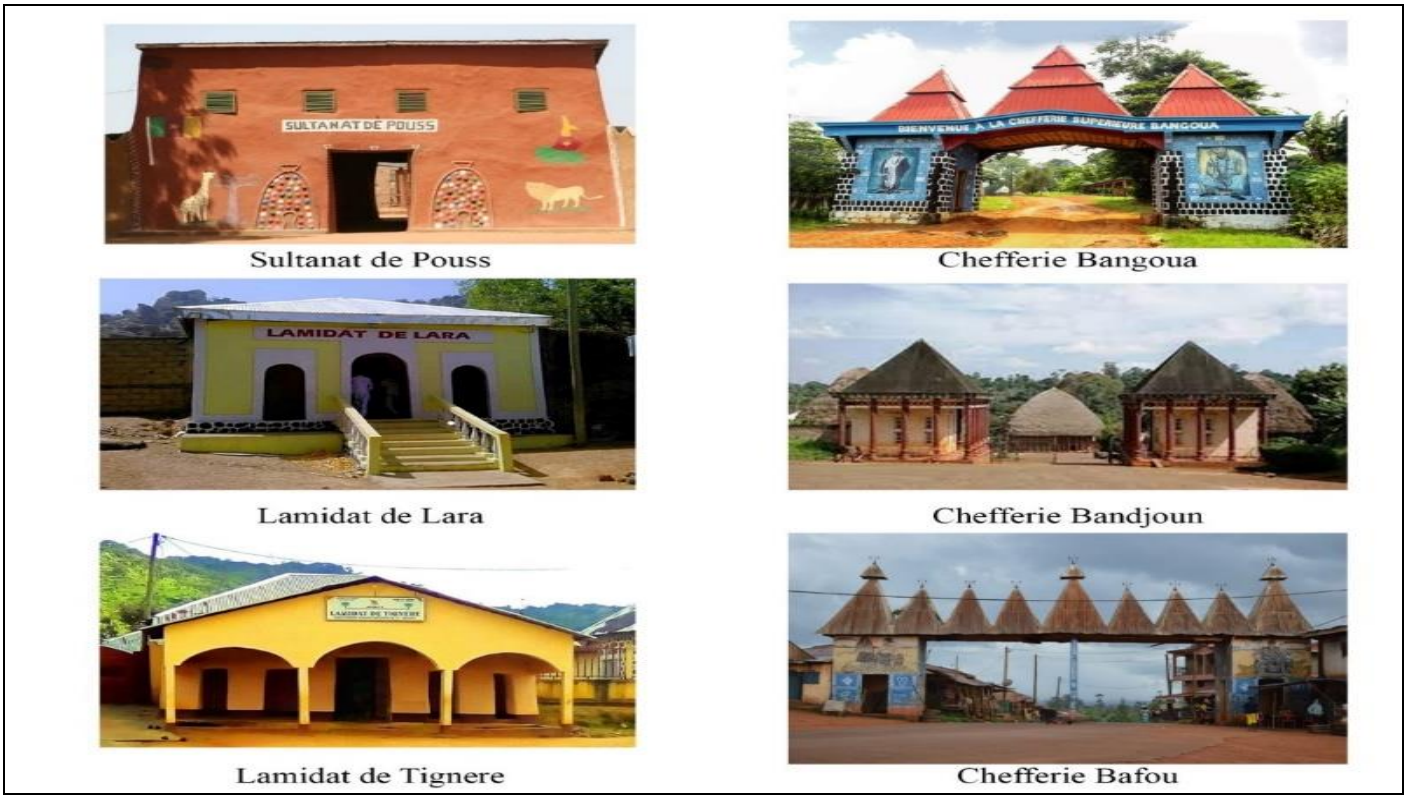

Fig 7: Appearance of the Entrances of Traditional Cameroonian Chiefdoms

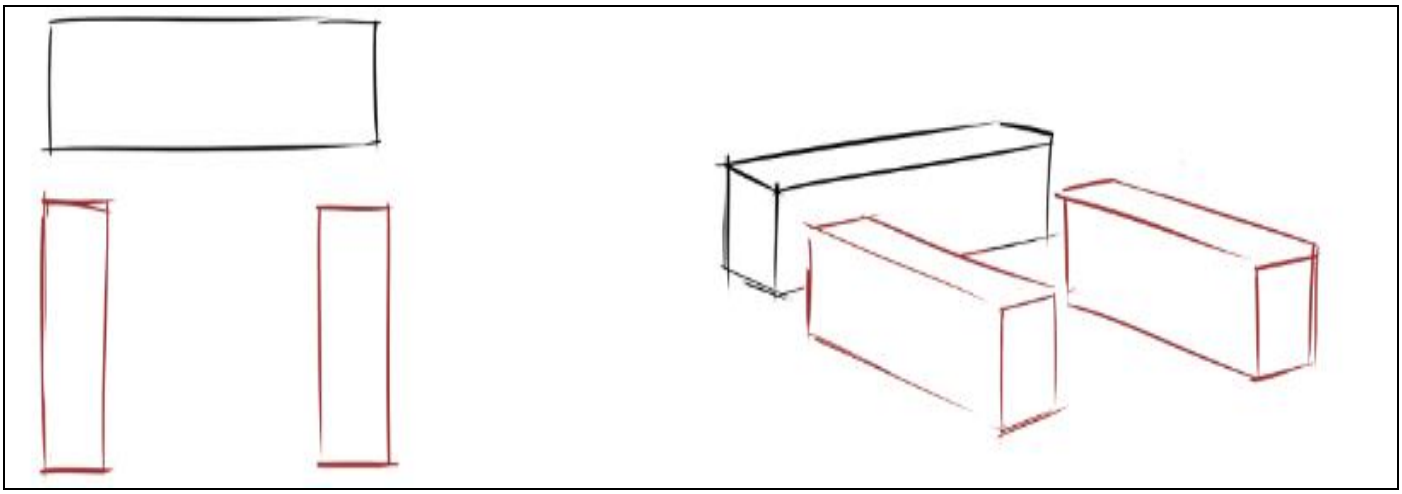

Fig 8: Arrangement of the New Blocks (in red) in Relation to the Main Building

➢ *Positioning of Contemporary Style Elements to be Integrated*

The design of these new blocks is inspired by the successful integration of contemporary constructions into classical architectures, a process used to preserve history while meeting current needs for innovation. This contrast between tradition and modernity is illustrated by emblematic examples in the world. Museums that successfully juxtapose modern structures with historical ones provide valuable lessons for the National Museum of Cameroon. As said in [10], the juxtaposition of modern structures with historical ones, as seen with the Louvre Pyramid, the Royal Ontario Museum extension, the Jewish Museum in Berlin or the renovation of the Canadian Museum of Nature, creates a visual dialogue between the past and the present, allowing the museum to evolve while preserving its historical heritage. Their extensions visually disrupt classical structures, but also create a dialogue between past and present. This method inspires the insertion of modern elements in the new blocks of the National Museum, where unusual angles, glass facades and forms inspired by contemporary Cameroonian art will enrich classical architecture, while respecting heritage. The positioning is showed in Fig. 9.

