

# Negotiated Gestures

How Hand Movements Shift Meaning Across Tools and Time

This project investigates how writing technologies shape, standardise, and abstract hand gestures across historical development, and examines how the structural design of writing tools continually reshapes bodily writing behaviours.

This project focuses on the historical evolution of writing technologies and systematically analyses how different writing tools shape hand gestures, and over time standardise and abstract writing movements.

By comparing various writing technologies — including knot-recording systems, brush writing, quill pens, movable type, typewriters, and digital keyboards — the project traces the transformation of writing from a generative gesture (directly producing marks) to a triggering gesture (activating systems through interfaces).

Through structured illustrations, gesture decompositions, contact-point mapping, and proportional annotations, the project visualises how writing technology shapes the body.

The final outcome will take the form of a publication accompanied by a newspaper supplement, combining precise visual language with supporting text to construct a visually compelling yet research-driven publishing system.

Target Audience: Researchers interested in the evolution of writing technologies, media archaeology, and the relationship between body and technology, as well as design practitioners concerned with how tools shape bodily gestures.

Previous:

- A. Designers and researchers engaged in “gesture standardization/interface design”
- B. Researchers who study the historical evolution of tools and technologies



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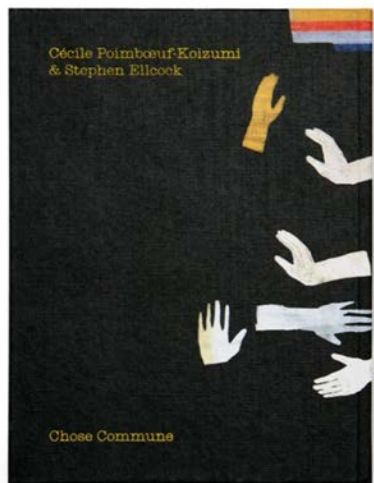
Target Audience is not just about “for whom”, but about determining “what your work looks like”.



The visual language will adopt a precise, structured, and measurable approach, incorporating proportional scales, angle indications, and contact-point diagrams rather than purely expressive narrative illustration.

