

**INTEGRATING BIOMIMICRY IN THE DESIGN OF A CULTURAL HERITAGE
MUSEUM CENTER OF THE IGALA KINGDOM IN KOGI STATE, NIGERIA**

BY

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14CA017499

AUGUST, 2020

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BY

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF POST GRADUATE
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AWARD OF DEGREE OF MASTERS OF SCIENCE (M.Sc) IN ARCHITECTURE OF
THE DEPARTMENT OF ARCHITECTURE, COLLEGE OF SCIENCE AND
TECHNOLOGY, COVENANT UNIVERSITY OTA, OGUN STATE, NIGERIA**

SUPERVISOR: DR. E.B. ADUWO

AUGUST, 2020

ACCEPTANCE

This is to attest that this dissertation is accepted in partial fulfilment of the requirements for the award of the degree of Master of Science in Architecture in the Department of Architecture, College of Science and technology, Covenant University, Ota, Nigeria.

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DECLARATION

I, **OKPANACHI Paul Ojonugwa (14CA017499)**, of the Department of Architecture, College of Science and Technology, Covenant University, Ota, Ogun state, hereby declare that the information contained in this dissertation work is the result of an honest academic research undertaken by me. I confirm that the dissertation has not been presented wholly or partially for the award of any degree elsewhere. All sources of data information used in this dissertation are duly acknowledged.

OKPANACHI, PAUL OJONUGWA

Signature and Date

CERTIFICATION

I certify that this dissertation titled “Integration of Biomimicry in the design of a cultural museum center for the Igala kingdom, Kogi state, Nigeria” is an original research work carried out by OKPANACHI Paul Ojonugwa (14CA017499), in the Department of Architecture, College of Science and Technology, Covenant University, Ota, Ogun state, Nigeria, under the supervision of Dr. E.B. Aduwo.

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DEDICATION

This design thesis is dedicated to the glory of God, the service of humanity, community of Architecture and the people of the Igala kingdom

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ABSTRACT

In this study, biomimicry as regards public spaces and museums was investigated in the design of a cultural heritage museum. Biomimicry focuses on the adaptation of natural elements with sustainability in mind to one's building. The major concern was that building designers rarely consider the future of their design in mind and end up lacking some key things which can be infused in the design in order for it to last. The aim of this study is to integrate biomimicry and the application in the design of a cultural heritage museum of the Igala Kingdom in Kogi state, Nigeria. In order to achieve the aim of this study three national case studies were examined using random sampling which included National Museum Benin, National Museum Lagos and the Museum of National Unity Ibadan. An observation guide was used as a checklist to examine the ideas of biomimicry which was extracted from literature. The result of the observation guide showed that all the museums had little consideration of the biomimicry. The only forms of biomimicry noticed were not purposefully designed with the ideas of biomimicry. The noticeable features only included things like landscape features including trees, grass, rocks and a few others. In the design of the museum for Kogi state, proper consideration from literature and findings from the observation guide were adopted in order to achieve good levels of biomimicry.

Keywords: Museum, Biomimicry, Sustainability, Cultural heritage, Nature.