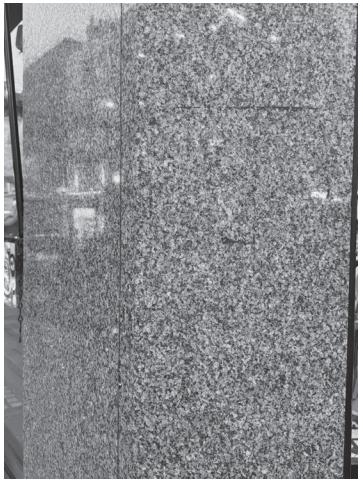
Project 2

The evolution of building materials reflects the demands and values of each era. From the stone of cathedrals to the bricks of modern homes, architecture is not merely a technical choice but a testament to history, culture, and societal beliefs.









BRICK



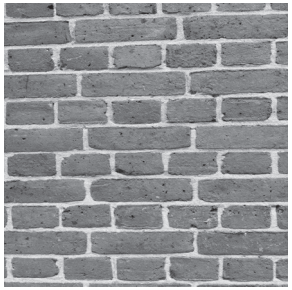








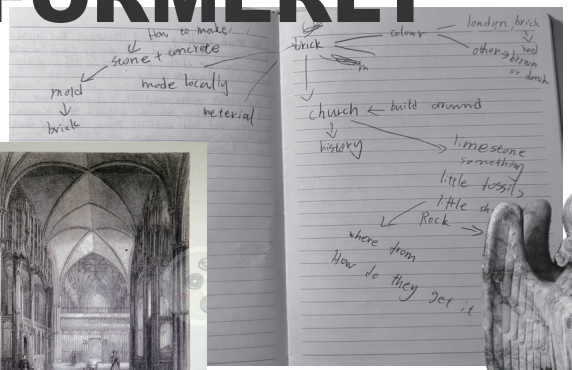






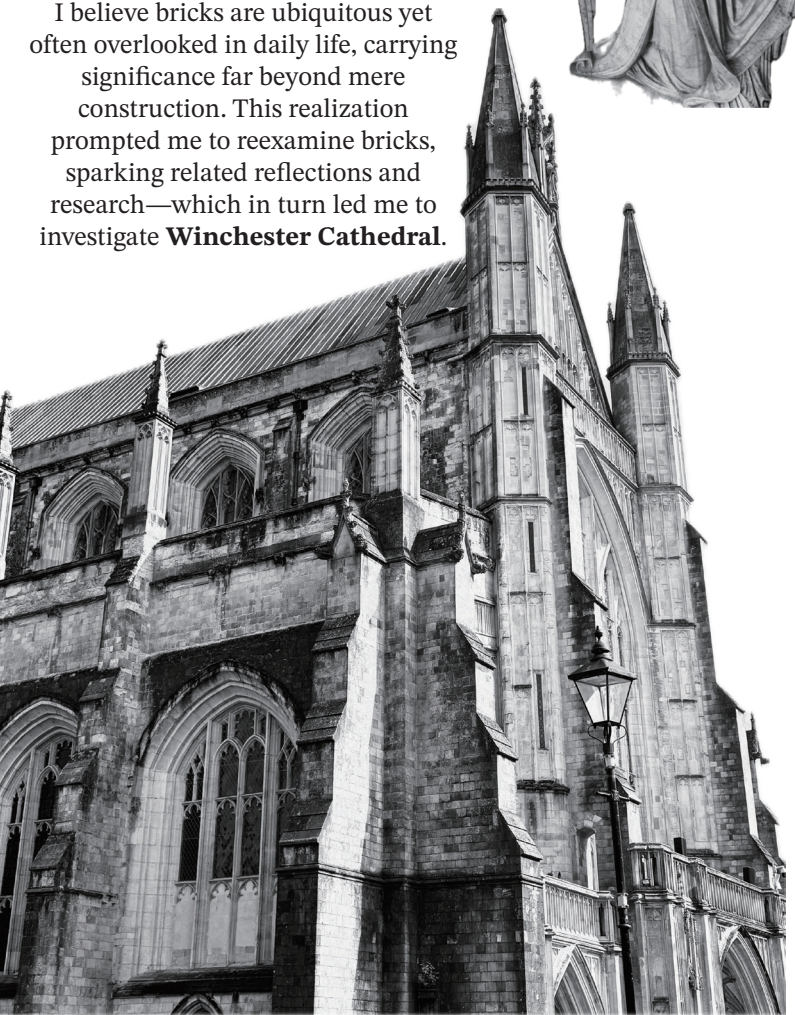


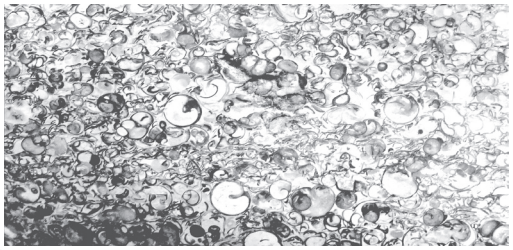
FORMERLY

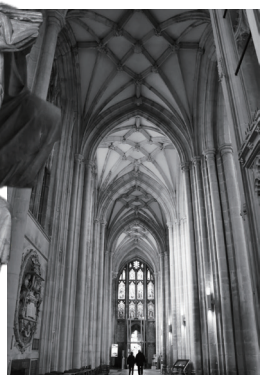




I believe bricks are ubiquitous yet often overlooked in daily life, carrying significance far beyond mere construction. This realization prompted me to reexamine bricks, sparking related reflections and research—which in turn led me to investigate **Winchester Cathedral**.









Purbeck Marble

Pobeck marble is actually fossil-bearing limestone sourced from Pobeck Island in Dorset. When polished, it takes on a deep hue and is often fashioned into slender pilasters. This creates a striking contrast with lighter stones, enhancing the verticality of spaces and amplifying their religious ambiance.

Caen stone, originated from Normandy and symbolized Norman sovereignty following the Conquest. Its transoceanic and river transport demonstrated medieval engineering prowess, while its fine, light-colored texture proved ideal for Romanesque carving.







Caen Stone







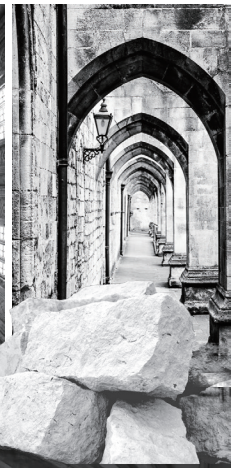


Flint and Mortar

Flint and lime mortar form the hidden structural core of the cathedral walls. As readily available local materials, flint fills the interior of the walls, while the breathable and self-healing lime mortar allows moisture to evaporate, ensuring the building's long-term stability in humid environments.

