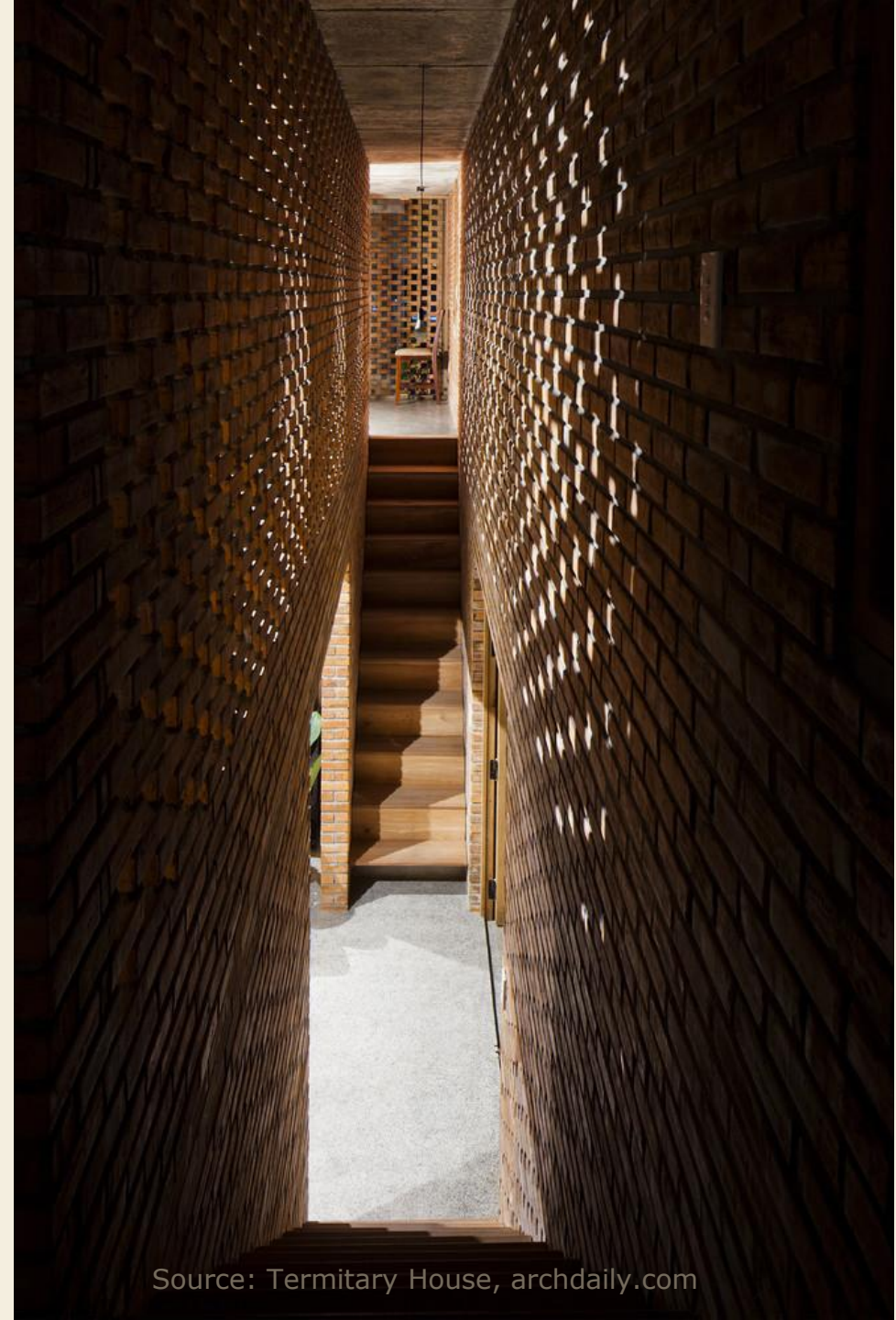


# Redefining the Role of Material Authenticity in Traditional Vietnamese Housing

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Source: Termitary House, [archdaily.com](http://archdaily.com)



