



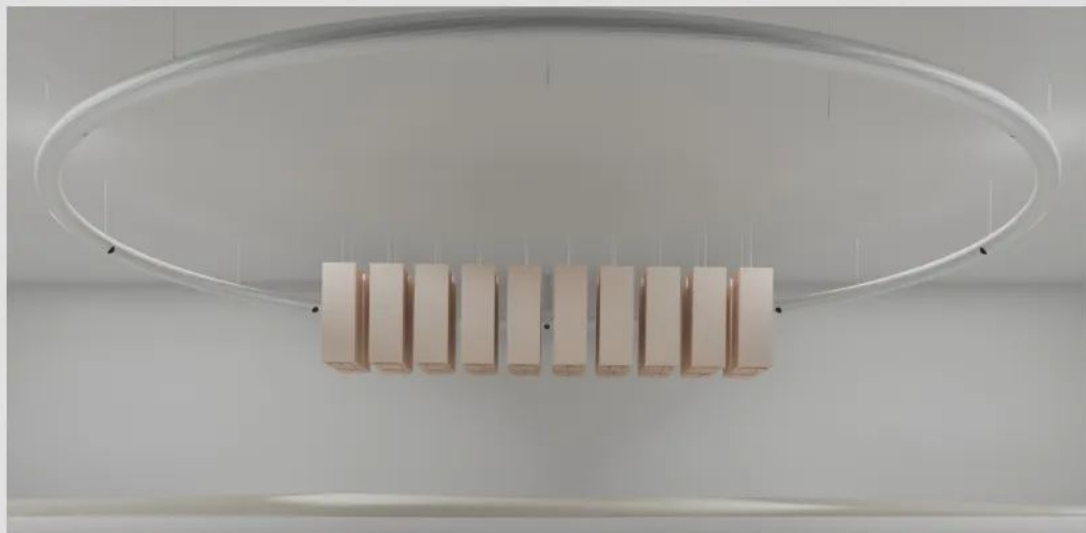
Interactive Installation

倉頡

Tsang Chieh

2024-Ongoing

Arduino · OpenCV · Blender



漢字

Chinese Characters

六書 Principles of character formation

Pictographs

月 Moon

Ideographs

森 Forest

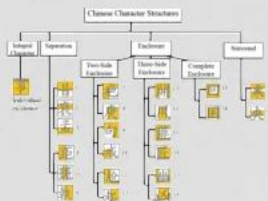
Phonosemantics

河 River

Indicatives

Derivative

Loan



舟

舟

舟

舟

舟

舟

舟

舟

舟

Example

「舟」

floating vessel: ancient word

floating vessel: sampan

floating vessel: small one

floating vessel: normal one

floating vessel: military one

成就如沙堡
生命如海浪
所有的幻象
浪會淘盡

"If accomplishments were sandcastles, life would be waves; the surf that washes every illusion away."

【轉載】Maya



瑪雅文字

Mayan Characters



Mayan Stela



Mayan Characters



Mayan Script

Reading Sequence

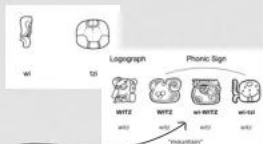


Reading order of the text on the basal register of Stela 11 from Yaxchilan. (Stuart and G. Houston 2004, 39-40)

Structure Principles



Example " /witz/ "



In the Maya hieroglyphic script, some lexical items (e.g., *witz*, *mountain*) can be written with a dedicated logogram (*WITZ*), spelled out with syllabic signs (e.g., *wi-tz*), or expressed in mixed forms with phonetic complements, demonstrating a flexible, multiple-spellings orthography.

文字即權力

Writing as Power

Standing before the Mayan stela in Mexico, I encountered something unexpected: the visual logic of the carvings bore a startling resemblance to Chinese characters. Two scripts separated by oceans and millennia, independently evolved into block-structured, component-based systems — and both, at critical moments, were deployed as instruments of political domination.

Ancient Chinese philosophers warned that the creation of characters was not merely commemorative: it allowed wise men to *easily manipulate and control ordinary people*. Rulers consolidated power through inscription. In the tense political atmosphere of the Mayan Classical period, those same scripts glorified authority and divine power.

