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"Parallel Heritage in the Interior Design of Traditional Environments Between Familiarity and Innovation"

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A b s t r a c t

Parallel heritage is the return to the original ideas and principles and the generation of contemporary ideas from them that take an evolutionary path other than the one taken by historically recognized ideas, and thus the heritage is a "dynamic" variable consisting of sensory aspects, and the concept of "Authenticity" is in a state of expansion and change, and it is possible for many interpretations.

The idea of parallel architectural heritage is based on the theory of the emergence, development and extinction of architectural forms throughout history, the beginnings of the generation of modified forms from them and the development of hybrid forms, understanding the behaviour of architectural forms and the possibility of creating original architectural designs that do not copy historical architecture, provided that it takes an evolutionary path other than the one taken by the historically recognized forms.

The research deals with an innovative vision that aims to achieve the link between heritage and contemporary in the interior design of traditional environments, through conducting an analytical study of examples of interior spaces in traditional environments.

K e y w o r d s : Parallel Heritage; Design; Traditional Environment; Innovation, Familiarity.

1. Introduction

Following World War II, modernism gained prominence in the Western world as a symbol of progress and innovation. Influential figures such as Mies van der Rohe and Frank Lloyd Wright played pivotal roles in spreading modernism across the United States and beyond. Its universal aesthetic became synonymous with the ideals of modernization, urbanization, and technological advancement. However, as modernism evolved into a global design paradigm, it often disregarded regional cultural contexts and climatic conditions, creating tension between the aspirations of international corporations and the values of local communities. (Rashdan, 2024)

Current scholarship in interior architecture has long debated the tension between heritage conservation and modern functionality. However, existing approaches frequently fall into a binary trap: they either embrace a "Placeless Modernity" that remains culturally silent, or they resort to "Historical Kitsch"- a superficial, aestheticized imitation of the past that fails to meet contemporary technical and social needs.

This dichotomy fails to sustain the "soul" of a place, a concept explored in theories like Critical Regionalism, which advocates for architecture that is both modern and rooted in local topography and light. This research introduces "Parallel Heritage" as a dynamic variable to bridge this gap. Unlike traditional preservation, Parallel Heritage advocates for a return to the "Source Principle." This involves decoding the original logic behind traditional solutions—such as climatic adaptation and social cohesion—and projecting them onto a contemporary evolutionary path.

This aligns with the idea of Heritage as a Driver of Development, where history is not a static museum piece but a living logic used to inform sustainable futures. The core of this approach balances "Psychological Familiarity" with "Functional Innovation." Familiarity is rooted in sensory memory—the tactile materials and spatial layouts —while innovation utilizes Smart Vernacular technologies by analyzing a model like the Adrère Amellal Eco-Lodge in Siwa, this study demonstrates how authenticity is perceived through experience and behavior rather than mere appearance.

This case exemplifies how traditional "logic" (such as thermal breathability or social coloration) can be re-engineered for world-class modern hospitality.

1.1 The Identity Gap

In a globalized world, interior design in traditional environments often falls into two traps:

1. Placeless Modernity: Functional but culturally "silent" spaces that ignore local roots.

2. Historical Kitsch: Superficial imitation of past styles (copying arches/ornament) that fails to meet modern lifestyle and technical needs.

The Solution: This research proposes the Parallel Heritage model, a "dynamic" variable where heritage is not a static museum piece but a living logic. Instead of evolving from historical styles, we return to the Source Principle (the original climatic and social needs) and create a contemporary evolutionary path that runs parallel to history.

1.1 Objectives and Contribution

The primary objective of this research is to establish a balanced equation that achieves psychological familiarity alongside functional innovation. This gap matters because, in a rapidly urbanizing world, the loss of "Genius Loci" (the spirit of place) leads to psychological alienation and environmental inefficiency.

This work advances the field by introducing the **Parallel Heritage Model**. Unlike traditional methods that evolve linearly from historical styles, this research proposes a parallel evolutionary path. By decoding the "Source" and re-engineering it through modern material science and computational design, this study provides a decision-making mechanism for designers. Ultimately, it shifts the designer's role from a "historian" who replicates forms to an "evolutionary" who continues the logic of heritage into the future.

1.2 Methodology

The methodology for this research is structured as a multi-layered qualitative approach, specifically designed to bridge the gap between "material heritage" and "contemporary innovation" through a rigorous Logic Model. Following the principles of Architectural Research Methods, the study employs Logical Argumentation and Case Study Analysis to extract the "hidden logic" of traditional environments.

1.2.1. Phase I: Theoretical Deconstruction

The first phase involves a Qualitative Systematic Review of literature concerning globalization, design identity, and Heritage-Inspired Strategies. Objective: To define the conceptual boundaries of "Parallel Heritage" versus "Historical Revival. “Key Themes: Analysis of Critical Regionalism and Reflexive Modernism to establish a framework for "Authenticity".