# Updated annotated bibliography

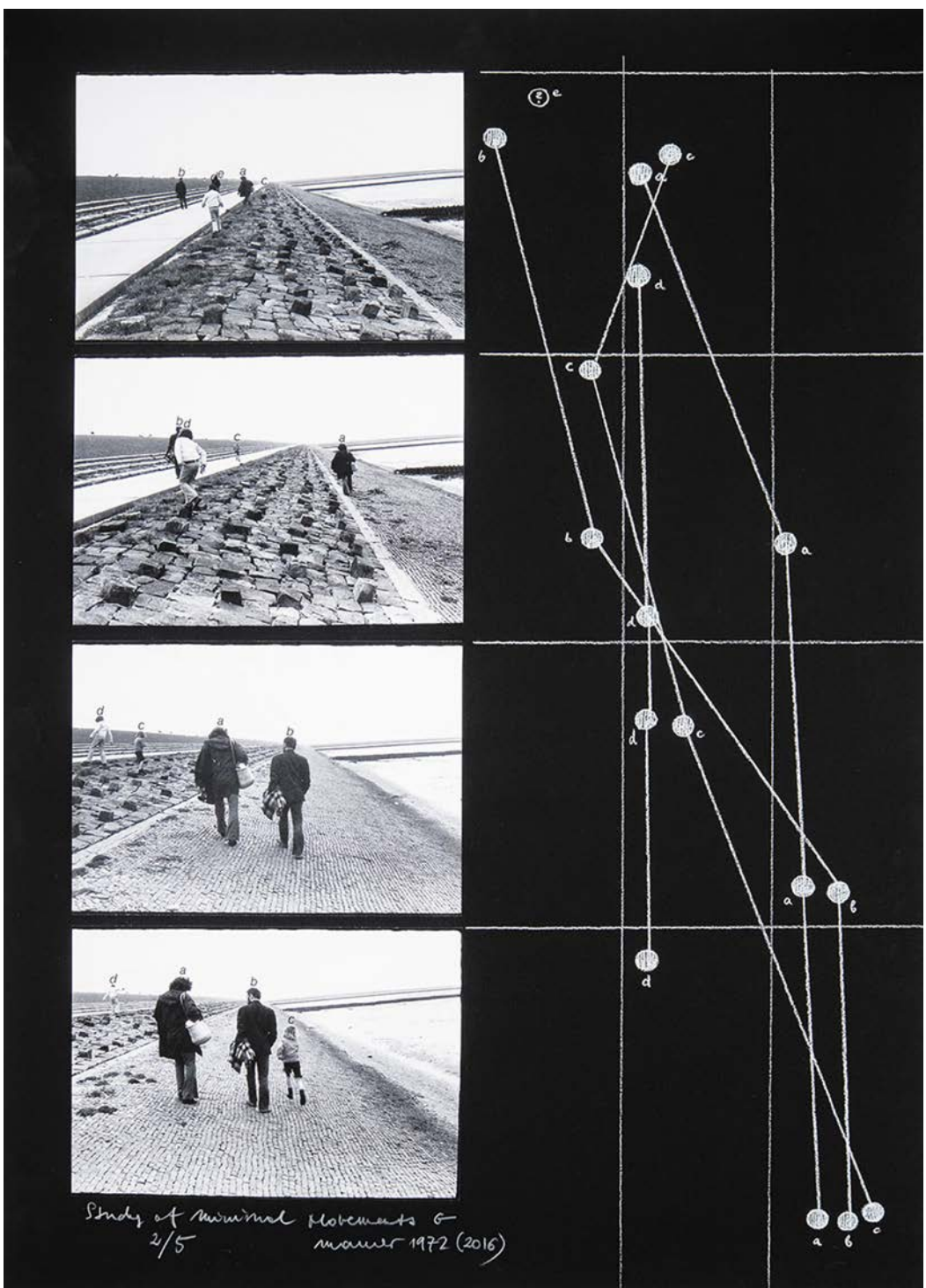
5 new practical references



“JEUX DE MAINS” is an archival collection of illustrations, photographs, sculptures... from the 19th to the 20th century. It covers various scenarios related to hand movements, which may have appeared in different eras and for different uses. The author presents gestures as a physical practice that lies between function, movement and culture through juxtaposition, repetition and visual contrast, more like a hand encyclopedia. In my project, this book has provided me with important experimental methods and media-related inspirations, making me think that illustration can be used as an archival practice approach, focusing on the relationship between different approaches and tools in different periods, allowing viewers to establish connections and think among different illustrations on their own. This archive format also reminds me that under the differences in hand and tool usage, they can be integrated together for more convenient access.

Flusser, V. (1987) Does Writing Have a Future? Minneapolis: University of Minnesota Press.

JEUX DE MAINS presents gestures through visual archives rather than explanation. It inspired my use of illustration as an archival method, allowing gestures and tools to be compared without fixing their meaning through text.



Maurer, D. (n.d.) Dóra Maurer. Tate. Available at: <https://www.tate.org.uk/art/artists/dora-maurer-2351> (Accessed: 18 February 2026).