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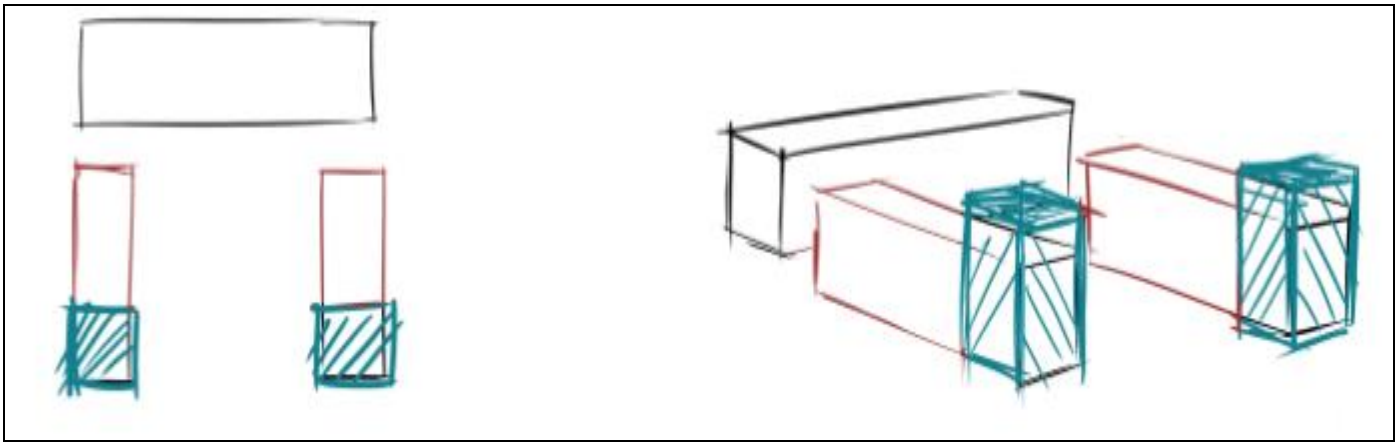

Fig 9: Positioning of Contemporary Style Elements to be Integrated (in Blue)

➢ *Concept for Contemporary Form*

In search of a symbol of communion, the form chosen for the contemporary element in the design of the new blocks of the National Museum is inspired by the traditional image of the family gathered around the fire. This powerful symbol, deeply rooted in Cameroonian and African cultures in general, represents gathering, sharing and communion. Around the fire, families gather to exchange stories, transmit knowledge and strengthen community ties (Fig. 10). It is a space for dialogue, transmission intergenerational, and celebration of unity.

Once the conceptual form is established, the number of assembled blocks is counted at seven, in reference to Yaoundé's nickname of "City of Seven Hills".

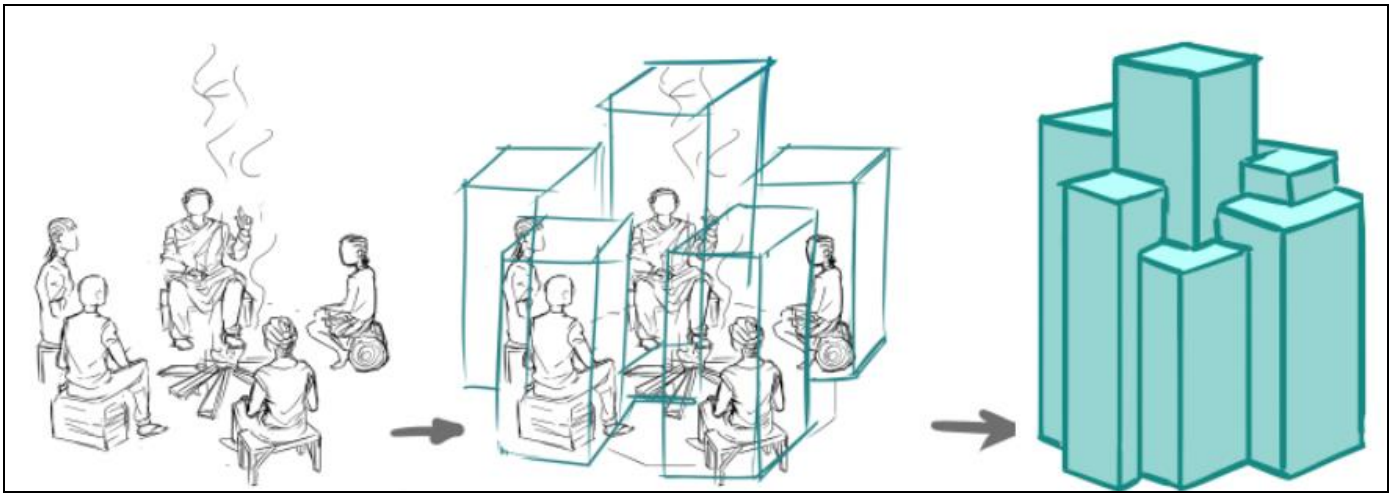

Fig 10: Basic Concept for Contemporary Form to be Integrated

This type of architectural reference to deeply rooted cultural symbols is not without precedent. For example, projects such as the Aga Khan Museum in Toronto, designed by Fumihiko Maki, also draw on symbolic forms to evoke community and tradition in a contemporary setting. Similarly, in his work at the Jewish Museum in Berlin, Daniel Libeskind uses symbolic architectural elements to express. The integration of contemporary form into the building is illustrated in Fig. 11.

