



**AN ARCHITECTURAL FRAMEWORK
TOWARDS CULTURAL IDENTITY
AND TECHNOLOGICAL ADVANCEMENT**

By

Nancy Nagy Emil

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

In

Architectural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis: AN ARCHITECTURAL FRAMEWORK TOWARDS
CULTURAL IDENTITY AND TECHNOLOGICAL
ADVANCEMENT

Key Words: Culture; Identity, Technology; advancement, Architecture.

Summary: The research aims to conclude an Architectural Model grounded on both Technology and Culture to contribute in achieving Identity and Advancement. Critical theory of Technology and Modernized Regionalism approach in architecture are selected as research approach. Three Architectural sub-theories were studied: Critical Regionalism, Appropriate Modernism, and Authentic Regionalism. Additionally, the research summarized RIBA and Aga Khan Institutions' methodology to achieve Cultural Identity and Technological Advancement in Architecture. The Research Model is concluded in eight points: Critical Percipient of Traditional form; Architecture Congruity with context; Tactility and space experience; Realness of Form and Content; Sustainable Design Tendencies; Responding to Society needs; Rigorous understanding of traditions and Modernity; Recover Myth and Cultural Typologies. A qualitative approach test the Research Model through case study. This Model emphasizes on the process of achieving local identities and meeting global challenges. Finally, results are discussed together with the conclusions and prospects for future research are suggested.

DISCLAIMER

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the reference section.

Name: Nancy Nagy Emil

Date: 19th Dec. 2017

Signature:

DEDICATION

**To my Parents,
To my Dear Husband,
& to my sons Nader and Karim**

Today I dedicate them this achievement because without their presence, support, and comprehension I would have not achieved my goal. Thank you.

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ABSTRACT

The research is concerned with “**Technology and Culture**“ aspects in Contemporary Architectural and Urban Practice. The notion of Cultural Identity is considered an important mean for countries with a rooted cultural heritage. Architecture should respond to the increasing needs of society, cope with rapid Technological Advancement, and compete with the significant change seen in most countries. Creative approaches in contemporary and future architecture should be addressed to meet the growing demands of the society and to be part of this rapid progress. In addition, more responsive approaches in Architecture should be addressed. Therefore, the research aims to conclude an Architectural Model grounded in both **Technology and Culture** to contribute in achieving Cultural Identity and Technological Advancement. To achieve this goal, the thesis comprises three parts:

The First Part is a **Philosophical and Theoretical part** that expounds “**Technology and Culture**“ in Architectural and Urban Practice, it comprises three chapters. **The first chapter** outlines the Meaning and Realization of Culture and highlights the Importance of Cultural Identity in Contemporary Architecture. Understanding the hidden part of culture allows for a cognitive reading to the concrete manifestation of culture. Cultural in a certain environment can be realized on two levels. **Content** where culture can be realized through Architectural and Urban form Aesthetics; Functional Treatments; Building Techniques; Building Construction and materials; and Symbols as Physical Expressions. The second is **Context** where culture can be realized through: Form generation and Morphology; Environmental Responses and Treatments; Spatial Arrangement; and Geographical and Topographical Settings. Cultural realization contributes to achieving communities’ identity through Architecture. **The second chapter** reviews Technology meaning in historical and contemporary views; besides understanding, contemporary philosophical theories expounded “Technology” studying technology and its value and control on human life and society. From the Value view, Technology is **Neutral** when there is complete separation of means and ends. Technology in this view is the (*Logia*), it is “an end” and it is a tool (*Techne*) for Architect to decide how to use it. Technology in this perspective determines the society needs. The second view considers Technology as **Value-Laden** when means form a way of life that includes ends. Technology in this view is the way and System that links Architecture (*Techne*) with the process (*Logia*), Technology shapes society with the way the architect selects to control it. Knowledge and Process of Making are linked in a System. Buildings and urban context embody the reason they are built for. **The third chapter** studies **Philosophical Theories of Technology** and expounds the main theories of Technology and the corresponding **Architectural Theories** derived from each position. **Modernized Regionalism** approach in architecture is derived from Critical Theory of Technology and the researcher selected it as the research approach.

The Second Part is a Theoretical and Analytical Study that aims to conclude the research Model. It comprises two chapters. The Fourth Chapter provides a re-reading for three Architectural theories derived from the Modernized Regionalism approach. Critical Regionalism (Frampton) focuses on Context. Appropriate Modernism (Cox) focuses on Appropriating Technology. Authentic Regionalism (Curtis) focuses on cultural Content and Context. Architecture should -in a modern language- acknowledge Context, cultural

Typologies, address environmental and regional qualities, and reinterpret cultural heritage. The Fifth Chapter concludes the main points of the Aga Khan and Riba Institutions, which are concerned with Technology and Culture in Architecture. This chapter highlights the importance of transition with continuity. Cultural identity realized through meeting societal needs, improvement of people's lives, Environmental Responses, and sustainable approaches in design.

The Third Part is the research model it comprises two chapters. In **the Sixth Chapter**, the researcher recounted and re-contextualized the primary tenets of the previous theoretical and philosophical approaches into the research Model. The research's Model comprises eight points: (1) Critical Percipient of Traditional form; (2) Architecture Congruity with context; (3) Tactility and space experience; (4) Realness of Form and Content; (5) Sustainable Design Tendencies; (6) Responding to Society needs; (7) Rigorous understanding of traditions and Modernity; (8) Recover Myth and Cultural Typologies. These points emphasis on process over style, require that architecture reflect its time, place, and culture facing the challenges of local identities and technological advancement. **The Seventh Chapter** is a practical study. A qualitative approach aims to Test the Research Model through case studies in Egypt. The Palace of Arts is selected as the research case. It aims at achieving cultural identity and Technological Advancement in Architecture. In relation to testing the research model, the study is limited to questions related to the model's potential in analyzing the contribution of case study towards Cultural Identity and Technological Advancement. The researcher concludes possible Futuristic approaches for the Egyptian Architecture to contribute in the world contemporary architecture

It can be concluded that Technology frames different choices of design and different extensions of technological mediation. The Research Model provided a way for rethinking architecture in relation to culture and Technology. Technologies in this model are influenced by time, place, and culture through their development and adoption by Architects. This Model emphasizes the process of achieving local identities and meeting global challenges. Cultural identity is realized through meeting social needs, improvement of people's lives, Environmental Responses, and sustainable approaches in design. Technological advancement tends to be associated with 'newness': new forms, new materials, new ways of doing things. Besides considering new tools to improve and develop the transition and continuity process.

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