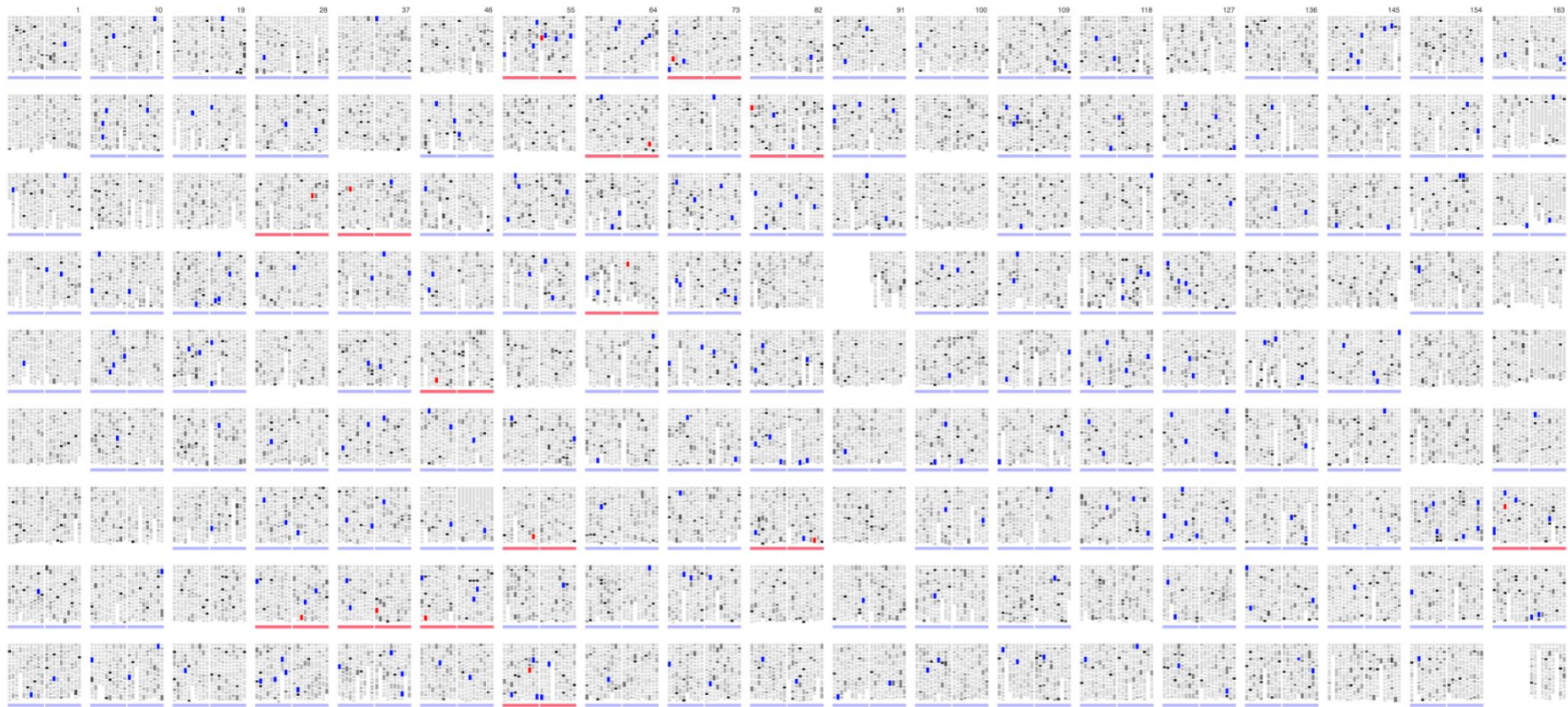




A Visualization Approach for Typographic Forensics of Early Japanese Movable Type

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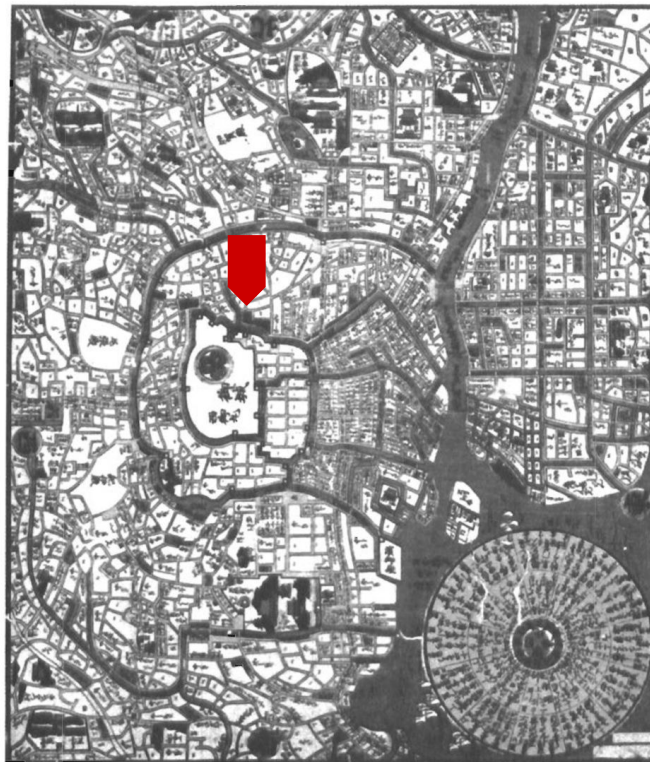
October 2025