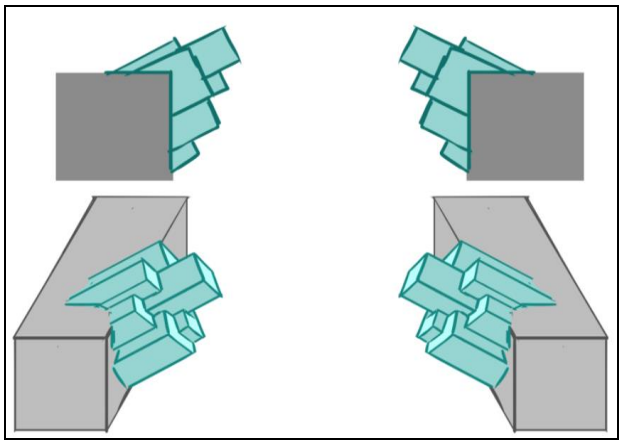

Fig 11: Integration of Contemporary form into the Building

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➢ *Reinterpretation of the Pilasters*

In the continuity of the main building, the variations obtained in the design of the columns of the steps are used here to create pilasters embedded along the facades of the blocks. In the same sense as the columns of the steps, we obtain pilasters with capitals decorated with the flagship plants of the different regions and a trunk sculpted with particular motifs. Thus, they will be the illustration of the cultural wealth of Cameroon subtly integrated into the architecture of the building, as can be seen in Fig. 12.

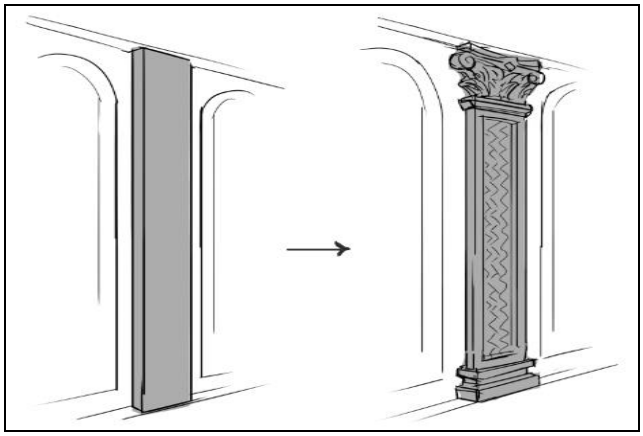

Fig 12: Reinterpretation of the Pilasters for the New Blocks

C. Design of the Reconstructed Annexes

In the reconstruction of the two annexes of the National Museum, Block C and Block D, we have opted for an approach of integrating contemporary style into the classical, inspired by the emblematic project of the reconstruction of the Moritzburg Museum in Halle, Germany. This project, led by the Spanish architect Nieto Sobejano, proposes a bold reinterpretation of the dialogue between past and present [12], where the two styles meet harmoniously while remaining distinct. This is based on a respectful dialogue between the old and the new as can be seen in [11].

➢ *Block C*

For Block C, which will house the cultural center, the integration follows a more literal and direct pattern: the classical style is affirmed in the architectural elements of the ground floor, with its characteristic columns and symmetries, while the contemporary rises above (Fig. 13). The latter is materialized by more geometric and refined lines, using modern materials such as glass and metal. This visual contrast between classical robustness and contemporary lightness evokes both the solidity of historical foundations and the openness towards the future. The interaction between the two architectural layers establishes a respectful dialogue between tradition and modernity, where the classical base literally supports contemporary innovation.

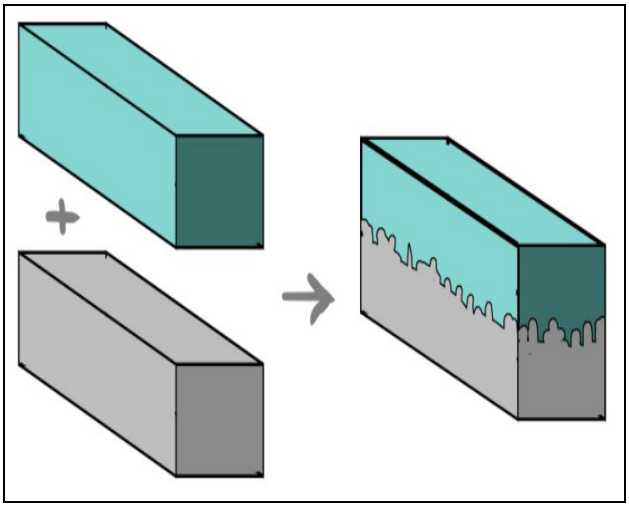

Fig 13: Shape Concept for Block C: Contemporary + Classic Style

➢ *Block D*

Block D, on the other hand, reverses this relationship by placing the contemporary element on the ground floor, while the classical style emerges on the upper level (Fig. 14). Here, the building opens to the outside with glazed spaces and refined forms on the ground floor, reflecting the idea of an open, accessible and dynamic museum, where modernity is experienced on a daily basis. Upstairs, the reinterpretation of the classical style, with its stone facades and regular lines, symbolizes the anchoring of culture and heritage in sustainability, overlooking contemporary activities. The layout is as in Fig.

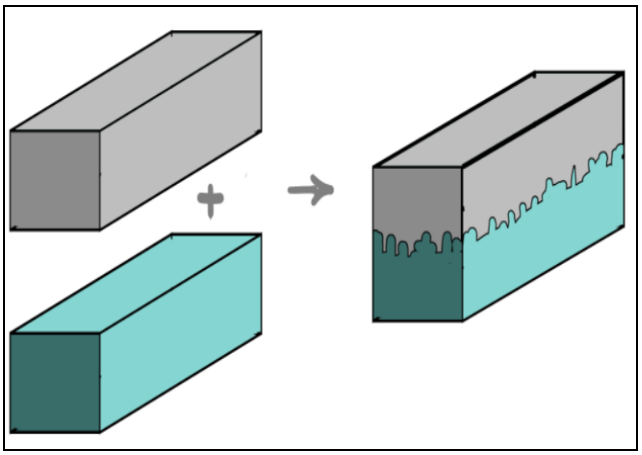

Fig 14: Shape Concept for Block D: Contemporary + Classic Style

This architectural approach echoes the project of the Moritzburg Museum where the historical body is extended by contemporary additions that seem to rise above the existing, while respecting the original proportions and materials. By reversing the height ratios between classical and modern in our project, we seek to propose a balanced vision of cultural continuity: the contemporary on the ground floor reflects the living and dynamic current events of the museum, while the classical, at height, evokes the transmission of knowledge and traditions.

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➢ *Climatic Adaptation*

To adapt to the climatic particularities of the region while preserving harmony with the style of the main building, a roof functioning as a sunshade was added to the two annexes. This structure, which echoes the façade of the main building, helps control direct sunlight while ensuring effective natural ventilation. In addition to the dialogue between the classic style and modern elements, this device is part of a sustainability approach (Fig. 13).