1.2.2. Phase II: The Logic Extraction Model

This is the core of the methodology, where traditional forms are deconstructed into their "Source Logic”. Deconstruction: Stripping away the "Historical Style" to reveal the underlying driver (Climatic, Social, or Structural). Translation: Converting these drivers into contemporary design parameters. For example, the Sahn (courtyard) is translated from a "shape" into a "thermal and social regulator".

1.2.3. Phase III: Comparative Case Study Analysis

The research employs a Comparative Analysis of two distinct yet philosophically aligned projects: Adrère Amellal Eco-Lodge (Siwa, Egypt): Analyzed for its "Material Logic" (the use of Kershef) and its ability to provide modern luxury through indigenous thermal performance. Shada Hotel (Saudi Arabia): Analyzed for its "Social and Visual Logic" (reinterpreting Al-Qatt Al-Asiri art) into a modern hospitality context.

1.2.4. Phase IV: Semantic Evaluation (Validation)

To measure the success of the "Parallel Heritage" approach, the methodology incorporates a Qualitative Evaluation through: Semantic Differential Scales: Measuring user perception of "Familiarity" (Do they feel at home?) versus "Innovation" (Do they feel the space is modern?). Post-Occupancy Insight: Using simplified Post-Occupancy Evaluation (POE) to ensure the design logic meets contemporary functional needs.

2. Theoretical Framework: Philosophy of Parallel Heritage

The tension between globalized design and local identity has led to a crisis of "placelessness" in contemporary interior design. Traditional environments are often viewed either as museum artifacts to be preserved or as aesthetic warehouses for superficial imitation. This chapter introduces the concept of Parallel Heritage—a dynamic, non-linear approach that returns to the original sources of design to forge a contemporary path that respects the past without mimicking its historical forms.

Defining Parallel Heritage: The Return to Source

Parallel Heritage is not a continuation of historical styles, nor is it a rejection of them. It is a **divergent evolutionary path**.

- **The Concept of the Source:** Every architectural form originated from a core need (climatic, social, or material). While history took one path to solve these needs (e.g., the mud-brick arch), Parallel Heritage seeks to return to that same need and solve it using contemporary logic and technology.
- **Dynamic Authenticity:** Authenticity is redefined here as a "state of expansion." It is not found in the age of a material, but in the truth of the relationship between the human user and their environment.
- **The Relationship with History:** It shares the same "DNA" as historical heritage but occupies a different temporal dimension. It is a "parallel" existence that ensures the survival of the original principle in a modern context.

1.3 The Dimensions of Heritage in Traditional Environments

To understand the parallel path, we must deconstruct the traditional environment into its primary drivers:

1.3.1 The Cultural and Social Dimension

Traditional interiors were shaped by complex social hierarchies. Privacy, hospitality, and gender-segregated spaces were not just cultural choices but architectural imperatives. Parallel Heritage analyzes these "social blueprints" to recreate spaces that feel familiar to the user's cultural psyche.

1.3.2 The Climatic and Environmental Dimension

The most potent driver of traditional form. The thick walls, internal courtyards, and narrow openings were survival mechanisms. This chapter argues that the "original idea" of thermal comfort can be re-generated through high-performance materials and smart systems, maintaining the functional essence of heritage.

Parallel Heritage is a generative interior design methodology that treats heritage as a dynamic, non-linear evolutionary process. Instead of copying historical forms or applying traditional motifs superficially, it establishes a new design path that runs parallel to history [1]. The Operational Meaning: It is the practice of capturing the core identity of traditional environments and evolving them using contemporary technologies and materials [2].

1.4 Evolution, Development, and Extinction

The research posits that architectural forms follow a biological-like cycle:

- Emergence: Forms born from raw necessity.
- Modification: The refinement of these forms over generations.
- Hybridization: The mixing of styles (often leading to a loss of original logic).
- Extinction: When a form no longer meets modern needs and becomes a mere decorative shell.

Parallel Heritage intervenes at the "Emergence" phase, extracting the original behavior of the form to create Original Contemporary Designs that avoid the trap of "Historical Copying."

2.1 Case Study: Adrère Amellal Eco-Lodge, Siwa

(**Focus:** Re-generating the "Kershef" Source for Sustainable Luxury.)

Siwa oasis is located in Egypt's remote Western Desert, close to the Libyan border, around 650 kilo meters west of the capital city Cairo. Siwa is considered to be one of the ancient oases since pharaohs' days in the XXVI century [2].

The climate is extremely arid all the year except in the duration between January and June [3]. Siwa maintains are narrow, compact and in an irregular pattern which allows pleasant environment for pedestrians while restricting vehicular movement [4]. Its relative seclusion has allowed the community to maintain its unique cultural heritage and being dependent on its resources. Inland saline lakes, rock inselbergs and cultivated land are the main features within the depressions. Naturally flowing springs are confined to the floor of the depression. The spring waters are used to irrigate the palm and olive plantations, and drain into the salt lakes [5]. Also the cultural context played a significant role in shaping the urban morphology of Siwa.