Chilmer Stone, quarried near Tisbury in Wiltshire, is a harder, moisture-resistant sandy limestone. Bishop William Wykeham extensively employed this stone when he rebuilt the nave in the Perpendicular Gothic style during the 14th century. This marked a shift from reliance on imported materials to confidence in local resources, shaping the cathedral's soaring, vertical appearance.







Chilmark Stone

MORDEN



Bernd and Hilla Becher documented industrial architecture through black-and-white typological photography, whose objective and dispassionate imagery holds significant documentary value. This approach influenced my project, where I adopted the emotionless monochrome palette to focus on material structure and texture. By juxtaposing Winchester Cathedral with modern concrete blocks, I illustrate the evolution of construction techniques.





Sister Gates evokes Black history, labor memories, and community sentiment by repurposing old bricks and timber salvaged from demolished buildings. This practice inspired me to view bricks not merely as construction materials, but as carriers of social memory.

Concrete Bricks & Blocks

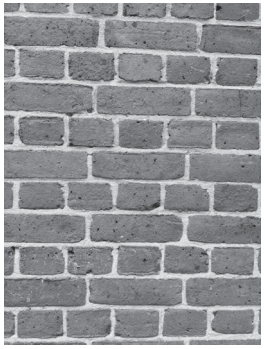
Concrete bricks and blocks form the hidden load-bearing structure in modern construction. In cavity walls, the outer layer of red bricks serves purely decorative purposes, while the inner concrete blocks bear the primary structural load and provide insulation. This construction method offers high efficiency and low cost, making it a crucial pillar of contemporary architecture.