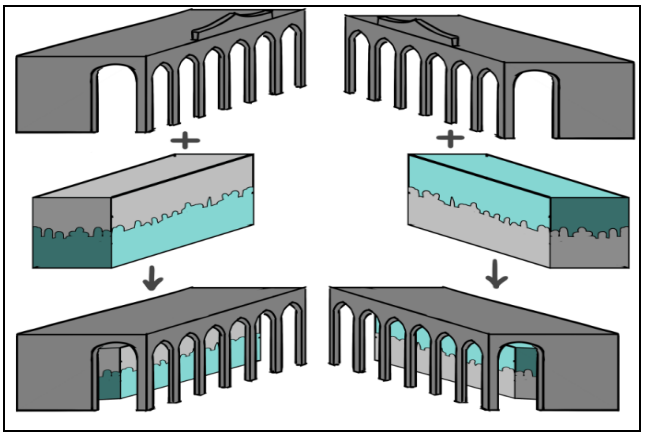

Fig 15: Integration of Solar Windbreak on the Annexes

D. Traffic

The circulation on the site is inspired by the structure of a tree, where five large groups of foliage represent the different components of the museum. At the head, the original building symbolizes the heart of this "tree", while the new blocks spread out on either side, forming a harmonious balance. Taking root at the large main entrance, this layout reflects the idea that the content of the museum emanates from the deep roots of Cameroon's history and traditions.

The great road that connects the entrance to the main building embodies the trunk of this symbolic tree, supporting the central flow of traffic where pedestrians and vehicles coexist. The paths that lead to the other blocks represent the branches, illustrating the way in which the museum extends and diversifies from this trunk, while remaining connected to its historical source. This spatial concept allows the past and future, tradition and modernity, to be harmoniously linked through a living and organic metaphor that guides visitors on their journey through the museum. The evolution of the concept is illustrated in Fig. 16, and the organization is showed in Fig. 17.

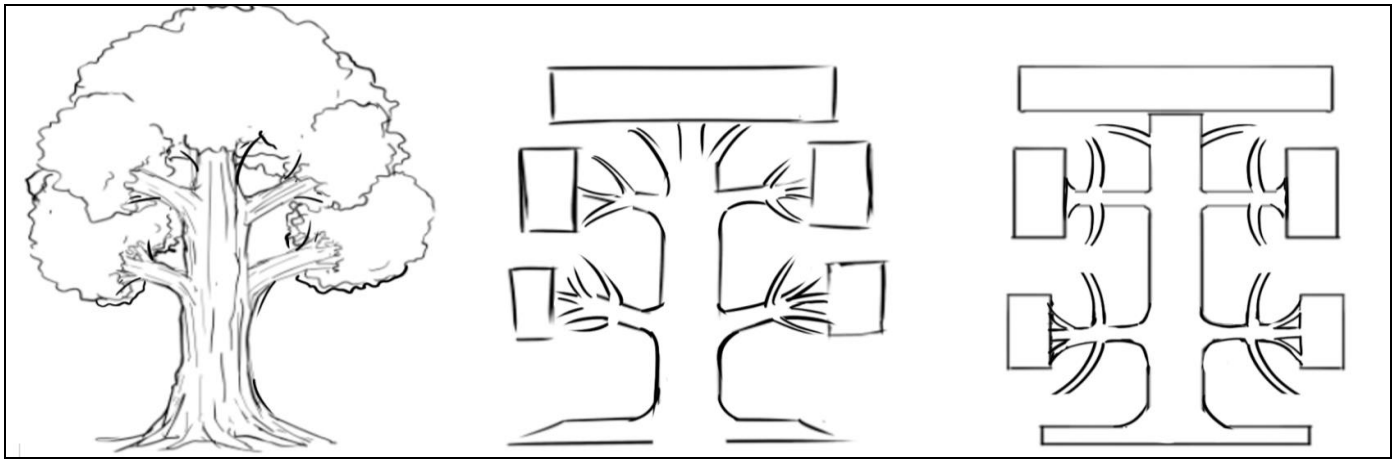

Fig 16: Concept of Traffic on the Site

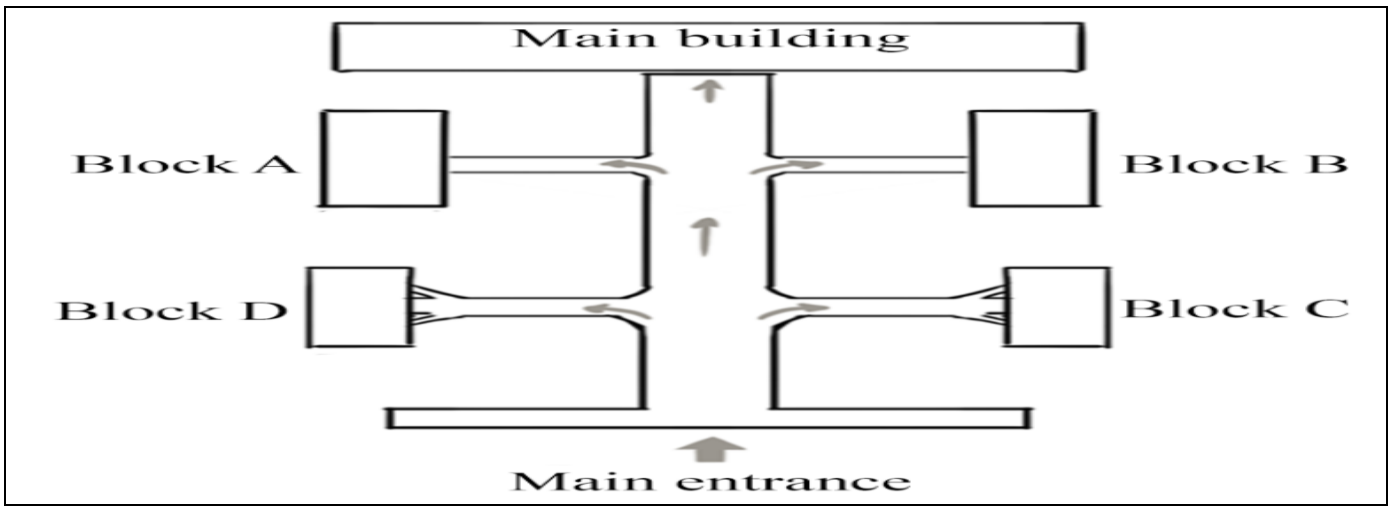

Fig 17: Functional organization chart of the site

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VI. APPLICATIONS AND RESULTS

Drawing on the "conceptual inspiration", the architectural and functional vision of the modernization and extension of the National Museum of Cameroon we can apply it to bring out the models and plans. The newly designed blocks and spaces follow the guidelines established in the conceptual phase, balancing traditional Cameroonian influences with contemporary architectural elements. The primary focus of the design is a harmonious relationship between the main existing building and the new structures, ensuring visual and functional continuity. The neoclassical symmetry of the existing museum is complemented by the dynamic, angular forms of the new additions inspired by both local chiefdoms and global contemporary designs.