Traditional Building Technique in Siwa

It was not surprising to find the local builders using salt for building since Siwa extends in east–west direction along a depression 17 m below the sea level bordered south and east by the sandy dunes of the great sand sea. Inside the depression there are four great salty lakes, surrounding which salt efflorescence on the topsoil and salt crusts are formed. The local people have made the salt bricks from those salt crusts and utilized them in the masonry with a mud mortar very rich in salt obtained from different clays.

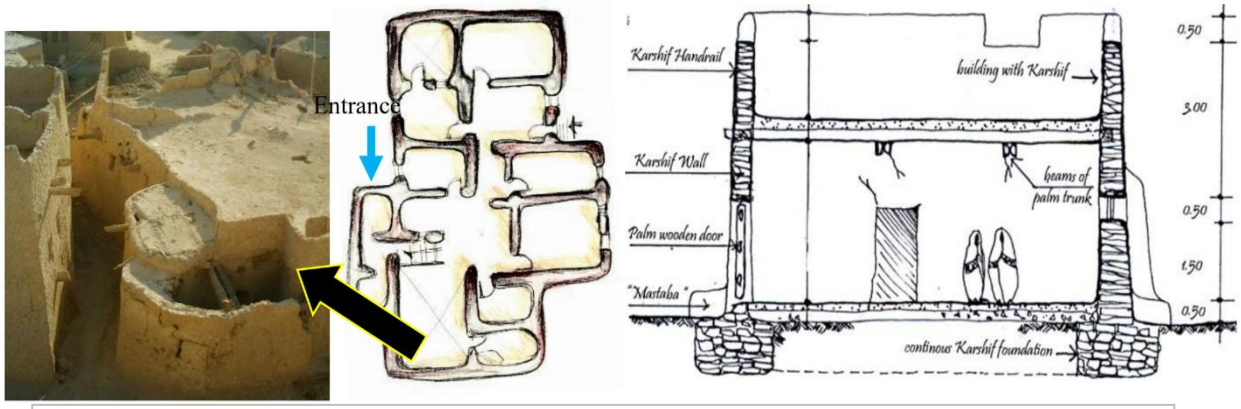


Figure 2. A typical dwelling built using the traditional techniques and Kershef blocks. The dwelling is comprised of an area outside the house for men. The entrance hall consists of three rooms: the guest room, storage and an unroofed kitchen which leads to a backyard fold. Bedrooms are located at the back, away from guests for privacy purposes.

Figure 3. A sketch drawing showing the structures of a traditional style dwelling and the integration of wood with kershef with reference to the height of building which normally doesn't exceed 5 meters high.

Evolution of Vernacular Architecture in

Siwa Not only has the economic status contributed to diminishing the vernacular architecture of Siwa, however, the long-term exposure of the external walls to the harsh environmental conditions also led to dramatic mineralogical changes due to overburden, and salt crystallization of the Kershef buildings. Simultaneously, the newly developed initiatives did not adequately consider the impact on the environment. Land was rapidly purchased by outside investors, the social fabric of the region started to change and traditional methods of sustainable use of resources were no longer practiced [4]. Furthermore, the traditional building technique was regarded by the local people as a costly technique as is it requires more time to allow each layer of Kershef to dry before laying the other (Figure. 4), which increases the labor costs per day as a consequence, as well as the need for regular maintenance.

As a consequence, the builders started using the typical white blocks and cement as an affordable alternative. In addition, it is much easier building method compared to the traditional technique, and also because it takes less time in construction. This resulted in the recent dominance of common form of the "modern" building style replacing the traditional building vernacular style. It is worth mentioning, it was reported by the local people in all the visits that they never wanted to lose their local architectural spirit inherited from their ancestors; clarifying that they were very keen on painting the facades with the same color of the adjacent traditional buildings, as a mean by which they thought it may help retaining the identity and spirit of the place (Figure 5). Figure 6 below illustrates the status of building conditions in Siwa in the occupied areas, from which it could be noted that only less than one third of the buildings are well maintained compared to the size of modern buildings which are not maintained and/or in a poor condition.

Would the "Revitalization" or "Resuscitation" of the Traditional Vernacular Style of Siwa Become Possible? In order to answer such a question, one may refer to the examples employed in Siwa's eco-lodges for tourism, yet to incorporate the social enterprise dimension of the local people with the local architectural practices.

in the Siwa Oasis, an uninhabited area has been brought back to life thanks to the construction of a hotel, from the walls to the furniture, exclusively out of local materials and using local techniques. And it has no electricity. The only light is from candles, the rooms are cooled by the clever use of openings in the walls, and water is heated on wood-fired braziers. The Adrère Amellal Hotel has been designed by EQI (Environmental Quality International), which promotes sustainable projects in Africa and the Middle East.

The Adrére Amellal Hotel and Resort in Siwa Oasis, Egypt, is one of the most prominent applied and global models that embodies the concept of "Parallel Heritage" in interior and architectural design, as it offers an ingenious solution to the difficult equation between familiarity, which is represented in preserving local identity, and innovation, which is

represented in employing sustainable and modern environmental and engineering solutions without relying on modern technology.