## Does an authentic traditional material have to remain unchanged?

### Authenticity

Preserving the original physical state

→ A **continuous process** of preserving **cultural values** while **upgrading** and **reinterpreting** materials for contemporary environmental and technical requirements

# The authenticity dilemma

## CULTURAL VALUE

Cultural identity  
Tactile and spatial qualities  
Climate-responsive knowledge

## CONTEMPORARY DEMANDS

Moisture and durability  
Termites and fire  
Structural capacity  
Building requirements

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Can materials change and remain  
culturally authentic?

# Redefining material authenticity

## EARLIER EMPHASIS

Original physical substance

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## CONTINUITY THROUGH TRANSFORMATION

Cultural  
expression

Material  
experience

Climatic  
principles

Appropriate technical change can sustain core values.

# An integrated A–B–C framework

**A**

## **EXPRESSIVE VALUE**

- A1 Visual and tactile qualities
- A2 Spirit of place

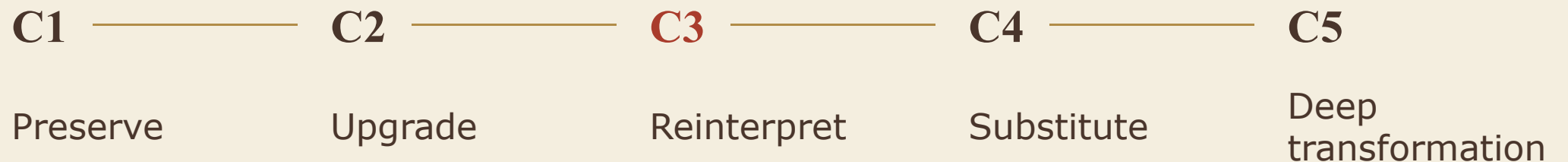
**B**

## **PERFORMANCE**

- B1 Durability, moisture, fire, structure
- B2 Thermal, carbon, ventilation

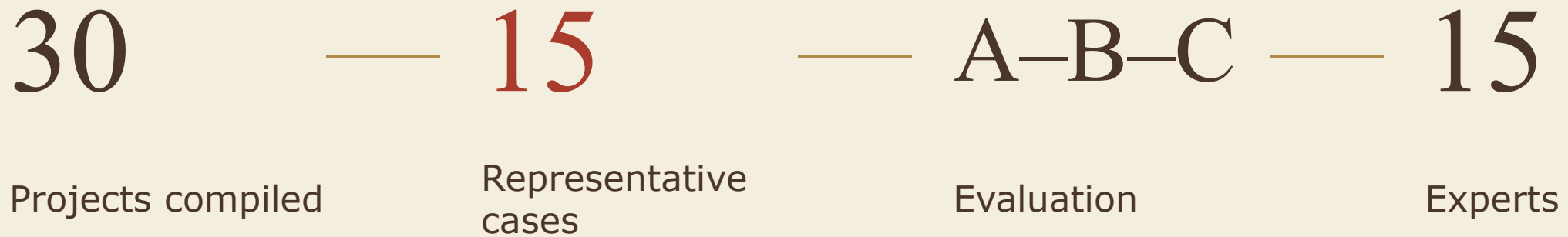
**C**

## **TRANSFORMATION**



Transformation level does not rank authenticity.