A. The Main Entrance of the Museum

The reinterpreted central entrance featuring Corinthian columns with regional symbols, tying national unity to architectural form seen in Fig. 18 and Fig. 19.

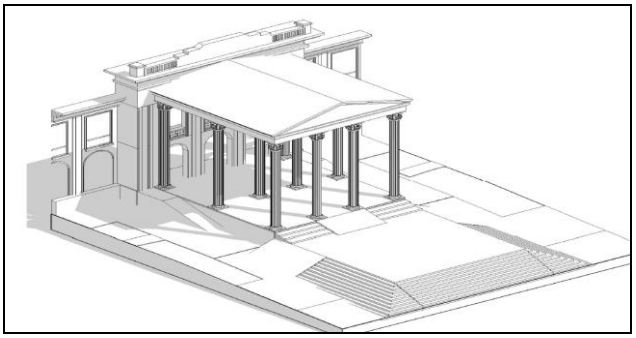

Fig 18: The Reinterpreted Central Entrance

Fig 19: The Reinterpreted Central Entrance (Before & After)

B. New Blocks A and B

Blocks A and B designed for flexibility, with modular exhibition spaces, cultural workshops, and research areas. Floor plans of block A can be seen in Fig. 20. Floor plans of block B can be seen in Fig. 21. The 3D view is showed in Fig. 22 and Fig. 23.