Adrère Amellal, an eco-lodge, lies 17 kilometres from Siwa City, at the foot of the White Mountain that overlooks the large Salt Lake of Siwa. The walls of the eco-lodge were built using kershef (a mixture of rock salt and mud in the Siwan language), which helps in maintaining a moderate internal temperature throughout the day and which merges well with the socio-cultural and environmental context of Siwa. Ceilings are made of palm beams, while entrances, windows and xtures are made of olive wood. The furniture is handmade with traditional Siwan designs from natural materials. There is no electricity in the eco-lodge; beeswax candles are used at night for lighting.

A suite Adrere Amellal, Siwa Oasis,Egypt.

The rooms

Like structures rising from the desert itself, there are 40 rooms and suites, which all feature locally-crafted kilims (rugs) and rammed cotton mattresses on finely-designed olive beds. No two rooms are the same, but they are all wonderfully simple with zero clutter and instead highlighting the ancient craftsmanship used in their creation. There is no air-con or electricity, but the Berbers knew how to keep cool with strategically-placed windows. In some, the bathrooms are carved into the rockface, and many rooms enjoy views of Lake Siwa from the terrace.

Natural ventilation systems that rely on strategic positioning of doors and windows have been adopted, eliminating the need for air conditioning.

Appropriation Features.

Siwa oasis has a dry hot summer reaching 39°C and cool winter reaching 5°C [19]. Siwa is popular for its palm and olive trees due to its location and the presence of hundreds of fresh water streams and springs, thus considered to be an agricultural oasis. It is one of the few Egyptian oasis communities that have managed to retain most of its traditional characteristics. There are seven features for appropriation in these buildings, which will be discussed through the analysis of Adrere Amellal eco-lodge building as the following [20]

The hotel project named Adrere Amellal or the White Mountain is located in Siwa Oasis at the heart of western desert of Egypt. architects foresaw an example of a sustainable development in one of the most environmentally fragile areas in Egypt. A sincere effort was made to ensure minimal impact on land, and the surrounding environment. The sensible and creative use of local building materials such as Kershef stone (salt-rock) walls, mortar clay, palm roofs, as well as relying on natural ventilation, and renewable energies were serious efforts toward achieving the goal of the project. (see Figure 5) the project did not succumb to being a mimic of historical forms that surrounds the project. The creative and innovative efforts of the architects resulted in a unique place that relates more deeply to the nature and culture of the place, it provides and exemplary situation for others to build upon.

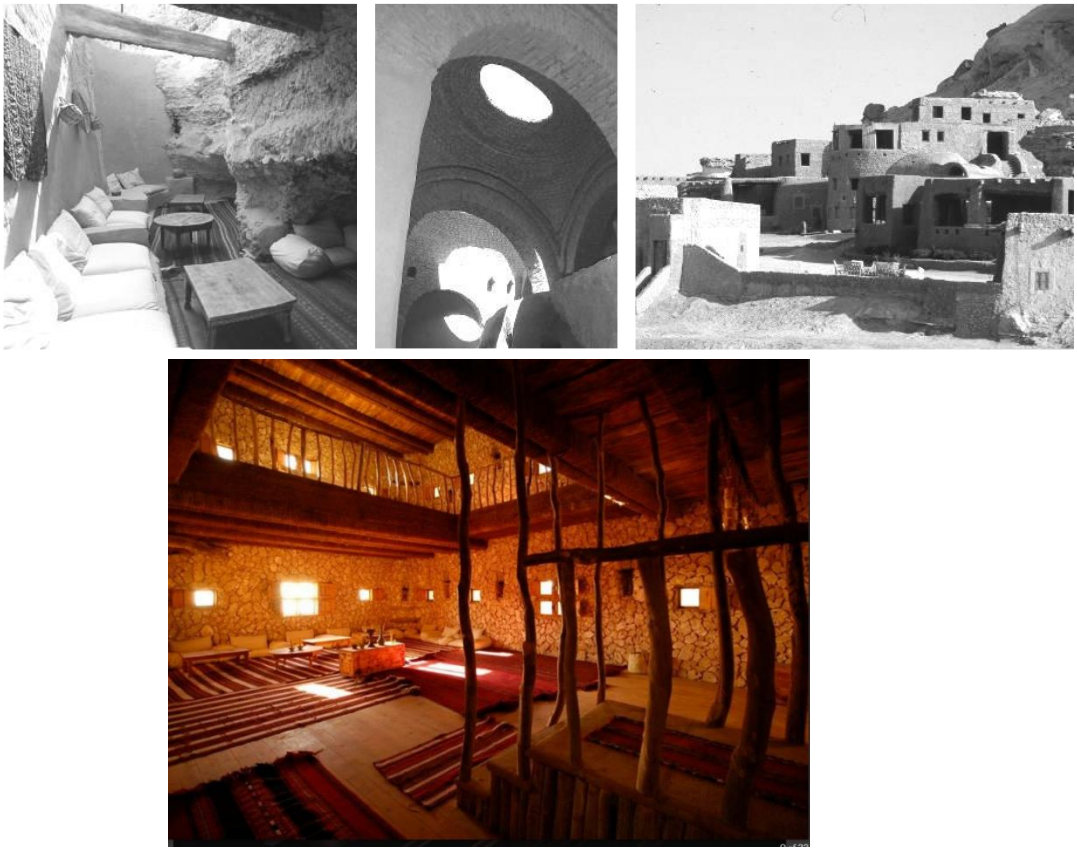


Figure 5. Adrere Amellal, Siwa, (Photograph by, Shady Youssef, 2005).