I. Context

Center-City, Empty Center

Quadrangular, reticulated cities (Los Angeles, for instance) are said to produce a profound uneasiness: they offend our synesthetic sentiment of the City, which requires that any urban space have a center to go to, to return from, a complete site to dream of and in relation to which to advance or retreat; in a word, to invent oneself. For many reasons (historical, economic, religious, military), the West has understood this law only too well: all its cities are concentric; but also, in accord with the very movement of Western metaphysics, for which every center is the site of truth, the center of our cities is always *full*: a marked site, it is here that the values of civilization are gathered and condensed: spirituality (churches), power (offices), money (banks), merchandise (department stores), language (agoras: cafés and promenades): to go downtown or to the center-city is to encounter the social "truth," to participate in the proud plenitude of "reality."

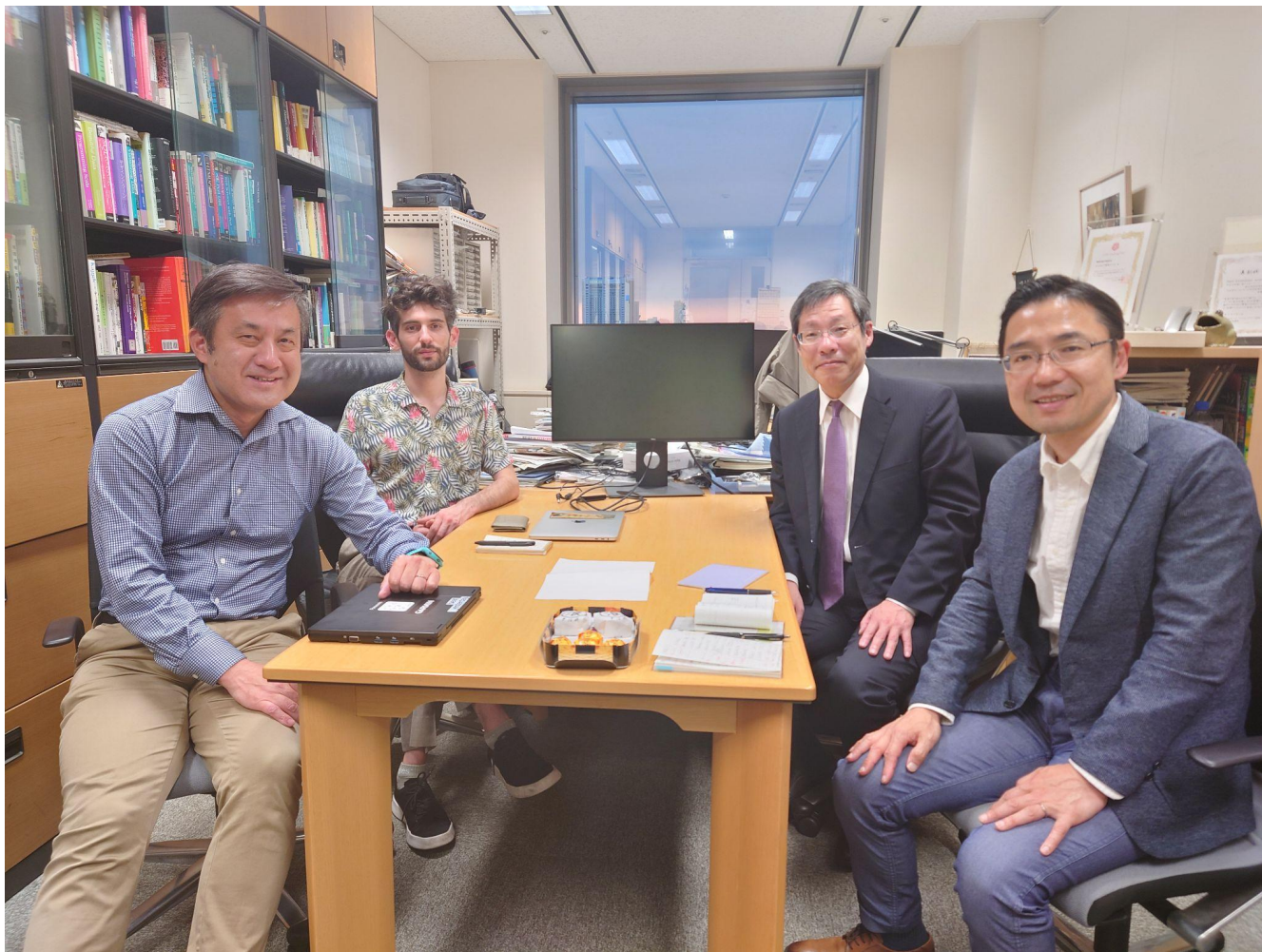
The city I am talking about (Tokyo) offers this precious paradox: it does possess a center, but this center is empty. The entire city turns around a site both forbidden and indifferent, a residence concealed beneath foliage, protected by moats, inhabited by an emperor who is never seen, which is to say, literally, by no one knows who. Daily, in their rapid, ener-



