

Tianlan Huang

As I lack prior experience in typeface design, I chose to engage deeply with stone carving as a primary medium, seeking to witness firsthand how letters are “born” from the stone. The history of the Latin script is etched in stone; from the Trajan Column (AD 113), which established the canon of the Roman capital, to later adaptations like the Gothic manuscript style found at St Mary the Virgin in Lancashire. I chose to replicate a Gothic ‘R’ (fig 1) from the latter, aiming to experience the translation of a soft, handwritten form into a rigid, unyielding medium.



(fig 1)

Gothic R
St Mary the Virgin
Bury, Lancashire, England, UK
Photo taken by Leo Reynolds

To prepare for the resistance of the stone, I acquired traditional chisels and a dummy hammer, consulting *The Art of Letter Carving in Stone* by Tom Perkins. Perkins advises carving from the centerline outwards. For the letter ‘R’, the sequence paradoxically contradicts the logic of writing: moving from the tail upwards, then to the lobe, and finally the stem. Although initially counter-intuitive, the result was surprising. This specific sequence allowed for a fluid, ergonomic motion, enabling my first Trajan ‘R’ (fig 2) to emerge with unexpected grace and speed.



(fig 2)

Trajan R
Carved by Tianlan Huang

Due to the prohibitive cost of limestone slabs, I substituted them with outdoor limestone tiles. This constraint inadvertently forced me to work within a reduced dimension, amplifying the physical feedback of the chisel. The contrast in experience was stark. While the Trajan 'R' aligned perfectly with the natural rotation of my wrist, the Gothic 'R' (fig 3) took nearly eight hours to complete. The complexity of the script required me to constantly rotate the tile, essentially filling the negative space with air to rigorously copy the original form. This process validated Gerrit Noordzij's (2005) assertion that "a letterform is essentially a crystallized body movement." Writing Gothic script on stone required me to render stone as pliable as paper, and chisels as nimble as quill pens.



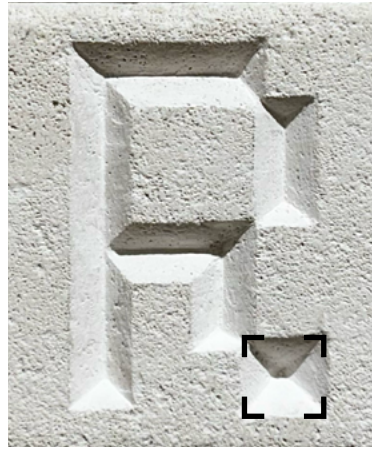
(fig 3)

Gothic R
Carved by Tianlan Huang

Initially, I assumed the Pixel 'R' would be the simplest iteration to carve, because it doesn't involve any curves. However, I surprisingly discovered that carving the pixelated form was significantly more difficult than the complex Gothic script. The geometric straightness of the pixel grid required me to hold my wrist biologically rigid while striking the chisel; for me, total stillness is physically more demanding than movement. The most challenging element was the isolated pixel block at the tail's end. With no reference material for carving digital artifacts, I had to intuit the form, driving the chisel from the center outwards. The struggle was evident in the result: the intended 9.5mm block expanded to 11mm, demonstrating the body's natural resistance to forms that lack organic internal coordination.

Viewing this through the lens of Charles Jencks' Adhocism, I interpret this ergonomic alignment as evidence of "internal factors". Jencks argues that these factors limit development to specific possibilities, creating "homologous structures" across different functions (Jencks and Silver, 2013). In the context of stone carving, human ergonomics act as the internal factor that dictates the form of the letter. However, this ergonomic alignment, the body "writing" on materia, faltered when applied to the digitally native Pixel 'R'.

To test the universality of these internal factors, I applied Jencks' concept of the "holon" — a subsystem that is simultaneously a whole and a part, to analyze the strokes of the Songti (宋体) character 'Chi' (尺). Treating the stroke as an autonomous holon allowed me to transplant it from its woodblock context to the limestone. I chose 'Chi' for its structural similarity to the letter 'R'. Although Songti mimics the brush strokes of Kaishu, its straight lines are an adaptation to the woodblock grain. Strikingly, carving the 'Dunbi' (the triangular shape mimicking a brush pause) required the exact same technical maneuver as the isolated 11mm block of that Pixel 'R'. Unlike the sliding V-cut used for curves, both the Songti triangle and the Pixel corner required me to drive the chisel's point vertically into the surface. Research identifies this technique in Western stone carving as the "pyramidal cut."



Pyramidal cut
in Songti 宋 and pixelated R

The term ‘pyramidal cut’ recalls my experience in Dendera Temple, Egypt, where I observed how the ancient Egyptians inscribed hieroglyphics upon the stone walls, columns, and even ceilings, affirming stone carving as a timeless universal vessel for language. Ultimately, the consistency found in the pyramidal cut demonstrates that “internal factors”—defined here as the immutable interplay between the wrist’s torque, the chisel’s geometry, and the stone’s resistance—enforce a unified operational logic among all languages.

Stone carving demands a specific kinetic response to every structural problem, regardless of whether the form originates from the fluidity of paper, the grain of the woodblock, the primordial nature of stone, or the rigid grid of the screen.

References

- Jencks, C. and Silver, N. (2013) *Adhocism: The Case for Improvisation*. Cambridge, MA: MIT Press.
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