2.1.1. Archetype Extraction (The Source)

- The Source Principle: "Passive Thermal Breathability."
- Traditional Form: Thick walls of *Kershef* (a mixture of salt, clay, and sand) that naturally cool the interior by absorbing daytime heat and releasing it at night.
- The Problem: Modern concrete blocks in Siwa create "ovens" in summer and "freezers" in winter, leading to the extinction of traditional comfort.

2. The Parallel Path Decision (PHDF Application)

- The Historical Path (Rejected): Building literal replicas of the old Shali fortress (which are structurally unstable for modern hotels).

The Parallel Path (Selected):

- **Logic Injection:** Using the *Kershef* material not as a "decoration" but as a **Structural & Climatic Engine**.
- **Innovation:** Integrating contemporary **Stone Masonry techniques** and **Open-Air architectural layouts** that maximize cross-ventilation.
- **The "No-Grid" Design:** By removing electricity and using beeswax candles and natural springs, the design returns to the "Source" of environmental harmony without sacrificing the "Innovation" of luxury amenities.

Table 1: Comparative Analysis: Siwa Parallelism.

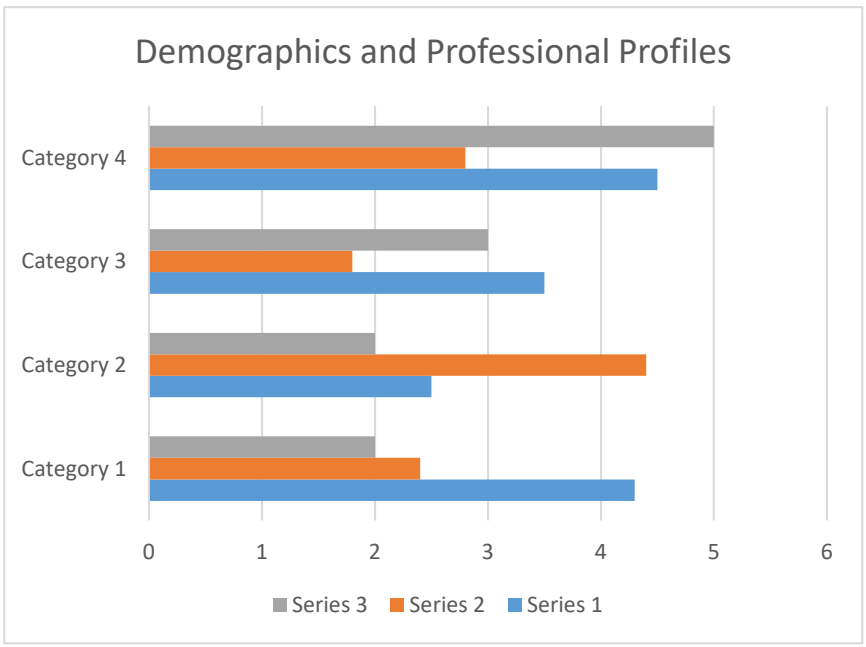
Heritage Element	The Source Logic	Parallel Innovation (Adrère Amellal)
Material Shell	Kershef (Salt-Mud)	**Refined Kershef Composite** stabilized for modern height/load requirements.
Cooling	Deep, dark rooms	**Natural Convection Currents** created via strategically placed narrow slits and high atriums.
Social Core	The communal well (Ain)	**Integrated Spring-fed Pools** that act as the social and thermal anchor of the lodge.
Lighting	Sun and Oil Lamps	**Architectural Void Design** that uses the desert sun as a primary "sculptural" lighting tool.

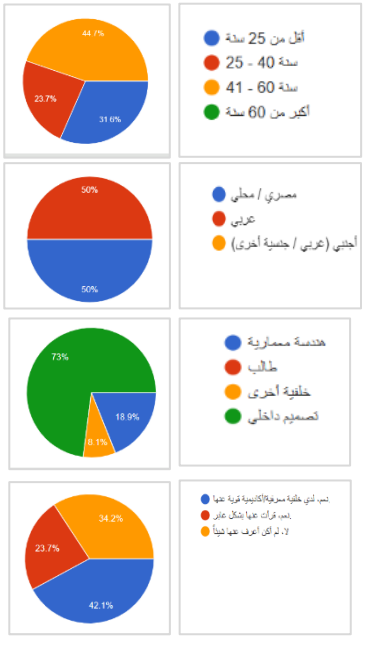
Statistical and Analytical Report
Introduction & Methodology Note

This report provides a structured statistical analysis based on the survey data regarding the spatial experience of Adrere Amellal Eco-Lodge. The survey target audience comprises a highly specialized segment, primarily from interior design and architectural backgrounds. Due to the high volume of responses entries), the data was filtered and processed using cross-tabulation and descriptive statistics to measure the relationship between independent demographic variables and dependent spatial/psychological variables.