Eco & Lime-Based Bricks

Environmental sustainability and lime-based bricks respond to the breathable wisdom of historic architecture by returning to lime mortar and low-carbon materials. Unfired bricks and hempcrete significantly reduce carbon emissions while regulating humidity, embodying the sustainable building philosophy of learning from the past to address the future.





Reclaimed Brick

Reclaimed bricks, often sourced from demolished historic structures, serve as vital materials for restoring old buildings. Their reuse significantly reduces embodied carbon, aligning with net-zero goals, while the patina and chipped edges on their surfaces imbue architecture with unique historical memory.



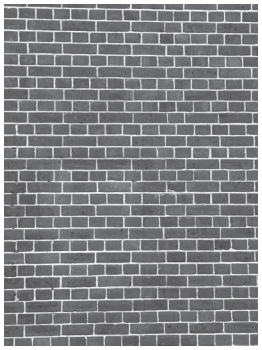




Clay Brick

Clay bricks embody the continuity of geological resources and industrial production in the Winchester region. Local clay deposits have yielded iconic bricks such as “Hampshire Red.” Modern production distinguishes between hand-made and machine-made bricks, used respectively in historic districts and ordinary residences. Their excellent frost resistance makes them well-suited to Britain's damp, cold climate.



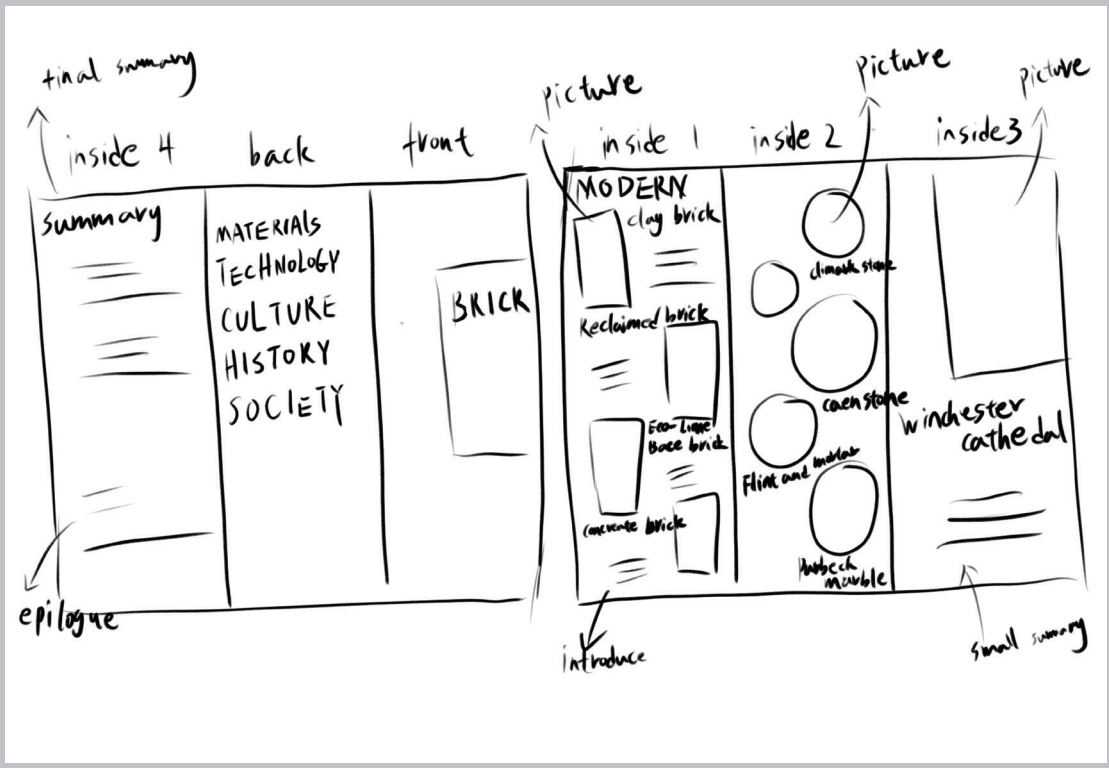






DESIGN

Ultimately, I chose the pamphlet as my medium—a portable, reproducible, and low-cost format to convey this knowledge. It condenses extensive architectural research into a “handheld museum” that can be carried anywhere, democratizing access to knowledge and power. Simultaneously, by documenting the most ordinary bricks through the most common medium, I further emphasize how even humble materials can bear profound historical weight and meaning.