NII

The City is an ideogram:
the Text continues

Roland Barthes,
The Empire of Signs, 1970
English translation from 1983



From left to right:
Prof. Kitamoto
Prof. Koakimoto
Prof. Kigoshi

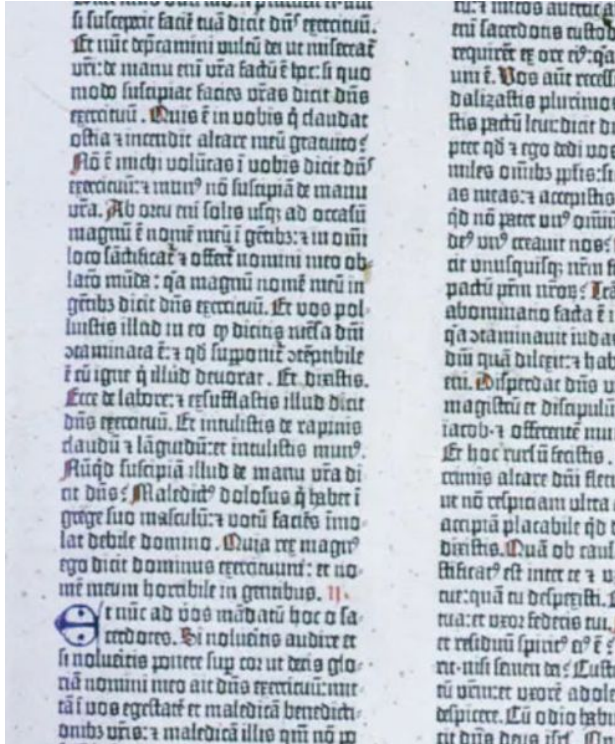


Gutenberg Bible, c.1455

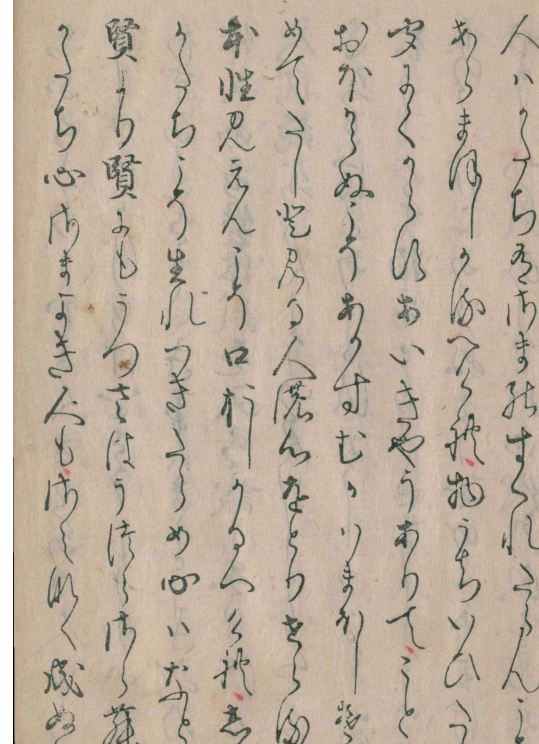
© Wikimedia Commons



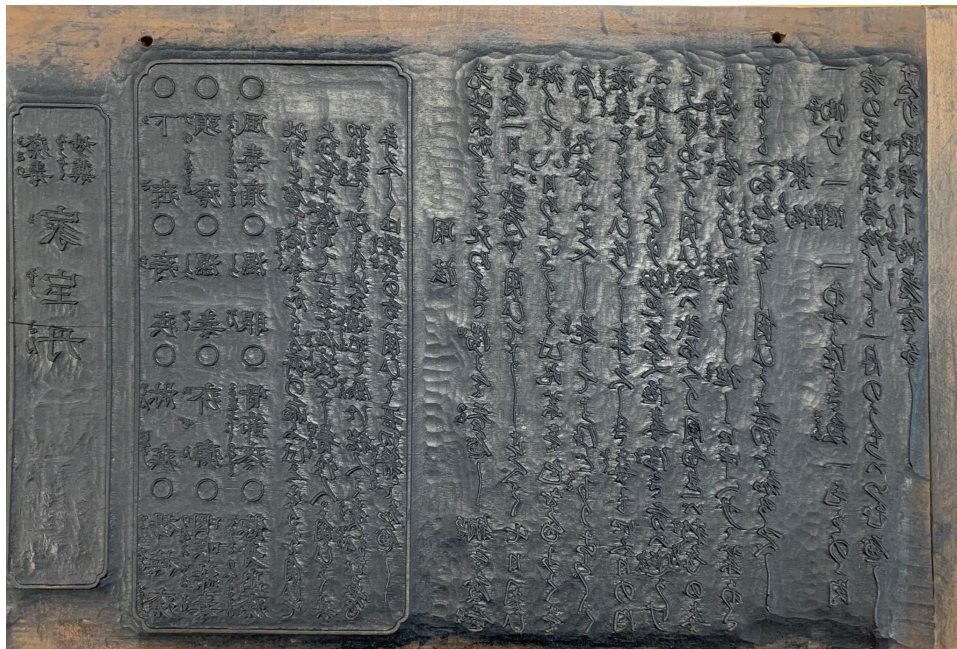
Sagabon Tsurezuregusa, c. 1600



Gutenberg Bible, c.1455



Sagabon Tsurezuregusa, c. 1600



Old Japanese printing matrix

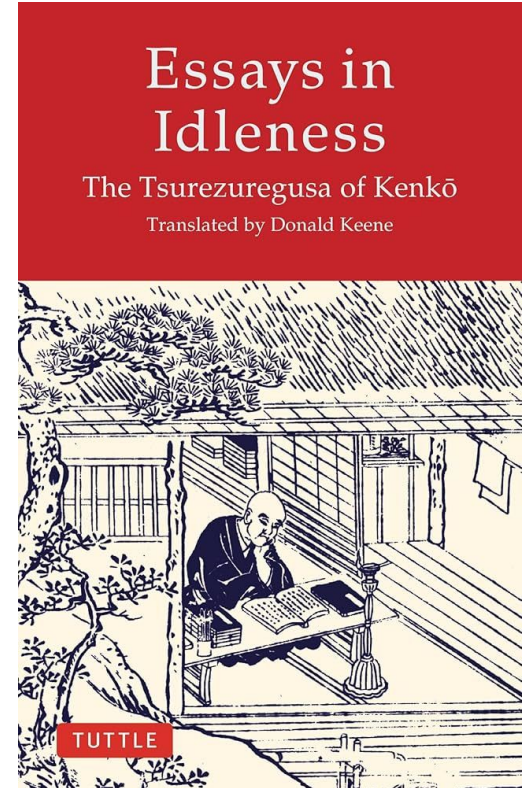
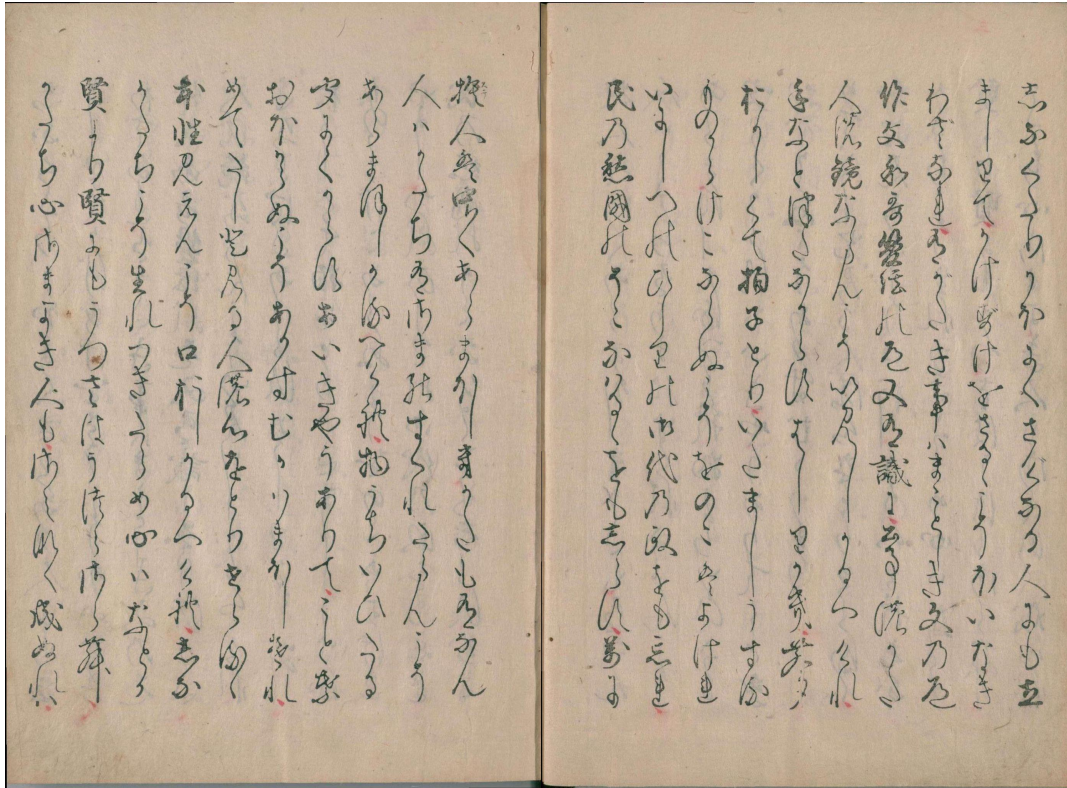