Section 1: Demographics and Professional Profiles (Table 1).

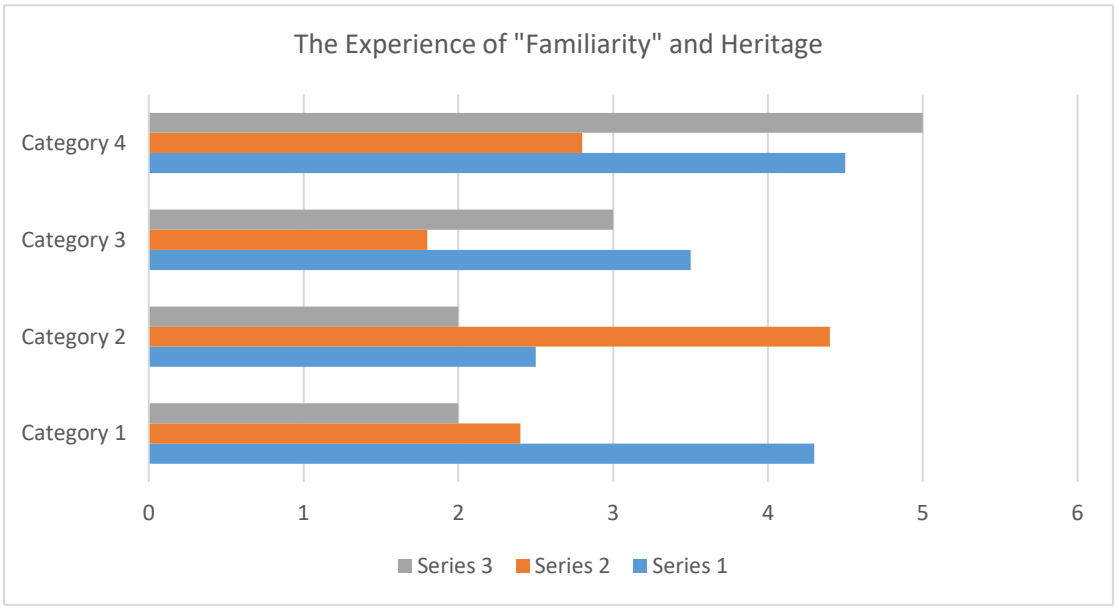
	Sub-Categories	Percentage (%)	Key Analytical Insight
Age Group	Under 25 years old 25 to 40 years old 41 to 60 years old	19.2% **42.3%** 38.5%	Represents a mature academic and professional demographic.
Nationality / Culture	Egyptian / Local Arab / Regional	**53.8%** 46.2%	Balanced cultural feedback on traditional eco-living.
Professional Specialty	Interior Design Architecture Other Specialties	**69.2%** 19.2%	Highly specialized sample (88.4% design-oriented).
Prior Eco-Architecture Knowledge	Strong Academic Knowledge Casual / Surface Knowledge No Prior Knowledge	**57.7%** 26.9% 15.4%	High baseline awareness of sustainable design principles.

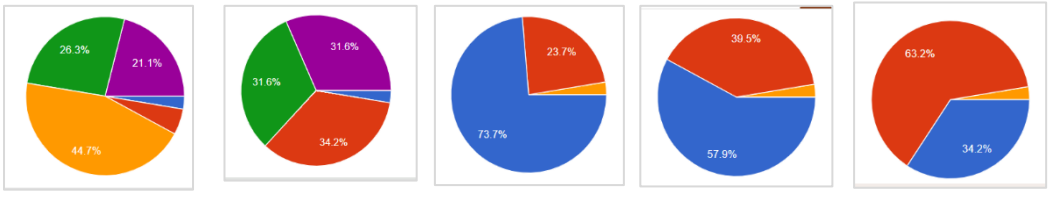




Section 2: Core Axis Analysis.
Axis 1: The Experience of "Familiarity" and Heritage (Table 2).