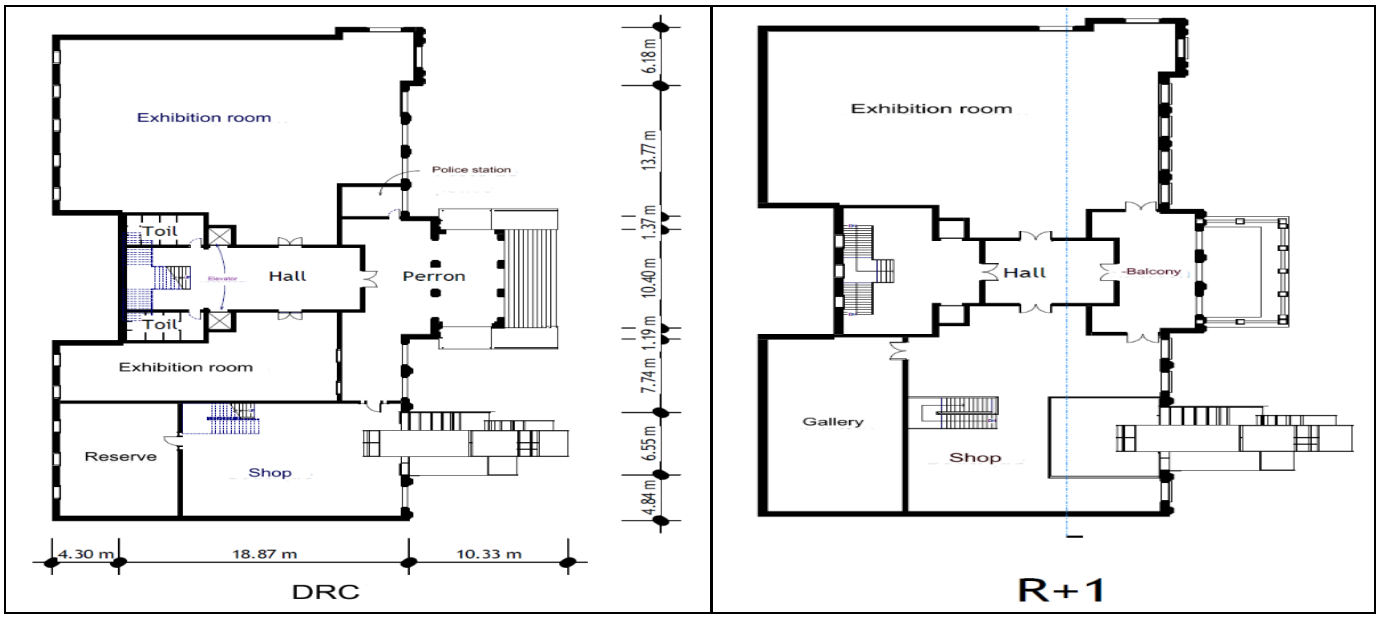

Fig 20: Plans of DRC and R+1 of Block A

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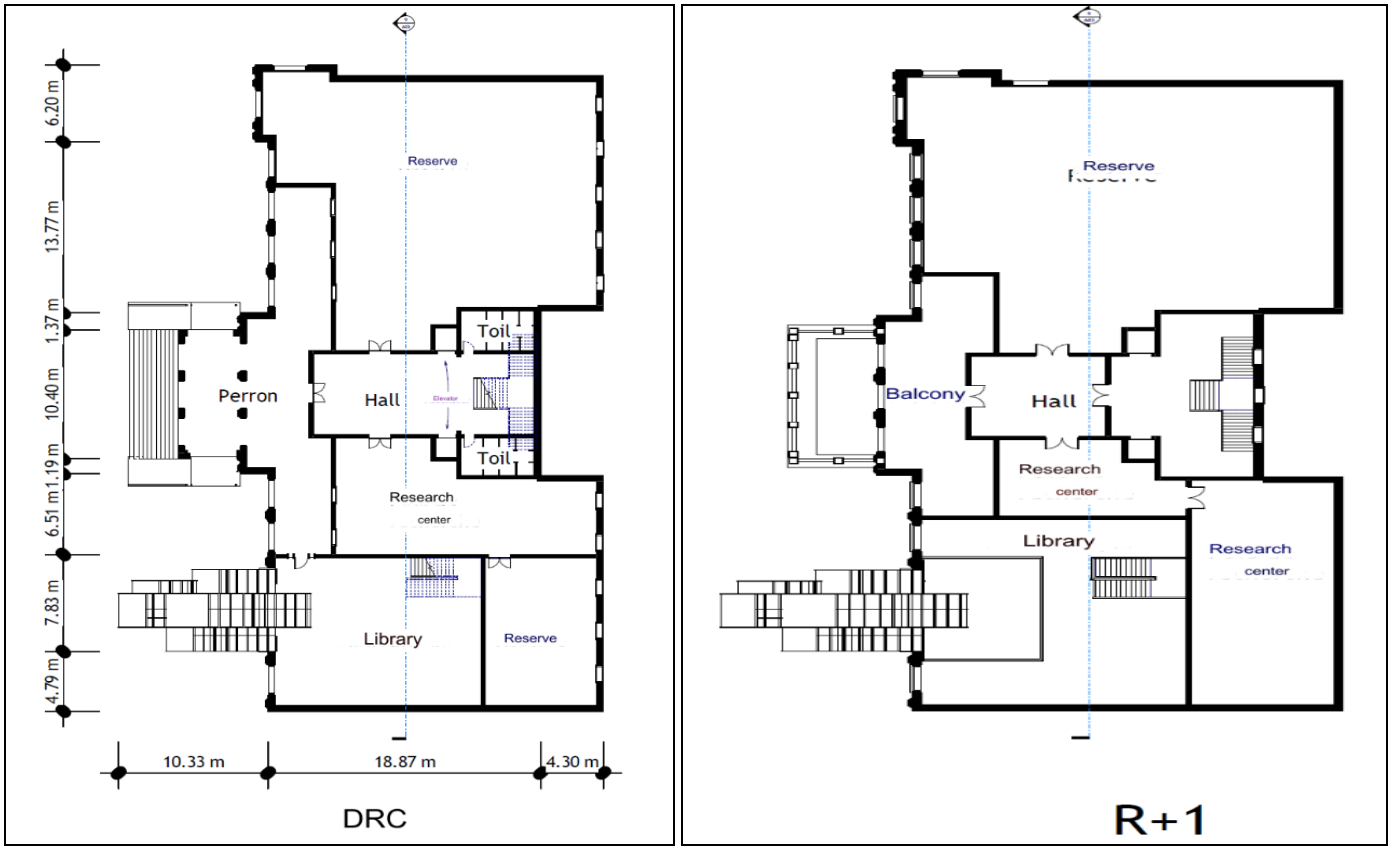

Fig 21: Plans of DRC and R+1 of Block B

Fig 22: The Blocks A and B Face of the Main Building

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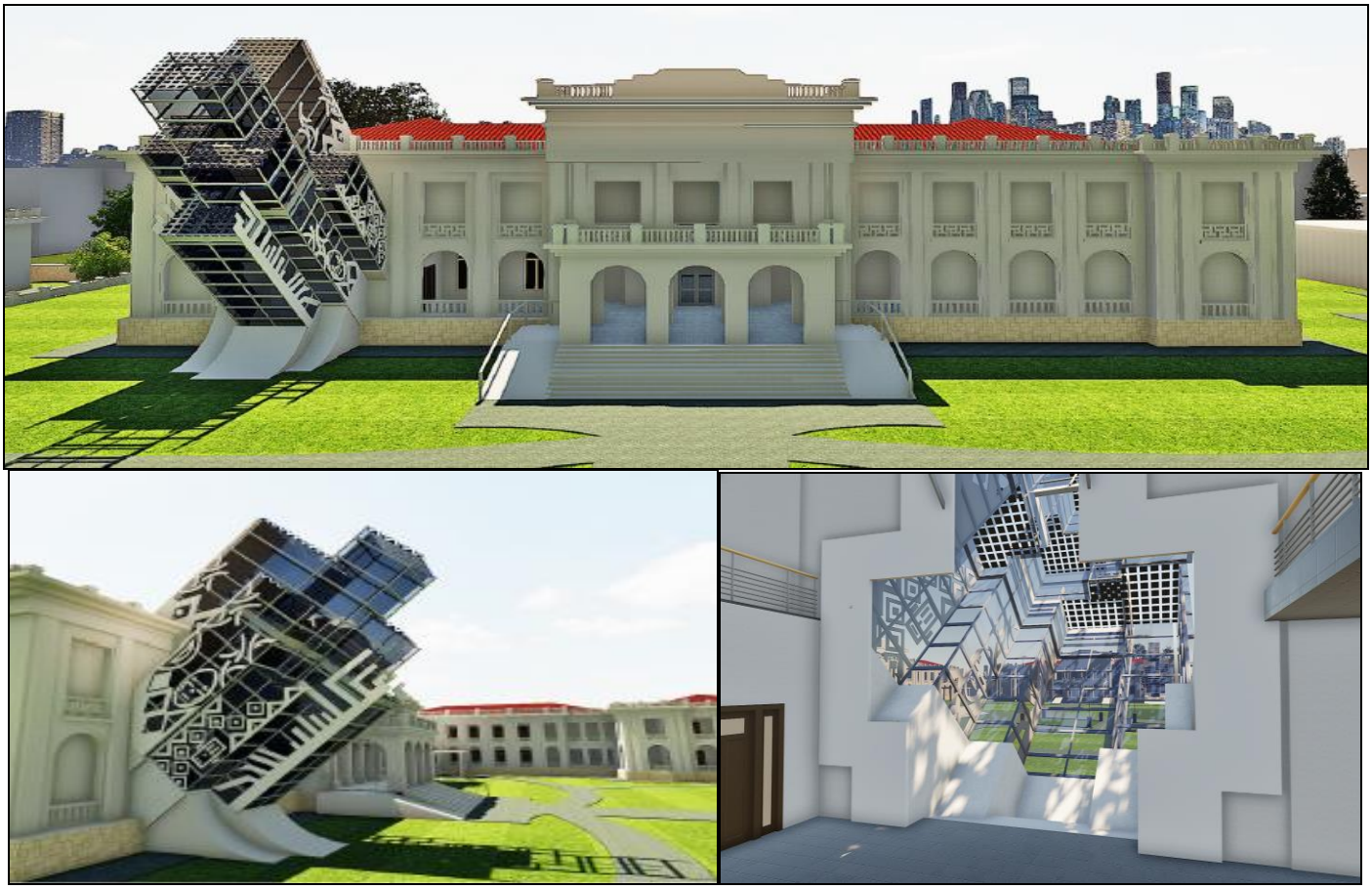

Fig 23: Visualiszation of the Contempary Contemporary form (Front View, Side View, Interior View)

C. The Reconstructed Annexes Block C and Block D

Block C (Cultural Center) and Block D (Meeting and Dining Areas) incorporate elements of classic and modern design, creating a visual and functional blend of historical preservation and contemporary use. Floor plans and 3D of block C can be seen in Fig. 24 and Fig. 25. Floor plans and 3D of block D can be seen in Fig. 26 and Fig. 27.