# Research Method: Case analysis and expert evaluation



Screening for maximum variation

Relevance, strategy diversity, technical evidence and complete documentation

**Modified Delphi**

**$W = 0.82$**

Kendall's concordance

# How the initial sample was selected

Table 1. Initial sampling criteria

| Criterion                    | Condition                                                                                                |
|------------------------------|----------------------------------------------------------------------------------------------------------|
| 1. Traditional material      | Use of Thổ/Mộc or related TMs                                                                            |
| 2. Contemporary architecture | Project designed/constructed between 2013-2024                                                           |
| 3. Transformation evidence   | Evidence of material preservation, upgrading, reinterpretation, substitution, or transformation          |
| 4. Documentation             | Sufficient publicly available documentation to evaluate material characteristics and technical solutions |



(1) Kontum Indochine Café (2013)



(2) Nocenco Café (2018)



(3) Dong Anh House (2017)



(4) BB Home / Blooming Bamboo Home (2013)



(5) Brick Cave (2017)



(6) BE Friendly Space (2016)



(7) AgriNesture (2018)



(8) Tile Nest House (2021)



(9) Tropical Flow (2023)



(10) CUBE (2024)



(11) Termitary House (2014)



(12) Cuckoo House (2019)



(13) The HIÊN House (2023)



(14) Linh Trung House (2023)



(15) TuPhuong Second House (2023)

**Fig. 1.** The 15 projects selected for in-depth analysis; source: archdaily.com [7]

# Transformation patterns before and after screening

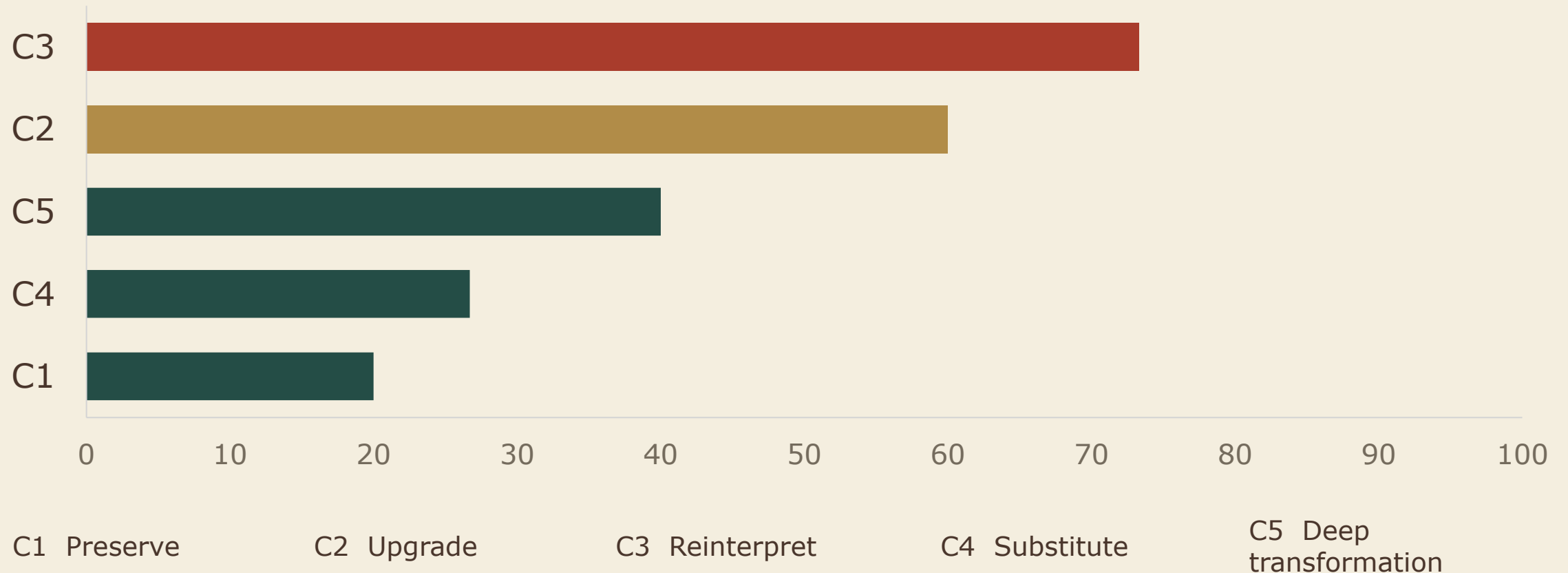
Table 3. Comparison of the initial and selected samples