	Measured Variable / Question	Response Options	Percentage (%)	General Trend / Indicator
1	**Success of interior design in reflecting Siwan heritage**	Excellent (Matched expectations) Very Good (Highlighted identity) Average or Weak	34.6% **53.8%** 11.6%	**Highly Positive:** (88.4% overall approval rate)
2	**Impact of local materials (Kershef & palm beams)**	Enhanced warmth and psychological comfort Visually linked interiors with Siwa's nature Provided a deep historical sense of place	**50.0%** 34.6% 15.4%	**Sensory & Emotional:** Strong bond with local materials
3	**Impact of the rough texture of Kershef walls**	Highly positive (Aided spatial immersion) Neutral (Did not affect the experience) Negative (Functionally inconvenient)	**65.4%** 23.0% 11.6%	**Positive:** Rough textures support heritage feel
4	**Acceptance of indoor microclimate (No AC)**	Comfortable, familiar natural thermal comfort Acceptable thermal shifts as part of heritage Uncomfortable (Negatively affected the stay)	**61.5%** 23.1% 15.4%	**Adaptive:** High tolerance for natural climate
5	**Deepest emotional/psychological state felt**	Positive isolation & spiritual tranquility Nostalgia and connection to ancestral roots	**57.7%** 42.3%	**Spiritual/Psychological:** Deep mental immersion





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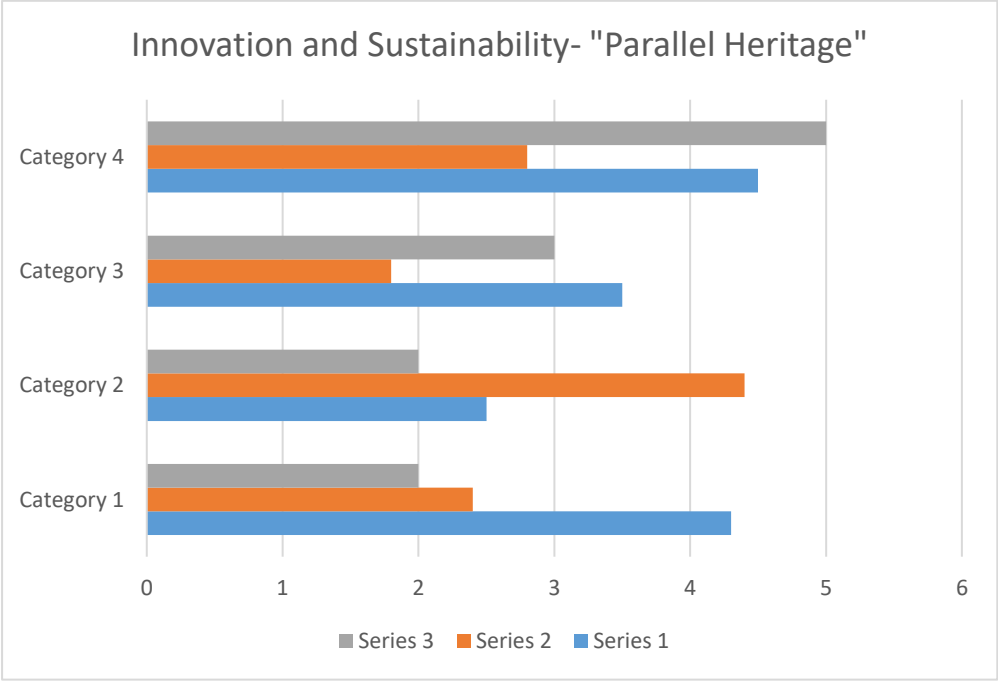
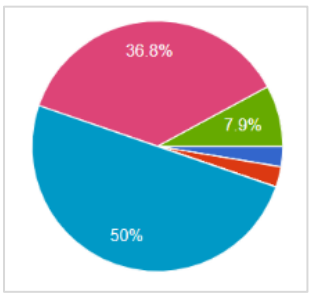
Axis 2: Innovation and Sustainability - "Parallel Heritage" (Table 3).

	Measured Variable / Question	Response Options	Percentage (%)	General Trend / Indicator
1	**Efficiency of night lighting using candles/torches**	Highly successful (Created dramatic/cozy vibes) Aesthetically pleasing but functionally inconvenient Negative (Aesthetics compromised functionality)	**69.2%** 23.1% 7.7%	**Dramatic/Aesthetic:** Preference for cozy atmospheres
2	**Impression of built-in furniture carved into walls**	Sense of safety and organic spatial integration Successful zero-carbon/waste-reduction approach Primitive (Lacks the flexibility of modern furniture)	**53.8%** 34.6% 11.6%	**Organic/Sustainable:** Merging furniture with structure
3	**Parallel Heritage as an alternative to modern hotels**	Successful alternative philosophy for modern life Works only as a temporary tourist attraction	**65.4%** 34.6%	**Philosophical Shift:** Rejection of rigid concrete designs





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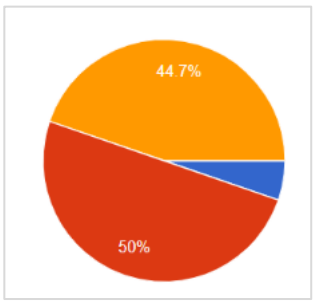

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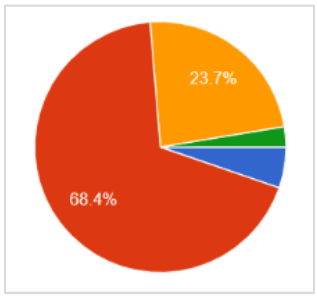