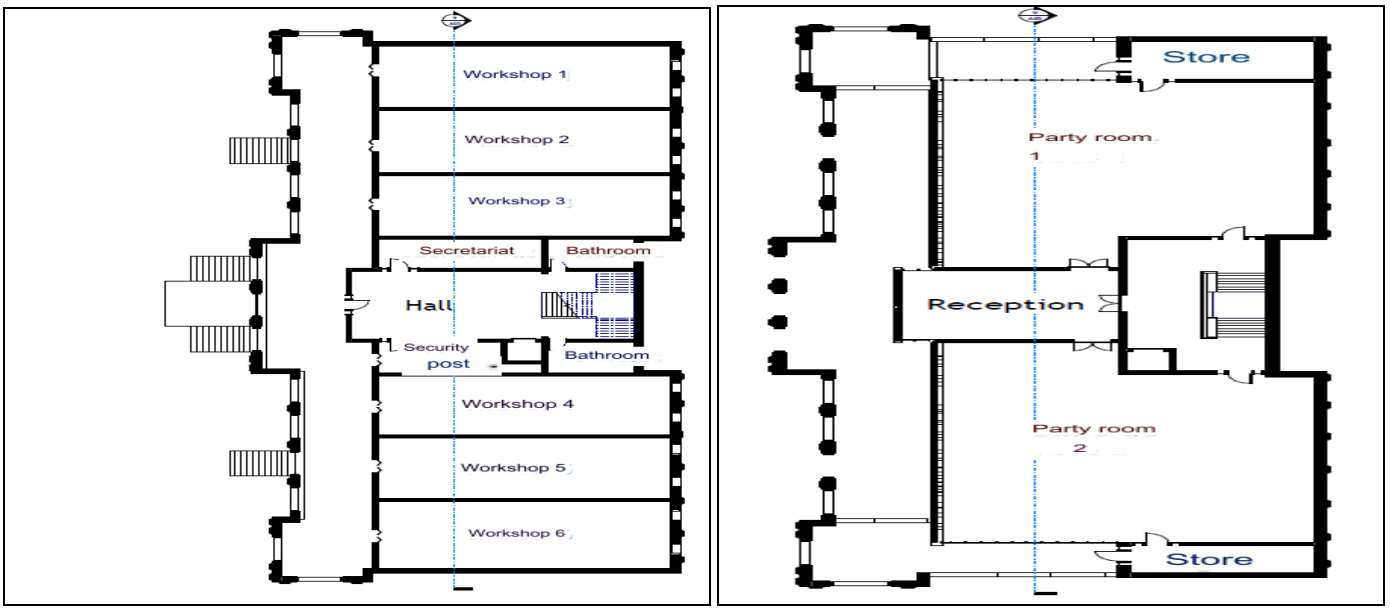

Fig 24: Plans of DRC and R+1 of block C

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Fig 25: 3D Views of Block C

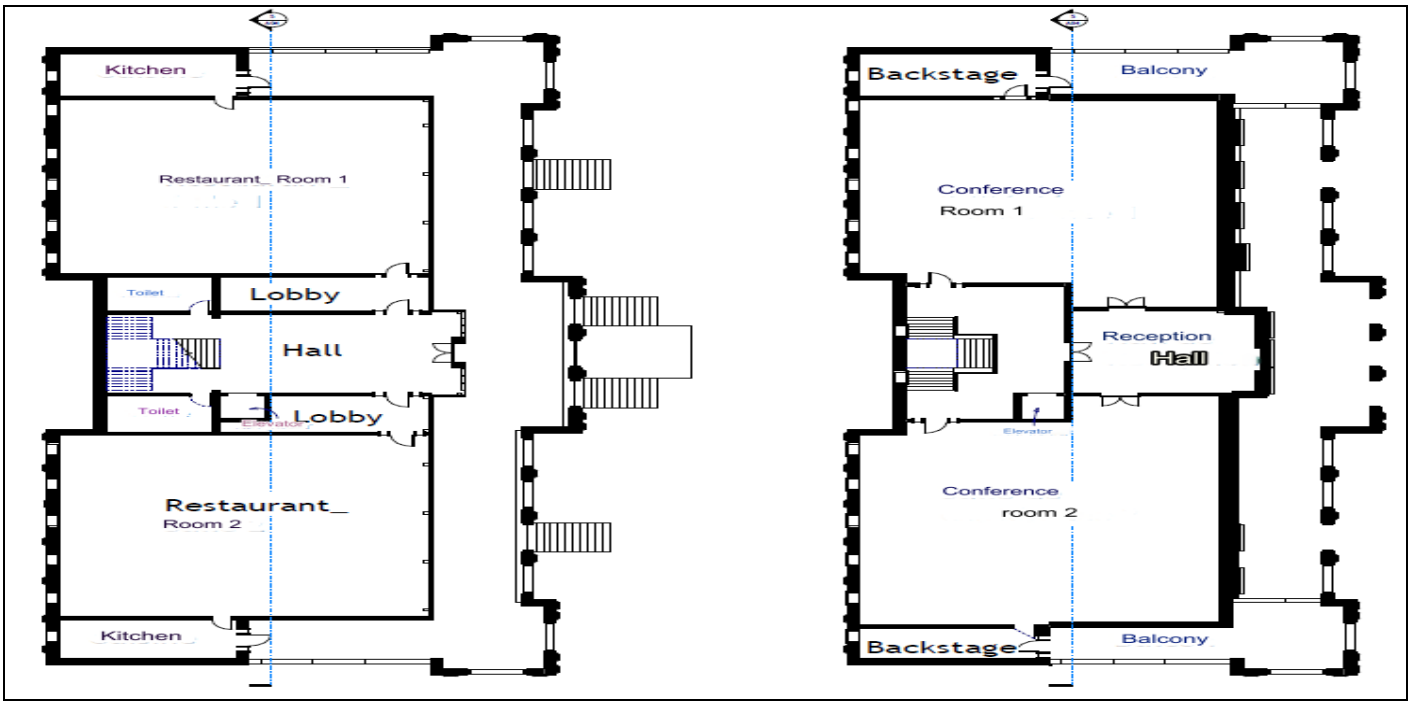

Fig 26: Plans of DRC and R+1 of Block D

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Fig 27: 3D Views of Block D

D. Accessibility and Traffic Flow

A key component of the new design is ensuring ease of movement for all visitors. Accessibility features have been integrated at multiple points:

- Universal Accessibility: Clear routes and ramps are illustrated to ensure seamless movement throughout the museum for individuals with reduced mobility. This includes the introduction of elevators in key locations, wide corridors, and clearly marked signage that supports inclusive navigation.
- Zoning and Circulation: Visitor flows are managed to reduce congestion, with separate pathways for museum staff, logistics, and public access. The incorporation of open-air corridors, inspired by traditional Cameroonian spatial arrangements, ensures a fluid transition between indoor and outdoor spaces. The circuit can be seen in Fig. 28.