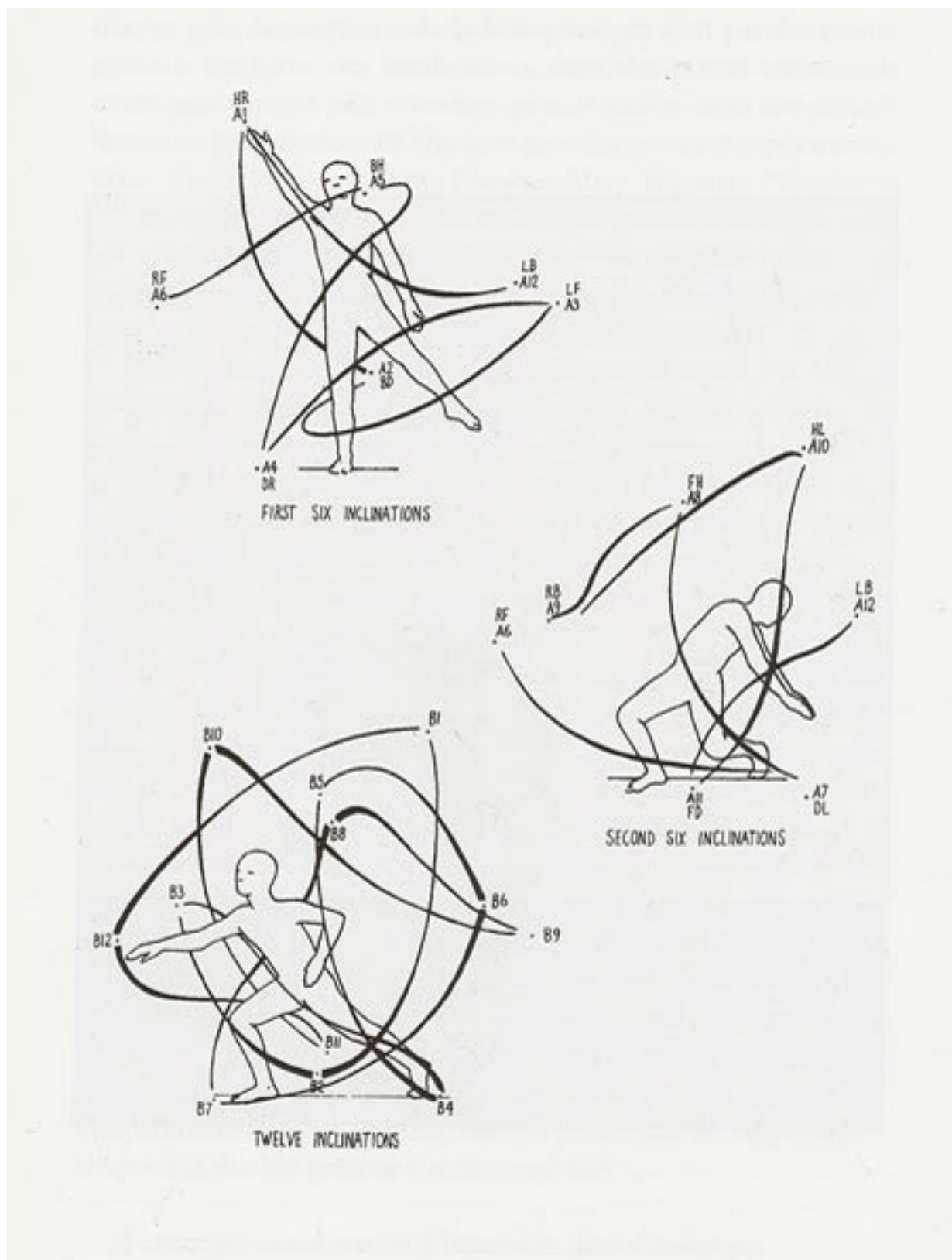
Maurer’s systematic decomposition of minimal bodily movements informs this project’s approach to visualising gradual transformations in writing gestures across technological shifts.

Dora Maurer’s works mainly break down a hand or movement into minute changes in detail and present them in a systematic grid pattern. Overall, they form a dynamic logical progression. The work does not focus on expressive postures, but rather on the systematic changes generated within constraints, repetitions and abstract structures, enabling viewers to actively read the differences in the time series. It can be seen that in her experiments, every tiny movement is full of restraint and systematization, which shares the same goal as the scientific painting of precise analysis that I aim to present in my project. Similar to Maurer’s sequence logic, I study how the contact area of fingers, pressure distribution and space allocation undergo minor but structural changes when writing tools change (brushes, pens, keyboards, touch screens). Such minor changes can also help me conduct a more detailed analysis of the variations in gestures used with writing tools at different times, to explore the differences in movement trajectories.



# Updated annotated bibliography

5 new practical references



Falcone, F. (2009) Rudolf von Laban e la nuova logica del movimento. Roma: Dino Audino Editore.

Rudolf Laban's works mainly revolve around the research on the rules of dance movements, describing and analyzing movements through rational tracking of movement trajectories. The main purpose is to transform body movements into an analyzable and rational structure in an abstract and systematic way, and to demonstrate the tension existing between the body and the technique. In my research, the gesture for writing is also a kind of standardization that has been shaped by technology in accordance with the changes of historical tools. This made me consider that I could refer to his way of tracking motion trajectories and apply it to the movement tracking of my hand posture changes, which could more clearly display the changes.



Emslie, J. (1850) Hydraulics: The principles of hydrostatics. Coloured engraving. Available at: <https://wellcomecollection.org> (Accessed: 18 February 2026).