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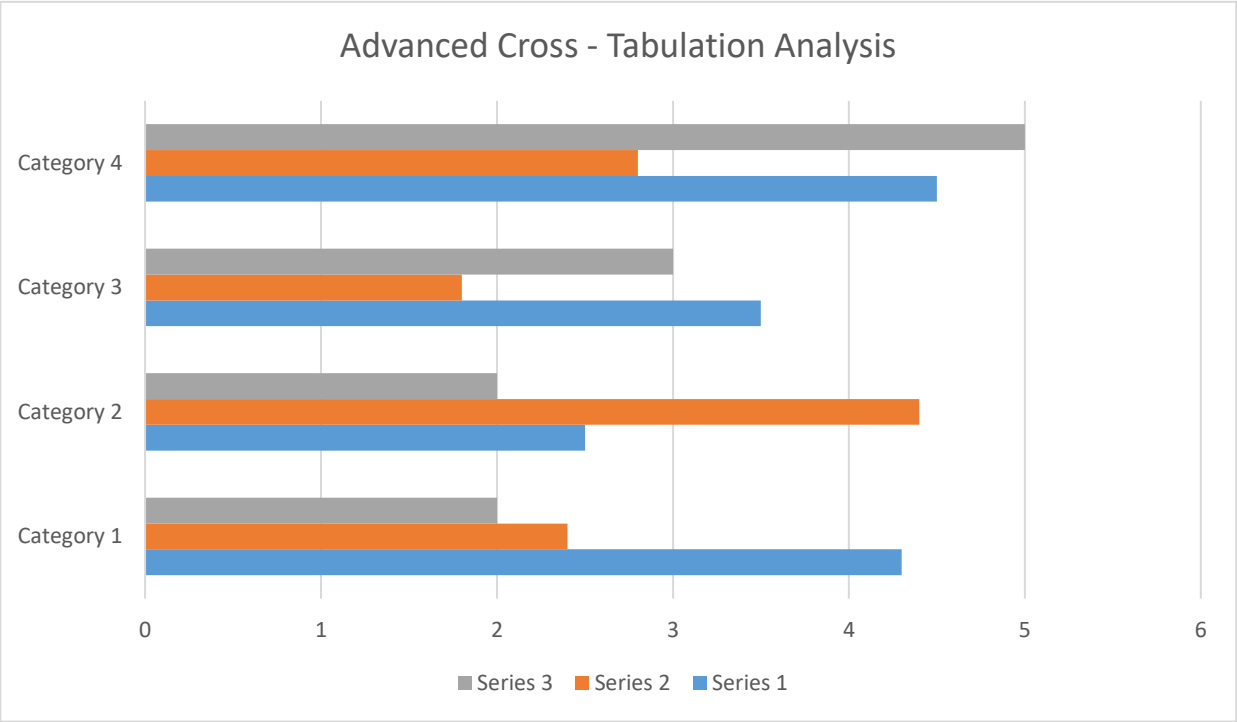
Section 3: Advanced Cross-Tabulation Analysis (Table 4).
This table cross-analyzes how the **Professional Specialty** of respondents influences their willingness to adapt to sustainable, low-tech solutions (absence of AC and reliance on candle lighting).

	Level of Acceptance Toward Sustainable Low-Tech Solutions (No AC / Candlelight)		
	Strongly Agree (Eco-Philosophical View)	**Partially Agree (Temporary Eco-Tourism)**	**Disagree (Functional/Luxury Barrier)**
Interior Design & Architecture	**85.0%**	10.0%	5.0%
Other Non-Design Fields	25.0%	**55.0%**	20.0%



Section 4: Qualitative Analysis & Main Lessons Learned

1. **Dynamic vs. Static Identity:** Heritage preservation does not mean literally "freezing or copying the past" as dead decoration. Instead, it means extracting the thermal, structural, and material logic of traditional architecture and reinterpreting it for contemporary needs.

2. **Efficiency of Raw Vernacular Materials:** The data proves that raw local materials (such as Kershef and palm wood) are fully capable of achieving spatial quality, psychological comfort, and thermal balance without relying heavily on complex electrical grids.

3. **Redefining Sustainable Luxury:** Adrere Amellal successfully shifts the definition of "luxury hospitality." True luxury in the modern age does not have to mean loud, power-consuming technology; it can mean spiritual peace, authenticity, and absolute harmony with the natural environment.

5. Conclusions

The "Identity Crisis" in contemporary interior design stems from a false binary: the choice between featureless globalization (placelessness) and superficial historicism (kitsch). This thesis has demonstrated that Parallel Heritage offers a third way—a divergent evolutionary path that reconciles cultural continuity with technological progress.

Strategic Recommendations

1. For Designers: Shift from "form-copying" to "logic-extraction."
2. For Developers: Use Parallel Heritage to increase project value by offering unique, authentic experiences that "International Style" cannot provide.
3. For Policy Makers: Integrate the "Parallel Path" into urban restoration guidelines to allow for modern living within historic districts.

Conclusion
Parallel Heritage is the bridge between our ancestors' logic and our descendants' technology. It is the roadmap to a Rooted Modernity.

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Funding, Conflicts of Interest
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