Fig 28: View of the Traffic and Organization of the Site

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VII. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

In order to evaluate the potential impact of the proposed modernization project for the National Museum of Cameroon, it is essential to analyze both the internal and external factors that could influence its success. By assessing the strengths, weaknesses, opportunities, and threats associated with this endeavor, we can gain a clearer understanding of the project's feasibility and the challenges it may face. The following SWOT analysis outlines the key elements that must be considered to ensure the successful implementation of the museum's modernization.

A. Strengths:

- Cultural Heritage Promotion: The project incorporates both neoclassical architecture and traditional Cameroonian elements, enhancing the symbolic value of the museum as a conservatory of national cultural identity.
- Tourist Attraction: The modernization of the museum, with interactive exhibition spaces and modern facilities, will attract more visitors, both national and international, boosting cultural tourism in Cameroon.
- Sustainable Design: The integration of sustainable technologies (solar panels, rainwater harvesting, natural ventilation) reduces the environmental impact and long-term operational costs.
- Increased Accessibility: Improving infrastructure for people with reduced mobility, including ramps and elevators, will make the museum more inclusive, meeting international accessibility standards.
- Multifunctional Spaces: The creation of new exhibition halls, a cultural center, and educational workshops will strengthen the museum's role as a hub for learning and cultural exchange.
- Ensuring inclusivity through universal design principles not only meets international standards but broadens the museum's audience. By focusing on universal design principles, the museum will not only meet international standards but also expand its audience by ensuring inclusivity for people with diverse abilities [8].

B. Weaknesses:

- High Construction Costs: A project of this scale requires significant financial investment. Delays or budget overruns could affect implementation.
- Complex Maintenance of New Facilities: Managing new (modern and classical) spaces requires advanced technical skills, which could be a challenge if maintenance is not well planned or financed.
- Risk of Identity Loss: Excessive modernization could harm the authenticity of the museum if contemporary elements overshadow the Cameroonian cultural heritage, potentially alienating visitors who value tradition.
- Lack of Skilled Personnel: Managing new technologies (audiovisual equipment, interactive tools, ecological conservation) requires trained staff, which could be a challenge if adequate training is not provided.

C. Opportunities:

- International Recognition: With modern infrastructure and high-level exhibitions, the museum could attract international collaborations, becoming a reference center for cultural exchanges and partnerships with other museum institutions.
- Increased Revenue: Improving commercial spaces (shop, restaurant) and regularly organizing events, conferences, and temporary exhibitions could generate additional income for the museum.
- Cultural Education Reinforcement: Establishing educational workshops and cultural programs will help promote Cameroonian culture to young people, researchers, and the general public, while fostering national pride.
- Attracting Investors: The project could attract additional funds from national and international investors interested in developing the cultural sector in Cameroon.
- This project positions the National Museum of Cameroon as a modern cultural center, aligning with similar initiatives in other national museums. As pointed in [2]: 'By positioning itself as a modern cultural hub, the museum can foster collaborations with international institutions, enhancing its role as a cultural exchange space, similar to recent transformations in other national museums.'"

D. Threats:

- Financial Instability: The funds allocated to the project may not be sufficient or sustainable, especially if donors or financial partners withdraw, jeopardizing the project's completion.
- Environmental Degradation: The complex terrain and weather conditions in Yaoundé (heavy rains, erosion risks) could affect the durability of the new infrastructure, requiring costly adjustments.
- Competition from Other Museums: Other modernized museums in the region or internationally may attract visitors, reducing attendance at the National Museum of Cameroon, especially if standards are not maintained after modernization.
- Resistance to Change: Some members of the community or museum staff may oppose modernization for fear of losing traditions or seeing a radical transformation of the museum's identity, potentially slowing project implementation.

VIII. CONCLUSION

In conclusion, the modernization of the National Museum of Cameroon presents a unique opportunity to blend cultural heritage with contemporary innovation, transforming the museum into a modern cultural hub that honors the country's rich traditions. By addressing current

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challenges, such as outdated infrastructure and the need for improved visitor experiences, the project holds the potential to boost tourism, enhance educational opportunities, and promote international collaborations. However, careful management of financial resources, maintenance, and cultural preservation is essential to ensure long-term success. If executed thoughtfully, this project could position the National Museum as a leading institution on the global cultural stage, while reinforcing Cameroon's national identity and pride.

REFERENCES

[1]. Bennett, T. (2010). The Transformation of National Museums: Cultural Heritage and Contemporary Challenges. New York: Routledge.
[2]. Hudson, K. (2011). Re-imagining the Museum: The Architecture of National Museums. London: Routledge.
[3]. Ndoro, W., & Pwiti, G. (2013). Museums and Heritage in Post-Colonial Africa: New Approaches to Cultural Representation. Harare: Africa World Press.
[4]. MacLeod, S. (2005). Cultural Identity and Museum Architecture in the 21st Century. London: Routledge.
[5]. Bach, A. (2018). Sustainability in Museum Design: A Contemporary Approach. Chicago: University of Chicago Press.
[6]. Wylie, L. (2012). Green Museum: Case Studies in Sustainability. San Francisco: AltaMira Press.
[7]. Sandell, R. (2017). Universal Design and Accessibility in Museums: Inclusion Strategies for Disabled Visitors. London: Routledge.
[8]. Graham, H. (2015). Inclusive Museum Design: Accessible Spaces for All. New York: Palgrave Macmillan.
[9]. Pei, I.M. (1993). The Louvre Pyramid: A Modern Insertion in a Historical Context. Paris: Editions Gallimard.
[10]. Libeskind, D. (2007). Renovation and Modernization of Museums: The Case of the Royal Ontario Museum. New York: Thames & Hudson.
[11]. Nieto Sobejano Arquitectos. *Memory and Invention*. Hatje Cantz Verlag, 2013.
[12]. *The Architectural Review*, issue 1362, "New Horizons: Moritzburg Museum". The Architectural Review, 2010.