Old Japanese
cursive writing

地にな
い拉致
のシミ道
街巻くと
ち道とも
みむへ

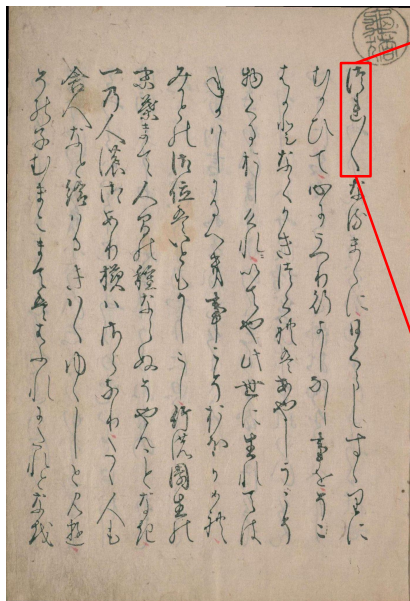
Modern Japanese
Typeset

II. Dataset

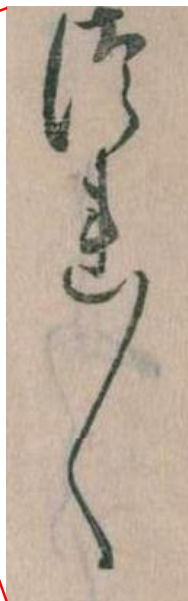


Yoshida Kenko, *Essays in Idleness*, c.1332
English translation by Donald Keene from 1967