| Level                   | 30 cases         | 15 selected cases | Compatibility assessment                                                                                                                     |
|-------------------------|------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| C1: Preserve            | 10.0%<br>(3/30)  | 20.0%<br>(3/15)   | Increased proportion, indicating that the selected cases tend to preserve traditional material values more clearly than the initial dataset. |
| C2: Upgrade             | 60.0%<br>(18/30) | 60.0%<br>(9/15)   | Very high compatibility; the proportion remains fully consistent after filtering.                                                            |
| C3: Reinterpret         | 70.0%<br>(21/30) | 73.3%<br>(11/15)  | Very high compatibility; continues to be the dominant transformation level in the selected sample.                                           |
| C4: Substitute          | 23.3%<br>(7/30)  | 26.7%<br>(4/15)   | High compatibility; slight increase that does not alter the overall trend.                                                                   |
| C5: Deep Transformation | 36.7%<br>(11/30) | 40.0%<br>(6/15)   | High compatibility; minor increase while maintaining the group of cases with strong transformation levels.                                   |

# Reinterpretation is the most frequent strategy

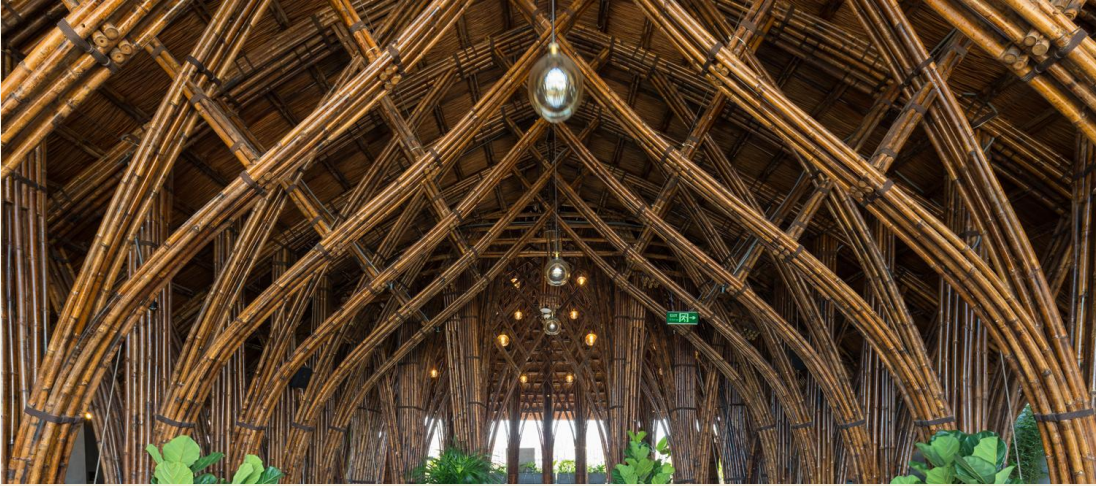
15 selected projects

Share of projects (%)



Strategies overlap within projects, so percentages do not sum to 100%.

# Two material transformation trajectories



**MỘC**

Bamboo and timber

Structure to spatial system

Vaults, long spans, louvers  
and double skins



**THỔ**

Brick, earth and tile

Mass to climatic membrane

Porosity, shading, ventilation  
and thermal buffering

# Appendix: project evaluation matrix (1–5)

Table 4. Materials, transformation codes, expert scores and technical characteristics