J. Emslie's color print \*Hydraulics: Principles of Fluid Statics\* primarily transforms intangible physical forces into a visual system through precise structural diagrams and cross-sections of objects. Simultaneously, through annotations, cross-sectional views, and controlled scale, he translates knowledge into a structured visual language. Therefore, in his work, images serve both as scientific explanations and as a visual paradigm for information standardization. Emslie's prints provide a historical reference for "graphic abstraction." In my project, hand gestures during writing are not presented narratively but are structured and analyzed. Similar to Emslie's work, fluid dynamics principles are transformed into graphic systems, and I attempt to convert the smallest gestures into measurable, visually structural images. This reference helped me translate bodily movements into precise graphic systems.

Rudolf Laban developed a system to analyse and notate dance movements, transforming bodily motion into abstract and rational structures. His work demonstrates how movement can be tracked, codified and standardised through systematic observation. I reference Laban to explore how writing gestures, shaped by technological tools, can similarly be analysed and visualised as structured movement trajectories.

J. Emslie's engraving visualises invisible physical forces through precise diagrams, cross-sections and measured annotation. I reference this approach to translate minimal writing gestures into measurable, abstracted graphic forms, presenting bodily movement as a precise analytical structure rather than narrative imagery.

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5 new practical references



In “The Most Beautiful Swiss Books 2016”, Hubertus Design presents a contrast of various characteristics of all kinds of publications, such as the style of books spreading out, the use of colors in books, etc. It is a very good reference for archival form publications. The overall content presented continues the rationality, clarity and standardization of the Swiss graphic tradition. For my project, it is also a form of archival record of gesture changes. This meticulous layout method has brought methodological inspiration to the visual language of my publication. This enables me to present the analysis of hand postures through this systematic layout, allowing creativity and structural logic to coexist.



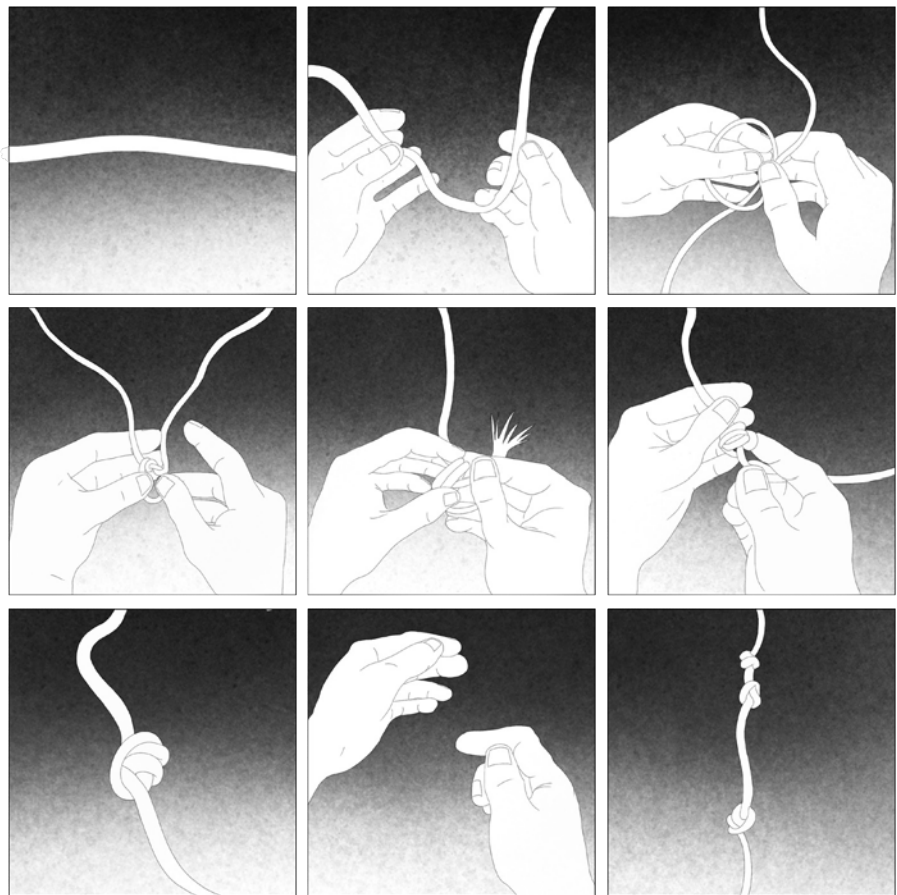
Hubertus Design (2016) The Most Beautiful Swiss Books 2016. Bern: Federal Office of Culture.