Pages



Segments

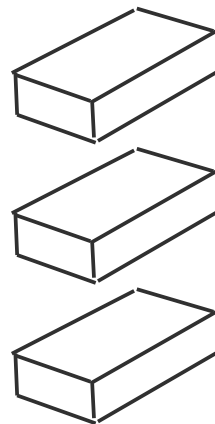


Character sequences

徒連く



Blocks



| = 100

Pages

340



Character sequences

3996



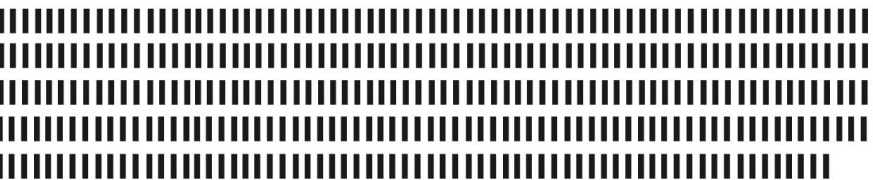
Blocks

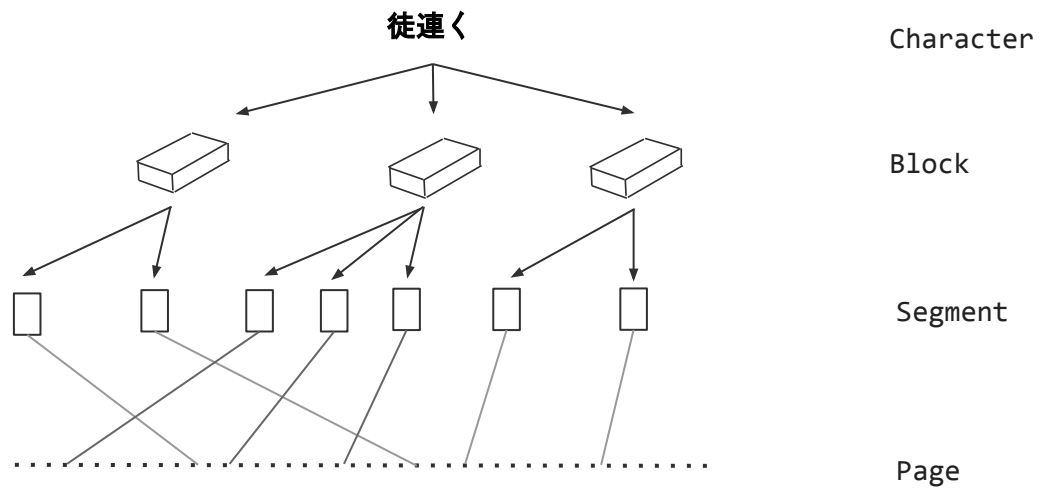
7620

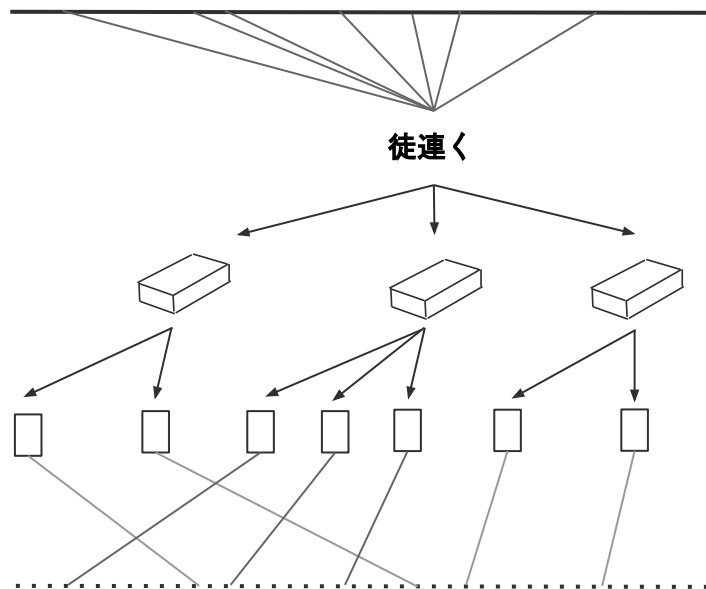


Segments

36839







Text

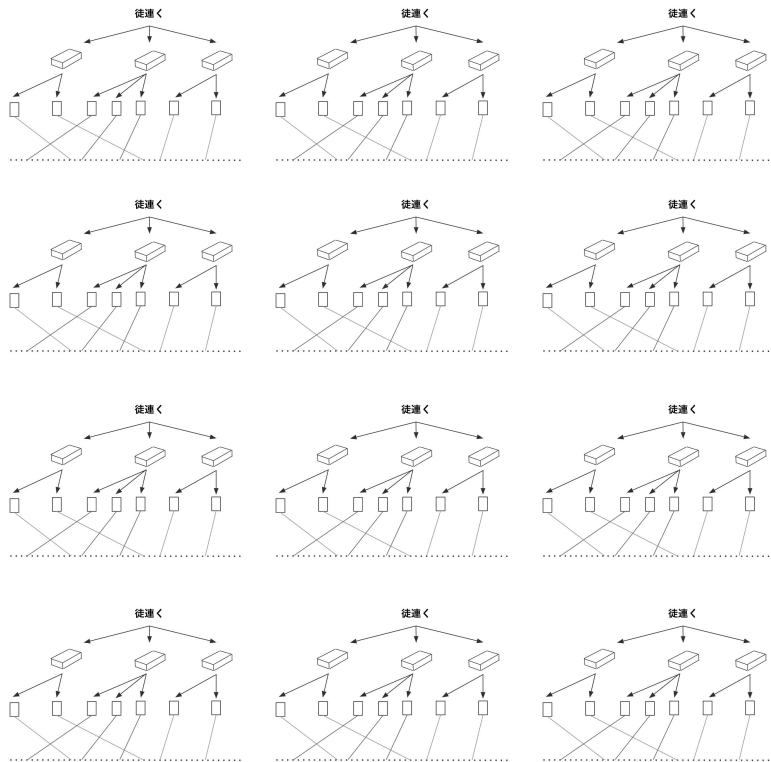
Character

Block

(kokatsuji)

Segment

Page



= 3996 unique instances

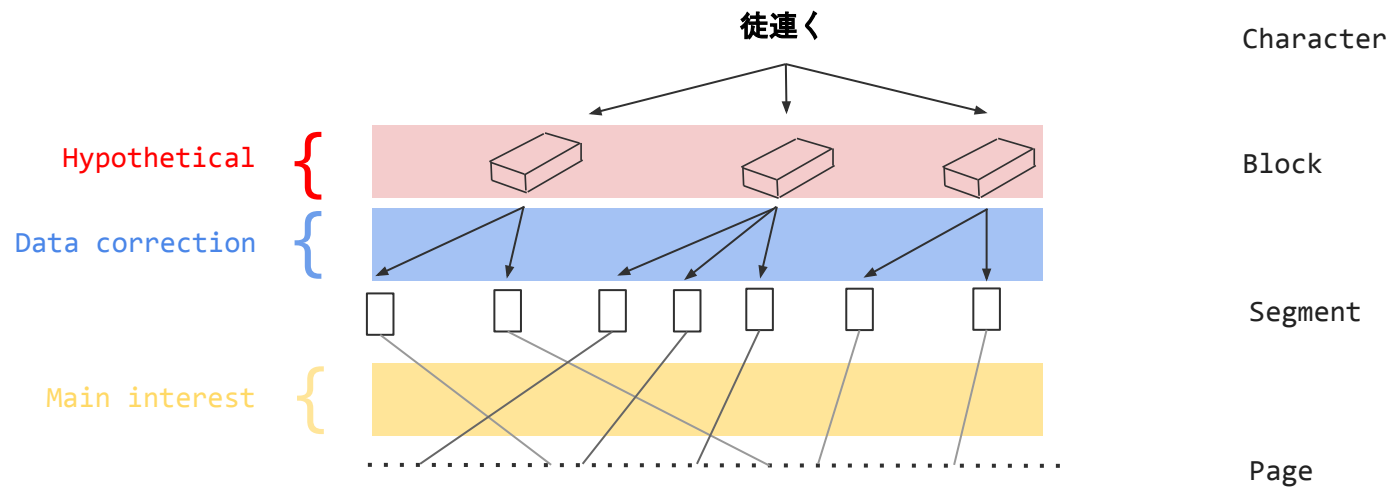
(一) (二) (三) (四) (五) (六) (七) (八) (九) (十) (十一) (十二) (十三) (十四) (十五) (十六) (十七) (十八) (十九) (二十)

(二十一) (二十二) (二十三) (二十四) (二十五) (二十六) (二十七) (二十八) (二十九) (三十) (三十一) (三十二) (三十三) (三十四) (三十五) (三十六) (三十七) (三十八) (三十九) (四十)

(四十一) (四十二) (四十三) (四十四) (四十五) (四十六) (四十七) (四十八) (四十九) (五十) (五十一) (五十二) (五十三) (五十四) (五十五) (五十六) (五十七) (五十八) (五十九) (六十)

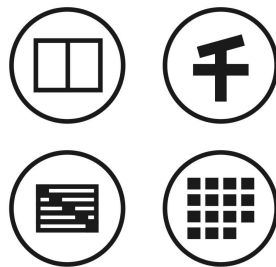
(六十一) (六十二) (六十三) (六十四) (六十五) (六十六) (六十七) (六十八) (六十九) (七十) (七十一) (七十二) (七十三) (七十四) (七十五) (七十六) (七十七) (七十八) (七十九) (八十)