| # | Project                        | Primary material  | C1–C5 codes    | Score | Core technical transformation                                                                                                                                        |
|---|--------------------------------|-------------------|----------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Kontum Indochine Café          | Bamboo            | C2, C3, C4, C5 | 4.8   | Advances bamboo from craft-based techniques to large-span structural systems; bending, jointing, and new morphological organization.                                 |
| 2 | Nocenco Café                   | Bamboo + RC frame | C3, C4, C5     | 4.4   | Reinterprets bamboo through lightweight vaulted assemblies atop an existing reinforced-concrete frame, creating new relationships between light and heavy materials. |
| 3 | BB Home / Blooming Bamboo Home | Bamboo            | C2             | 4.3   | Modular bamboo components enabling easy construction and disaster adaptation; focuses on usability and performance enhancement.                                      |
| 4 | Termitary House                | Raw brick         | C2, C3, C5     | 4.7   | Brick organized into porous envelopes inspired by termite nests, integrating ventilation and microclimatic regulation.                                               |
| 5 | Brick Cave                     | Raw brick + wood  | C2, C3, C5     | 4.6   | Develops brick into a double-layered envelope, creating an air buffer zone and improving solar/thermal resistance.                                                   |

# Appendix: project evaluation matrix (6–10)

Table 4. Materials, transformation codes, expert scores and technical characteristics

| #  | Project         | Primary material       | C1–C5 codes | Score | Core technical transformation                                                                                                                                 |
|----|-----------------|------------------------|-------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6  | Cuckoo House    | Raw brick              | C3          | 4.5   | Reinterprets exposed brick into suspended/elevated room blocks, generating voids and new spatial organization without deep material alteration.               |
| 7  | Dong Anh House  | Rammed earth           | C1, C2, C4  | 4.6   | Maintains rammed earth as the primary material while upgrading compaction techniques into thick load-bearing walls combined with modern construction systems. |
| 8  | Tile Nest House | Fired tile + earth     | C2, C3, C5  | 4.6   | Transforms roof tiles into vertical cladding; simultaneously creates ventilation effects and new morphological expressions.                                   |
| 9  | The HIÊN House  | Recycled timber        | C1, C3      | 4.3   | Preserves and reuses old timber components; reinterprets the traditional veranda in contemporary housing.                                                     |
| 10 | AgriNesture     | Earth + brick + bamboo | C2, C3      | 4.4   | Integrates earth, brick, and bamboo into modular systems combining greenery and water; shifts local materials toward adaptive architectural systems.          |

# Appendix: project evaluation matrix (11–15)

Table 4. Materials, transformation codes, expert scores and technical characteristics

| #  | Project                                 | Primary material                | C1–C5 codes | Score | Core technical transformation                                                                                                                                   |
|----|-----------------------------------------|---------------------------------|-------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11 | BE Friendly Space                       | Fired earth + bamboo            | C3          | 4.2   | Reinterprets rural community space through the combination of fired earth brick, bamboo, and open spatial organization.                                         |
| 12 | Tropical Flow                           | Raw brick + tile                | C2          | 4.1   | Upgrades the building envelope by combining brick and tile into a hybrid shell focused on ventilation and microclimate.                                         |
| 13 | CUBE - Creative Usage of Bricks & Earth | Earth + raw brick               | C2, C3, C5  | 4.3   | Experiments with earth-brick modular hollow systems; transforms TMs into new structural and morphological configurations.                                       |
| 14 | Linh Trung House                        | Recycled timber + steel         | C4          | 4.2   | Replaces/supplements old timber structure with lightweight steel framing and mechanical joints during urban housing reconstruction.                             |
| 15 | TuPhuong Second House                   | Timber + red brick + fired tile | C1, C3      | 4.2   | Preserves local materials and spatial elements; reinterprets veranda, courtyard-garden-water systems, and rural house organization in a contemporary structure. |

# Bamboo structure and porous brick envelopes

Original project images from the article



**Kontum Indochine Café**

4.8/5

Bamboo becomes a long-span spatial system

Source: ArchDaily [7].



**Termitary House**

4.7/5

Brick becomes a porous climatic envelope

# Brick and tile acquire new envelope roles

Original project images from the article



**Brick Cave**

4.6/5

A double-layered envelope creates an air buffer

Source: ArchDaily [7].