The publication foregrounds systematic layout and controlled visual language over expressive imagery. I reference this work to inform the archival and diagrammatic presentation of gesture changes in my project, allowing analytical structure and creative design to coexist.

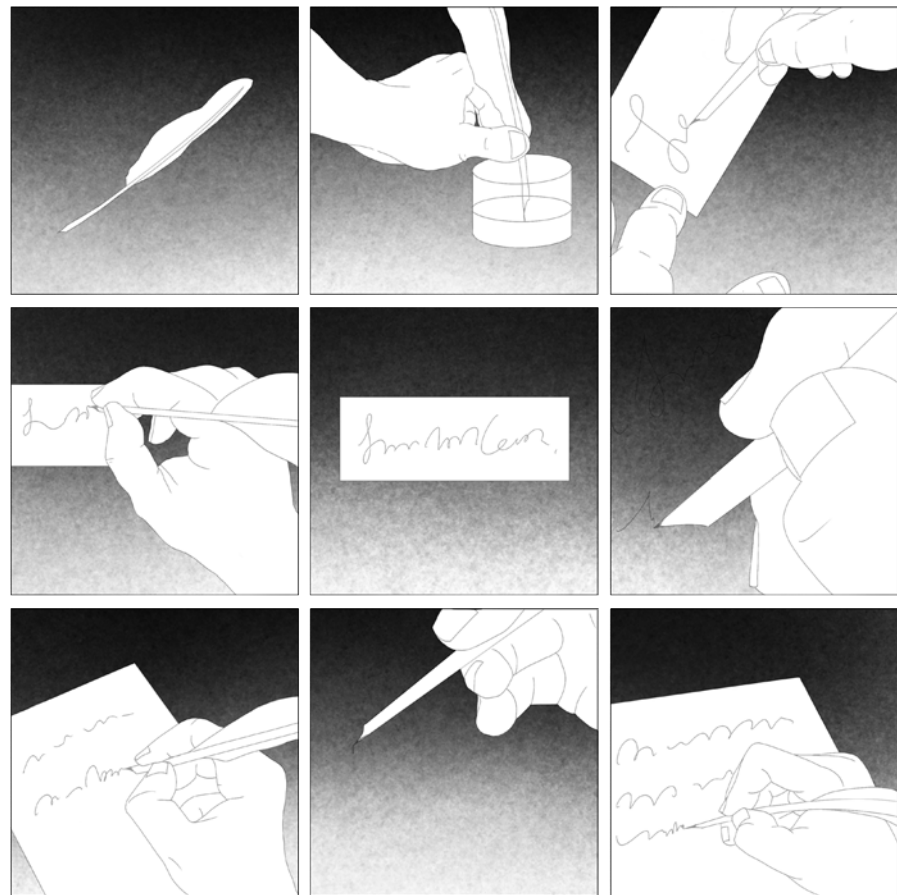


Generative Writing Technologies

A. Tie a rope to record events

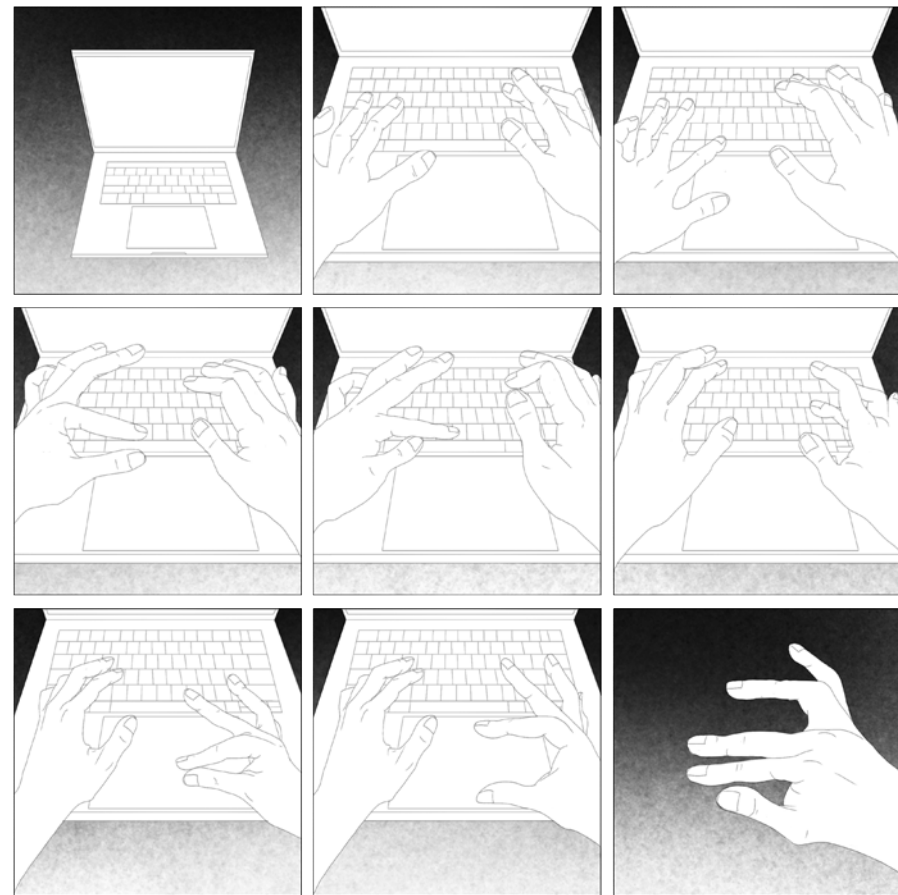


B. Writing brush/quill pen



Abstracted / Trigger-Based Writing