(八十一) (八十二) (八十三) (八十四) (八十五) (八十六) (八十七) (八十八) (八十九) (九十) (九十一) (九十二) (九十三) (九十四) (九十五) (九十六) (九十七) (九十八) (九十九) (一百)

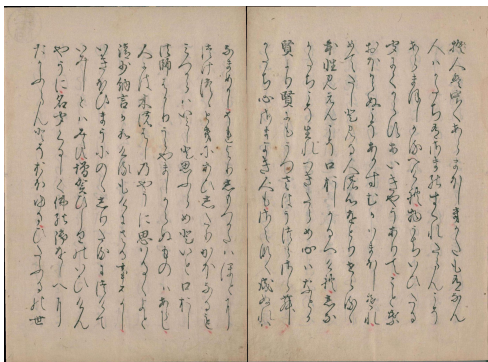


III. System

Kokatsuji



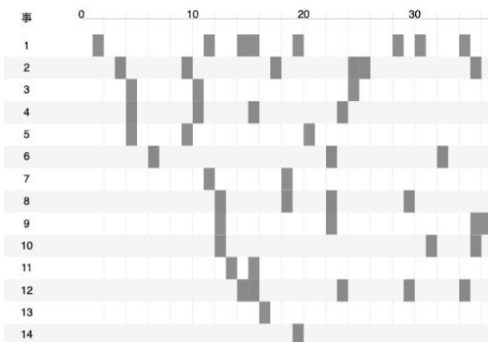
*A visualization for
typographic forensics of
early japanese movable type*



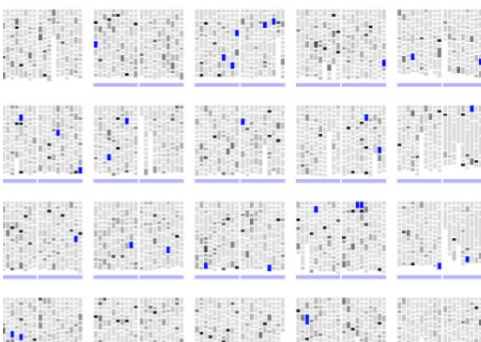
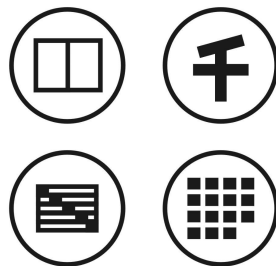
Source View



Collection View



Analytical View



Overview

た

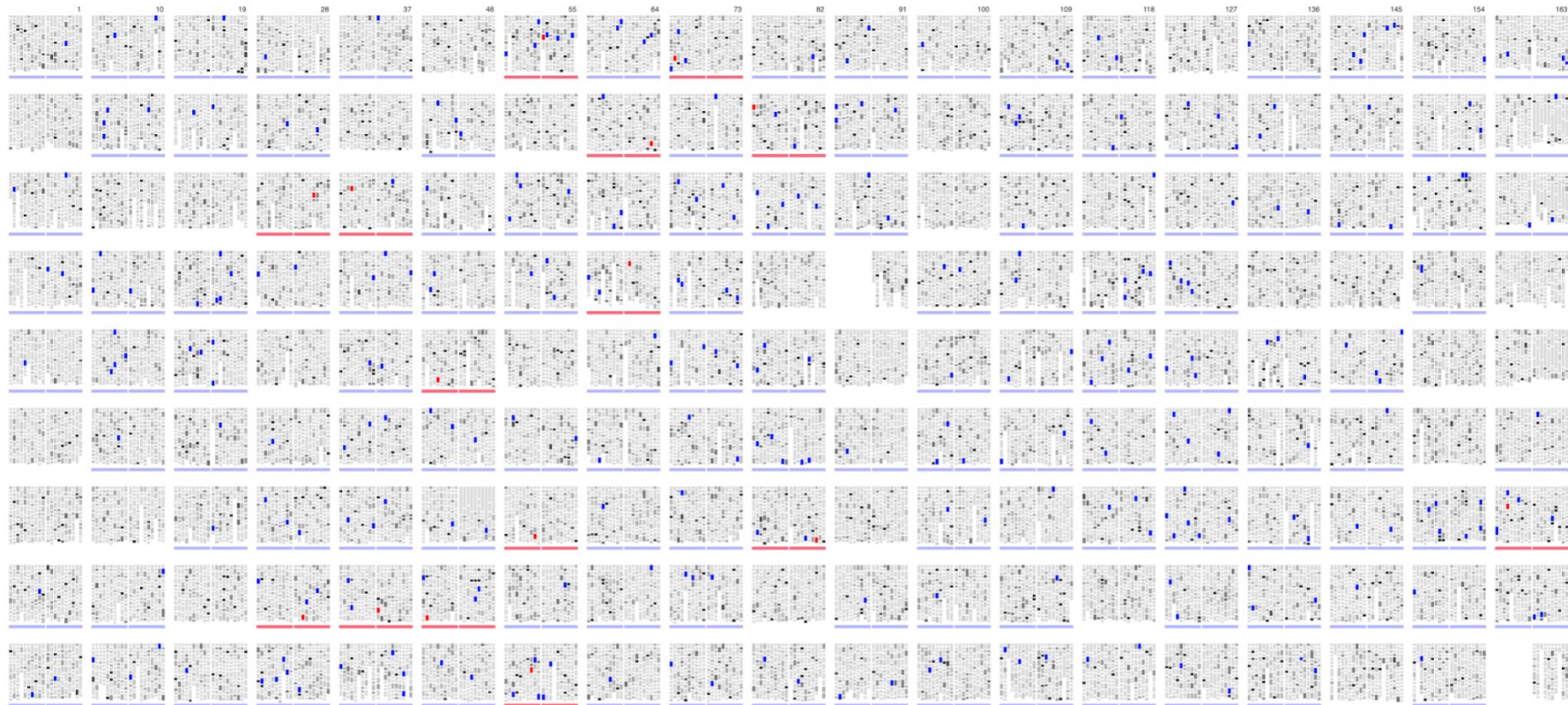
老子云くは南華乃篇に國は博士に此
 かけるものも有りつれいありれな
 事なりわ
 和音より形なり身ものありあやれ
 志はやまづつ志をせしむるは
 行なりわづらひ
 執此床といふはやましくなりぬ
 多ハ一なりわ
 是ゆりいあるは
 いふなりわ
 葉はありありなるに