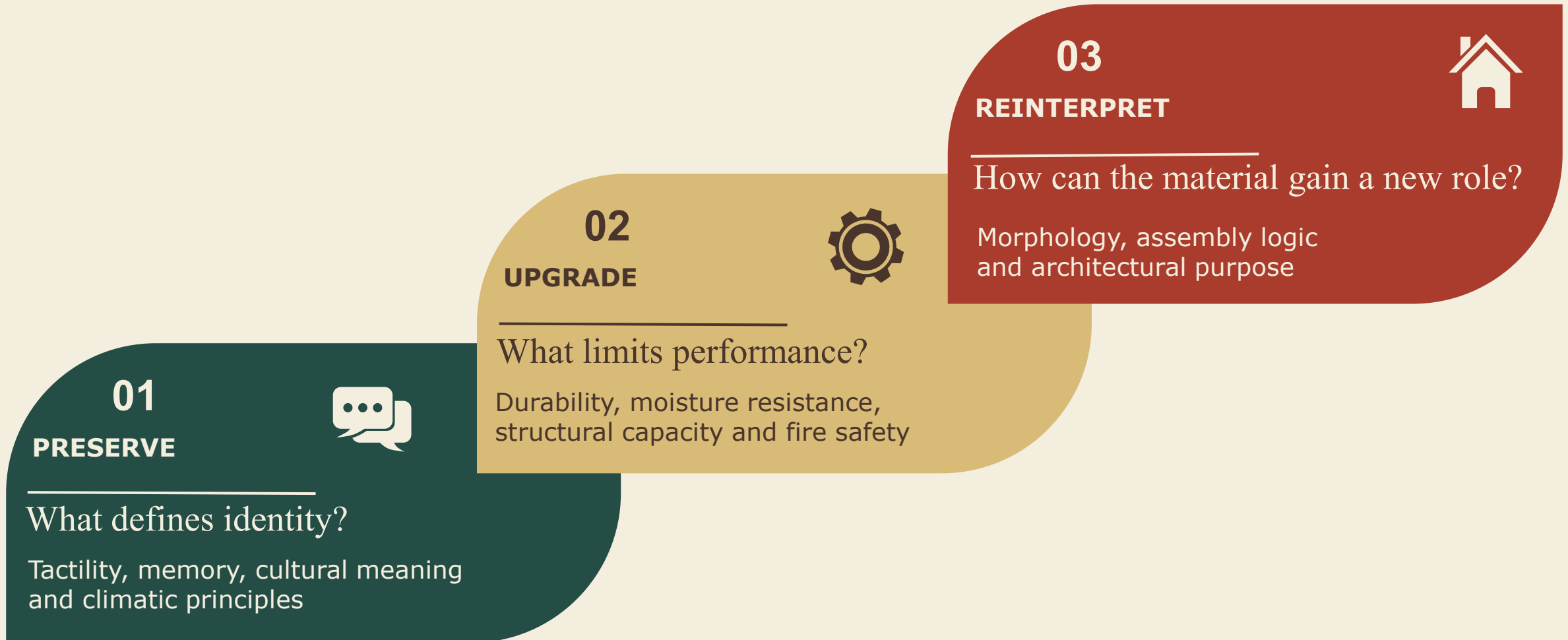


**Tile Nest House**

4.6/5

Roof tiles become vertical climatic cladding

# The Preservev – Upgrade - Reinterpret model



# Authenticity is continuity through transformation

Material authenticity  $\neq$  material immutability

## THEORY

Dynamic authenticity

## PRACTICE

A-B-C evaluation tool

## CONSERVATION

Adaptive material heritage

Preserve what matters. Upgrade what fails.  
Reinterpret what can evolve.

Next: on-site measurements and microclimatic simulation.  
Limitation: 15 selected cases.



Source: Hoang Lap

The background of the image is a repeating pattern of watercolor-style green leaves and branches. The leaves are in various shades of green, from light to dark, and are scattered across the entire frame. A thin, light orange rectangular border is centered around the text.

# THANK YOU

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