SUMMARY

- Within Winchester Cathedral, materials both support the structure and chronicle shifts in power and technology. Medieval Chilmark stone, Caen stone, and Purbeck marble embody local resources, Norman influence, and religious symbolism; flint and lime mortar reflect technical responses to marshy foundations, reinforced with concrete in the 20th century.
- Modern residences employ clay bricks, recycled bricks, concrete blocks, and eco-bricks, prioritizing utility, cost, and sustainability.

The evolution of building materials reflects the demands and values of each era. From the stone of cathedrals to the bricks of modern homes, architecture is not merely a technical choice but a testament to history, culture, and societal beliefs.

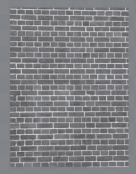
MATE-
RIALS
TECHNO-
LOGY
CULTURE
HISTORY
SOCIETY.

From dust to brick,
time breathes.

BRICK

CHEN XIONG

MODERN



Clay Brick
The most common material, locally produced red or orange clay bricks offering durability, moisture resistance, and excellent thermal insulation.

Reclaimed Brick
For environmental considerations, builders often use bricks salvaged from old structures to retain historical character and reduce carbon emissions.



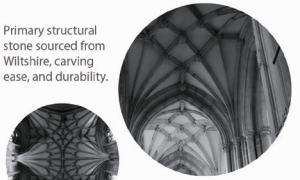


Eco & Lime-Based Bricks
New projects utilize low-carbon bricks and lime mortar to enhance wall breathability and sustainability, adapting to Winchester's humid climate.

Concrete Bricks & Blocks
Employed for structural integrity and cost control, these are typically concealed behind decorative brick facades and paired with modern insulation materials.



Primary structural stone sourced from Wiltshire, carving ease, and durability.

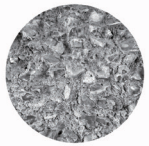


Chilmark Stone

Employed in the early Norman sections, featuring a fine texture and carving ease.



Caen Stone



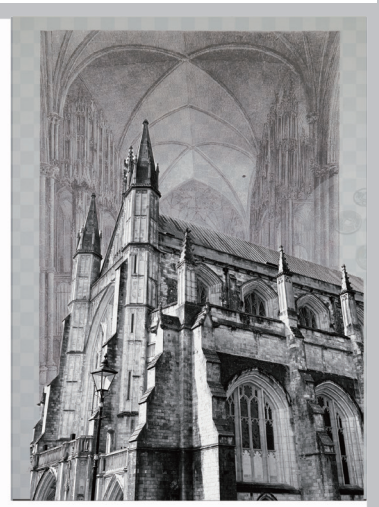
The mortar provides elasticity, aiding in moisture resistance.

Flint and Mortar

A high-density limestone, it develops a deep, lustrous polish when finished. Used for columns and decorative details.



Purbeck Marble



WINCHESTER CATHEDRAL

Brick and stone materials serve not only structural purposes but also chronicle shifts in power, technology, and aesthetics.

FINAL


BRICK
CHEN XIONG
MODERN
Clay Brick
Reclaimed Brick
Eco & Lime-Based Bricks
Concrete Bricks & Blocks
Chilmark Stone
Caen Stone
Flint and Mortar
Purbeck Marble
WINCHESTER CATHEDRAL
Brick and stone materials serve not only structural purposes but also chronicle shifts in power, technology, and aesthetics.


BRICK
CHEN XIONG
WINCHESTER CATHEDRAL
Brick and stone materials serve not only structural purposes but also chronicle shifts in power, technology, and aesthetics.


SUMMARY
MATE-
RIALS
TECHNO-
LOGY
CULTURE
HISTORY
SOCIETY.
BRICK
CHEN XIONG
The evolution of building materials reflects the demands and values of each era. From the stone of cathedrals to the bricks of modern homes, architecture is not merely a technical choice but a testament to history, culture, and societal beliefs.
From dust to brick, time breathes.


SUMMARY
BRICK
CHEN XIONG