A. Computer



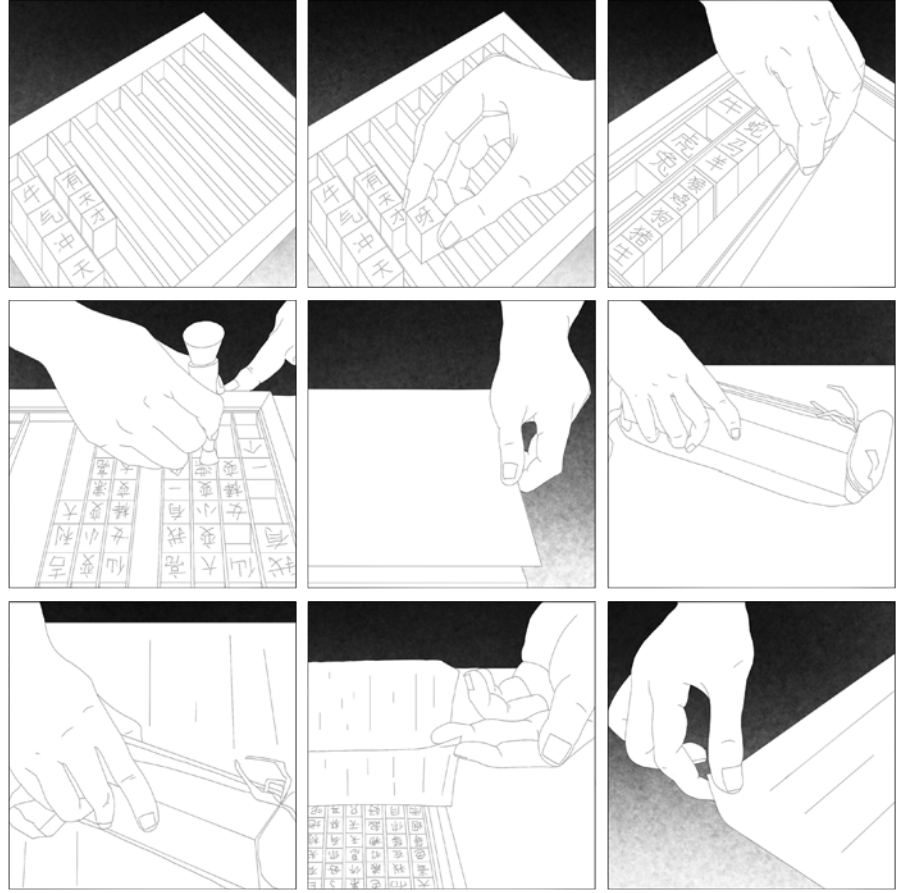
Intervention:

A: Add measurement labels to the comic strips

B: Take comic strips as the "operation process"

Mechanical Standardisation

A. Movable type printing



B. Typewriter



Gesture Analysis Framework

- A. Finger Spread - Interphalangeal distance measurement
- B. Contact Surface - Contact point marking / Shadow of the contact area
- C. Force Direction - Vector arrow/action trajectory line