Walking along the coastline of my hometown, Shenzhen, I watched the tide erase every footprint within seconds. That experience crystallised in the philosophical core of this work. The Maya built temples. We build skyscrapers. But are these monuments of human ambition ultimately any different from footprints on the shore? Are no more enduring than footprints in the sand, gradually worn down and washed away by the tide?

References



Kramer, H., & Helmke, C. (2007). Introduction to Maya hieroglyphs. Workshop handbook (3rd ed., rev.). University of Helsinki.
 Pitt, M., & Marston, L. (ed.). (2013). Writing in Maya glyphs: Names, places, & simple sentences: A non-technical introduction to Maya glyphs. The A&L and Education Project, Inc. (SI) Proyecto de Ayalá y Educación.

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造字過程

Artistic Processes

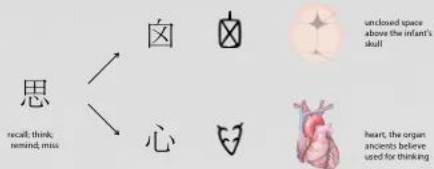
1 Deconstruct

I retraced the evolution of each character through oracle bone script (甲骨文), bronze inscriptions (金文), and seal script (小篆). Each was then dissected through 說文解字 to identify the semantic and phonetic radicals embedded in its structure.

2 Reconstruct

Each of the twenty characters was rebuilt following Mayan glyph logic: spatial arrangement (superfix / main sign / subfix), phonetic affix placement, column-pair reading order, and the block-based visual grammar of Classic Maya script.

Deconstruction of Chinese Characters



Ancient Chinese believed people use "brain" and "heart" to think. So the word "thinking" combines a top-down view of the brain (skull) and the heart.

Reconstruction of Chinese Characters

象形 Pictograph

「moon」

月

Modern Chinese Character

月

Small Seal Script



Mayan moon goddess from: The Maya book of the dead: the ceramic codex



Sem Maya moon goddess

「front」

會意 Ideogram

前

Modern Chinese Character

前

Original Character

前

Small Seal Script

前

Seal: front+foot 有前脚(有前脚) (前)

Seal: foot

a foot on a shoe walking forward

male

Seal: foot

Seal: foot

「gaze, watch」

形聲 Phonosemantics

望

Modern Chinese Character

望

Original Character

望

Bronze inscription a standing figure is watching the moon

Seal: eye

Seal: eye

Seal: eye

Seal: moon

Seal: eye

Seal: moon



In Tsang Chieh, each character is deconstructed through the 說文解字 and traced across oracle bone, bronze, and seal script. It is then rebuilt using Mayan glyph logic: spatial arrangement (left-right, top-bottom), phonetic affixes, and reading order. The result is a hybrid between two ancient powers, serving the emotional register of neither.

The reconstructed glyphs are engraved on movable type blocks, a reference to Bi Sheng's 11th-century Chinese invention. I 3D-modelled in Fusion 360, rendered in Blender, then prototyped by wood carving and 3D printing.

西西弗之荒謬

Sisyphuean Absurdity



The stones slowly fell, pressing the inscriptions into the sand, as if Mayan rulers commanded stonemasons to eternally record their authority in history. Then the wind came. The fans turned with the flow of people in the gallery, even with the flow of people from all over the world, gradually eroding these marks. The sand became smooth again. Until the blocks fell again.

This is the Sisyphuean cycle described by Camus. The boulder reaches its peak, then rolls down again. Power engraves itself into matter; time, embodied in the collective movement of humanity, then dissolves it. There is no eternity, no peak, only repetition, which Camus called both absurd and self-sufficient.



Model for AR (filmed with the camera and projected including Movement of Gravity) project
branch, ios, apple ARkit



Disappeared with the wind



Printed Design

Moonlight before my bed —
I took it for frost upon the ground.
I raised my eyes to the bright moon,
then bowed my head and thought of home.

Quiet Night Thoughts, one of China's most famous classical poems, Li Bai compressed longing, displacement, and the quiet hour when the personal and the cosmic converge into twenty characters. The poem has been memorised by schoolchildren for over a thousand years.

靜夜思

Quiet Night Thoughts

CORE TENSION

- Mayan Script vs Classical Chinese Poetry
- Political Authority vs Personal Longing
- Monumental vs Movable Type
- Inscription vs Erasure
- Civilisation vs Nostalgia

PHILOSOPHY REFERENCE

Sisyphus

"One must imagine Sisyphus happy," Camus wrote. The cycle of inscription and erasure mirrors the arc of every civilisation, from the Mayan empire to the Tang Dynasty, and the present world order. The blocks will fall again. The fans will blow. The footprint will forget.

SPACIAL REFERENCE

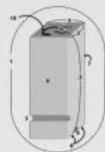
The Sword of Damocles

In the legend, Damocles envied King Dionysius and was offered his throne for a day. Above it hung a sword by a single horsehair. The twenty blocks operate in exactly this register. The installation is a throne one is invited to stand beneath.

MATERIAL REFERENCE

Movable Type

Bi Sheng's movable type invented in 11th-century China, which made text reproducible and unstable at the same time. Each block in this installation is modelled in Fusion 360 and rendered in Blender: a contemporary re-fabrication of that ancient technology, now bearing characters that no civilisation ever actually wrote.



Type Size



Movable Type

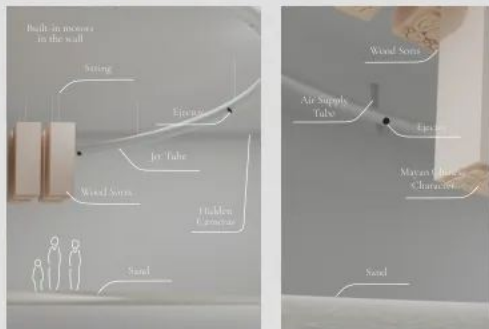
意象

Myth to Material

原理構建

Interaction Structuring

FIELD DESIGNING



CAMERA

Capture human movement

An overhead camera streams live video; OpenCV quantifies movement density, trajectory, velocity, and directional flow in real time.

OPENCV

Translate motion into parameters

Audience density and directionality are mapped into numerical control signals. For example, a crowd moving eastward activates the eastern fan.

ARDUINO

Communication

Processed metrics are sent via serial communication to an Arduino microcontroller, which modulates fan power and manages the motorised steel cable system governing block descent.

原型搭建

Prototyping



3D MODELING

Mat 2014, Fusion 360 & Blender

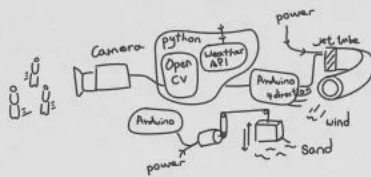
WOOD CARVING

Mar 2014, Handmaking, SAUC

3D PRINTING

Dec 2014, Fall 14 IMA Show, NYU Shanghai IMA

SKETCHING



Currently, I don't yet have enough resources to complete a gallery exhibition, but I built a prototype in the lab and conducted technical tests. I used Blender to create a basic spatial rendering map, and used OpenCV for human body recognition. (The original plan was to use four cameras to calculate the changes in pixel count between frames. However, I found that my equipment couldn't support this. So I used facial recognition instead.) I quantized the gallery visitors' movement into vector data, including direction and pedestrian flow, mapped to the Arduino to control the speed and direction of fan motors.

EQUIPMENT

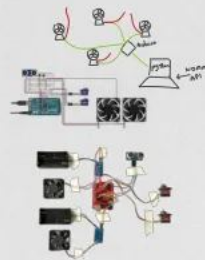
- 4-8* USB Cameras
- 4-8* DC Fans
- 2* Arduino Uno
- 20* Motors
- 20* Blocks



ARDUINO + PYTHON CODING



PHYSICS TESTING



RENDERING

In the future, I plan to conduct further environmental and material testing. This includes researching which materials are most effective at shaping stamps, which visual recognition method is better at visually representing my artistic concepts, and the specific location and direction of the ductwork.

I plan to use multiple cameras to detect movement areas and weather API data (e.g. NOAA) to calculate wind speed and direction. I hope to transform the collective presence of crowds into a dynamic environmental force.