毛之

7



字



毛之

巾



字



毛之



毛九月



毛也



毛以尔之



毛利



毛可奈



毛可奈止



毛多



毛呂



毛多世



毛多之



毛多天



毛多奴



毛多須



毛天



毛多連



毛天



毛奈久



毛奈之



毛奈可



毛奈之



毛奈久



毛宇川留八可利奈祗宇良



毛川



毛川天



毛川年



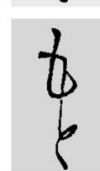
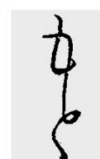
毛於毛不



毛无



毛止



毛止ノ



毛止女



毛止仁



奈利

ナリ



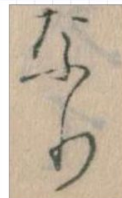
字

Save

New Block



0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170

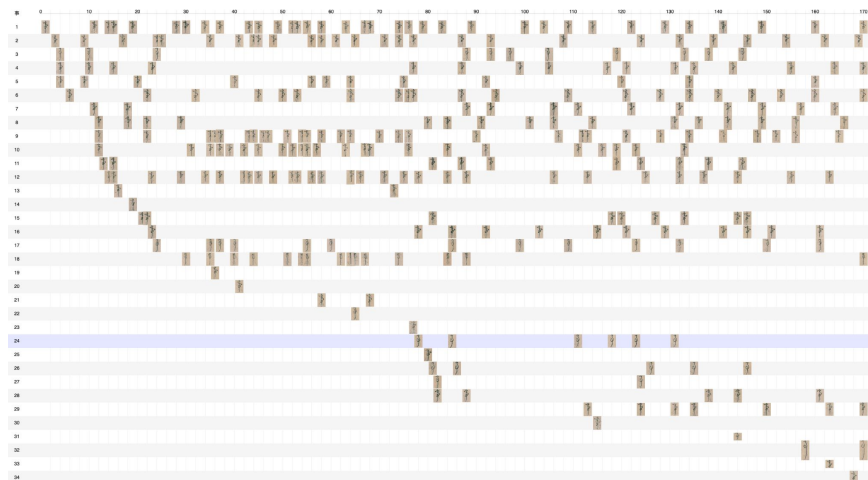




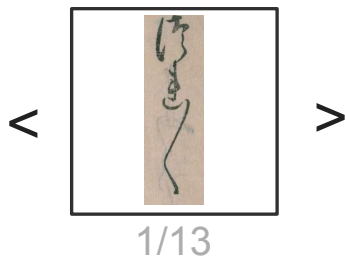
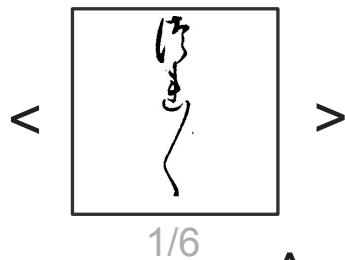
Distribution Mode



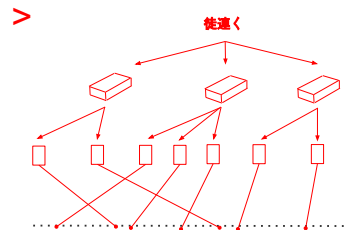
Edition Mode



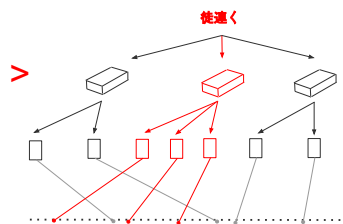
- Allows for drag-and-drop segment-to-cluster data manipulation
- Modified data can be downloaded and saved for later use



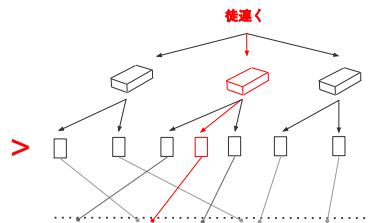
Character



Block

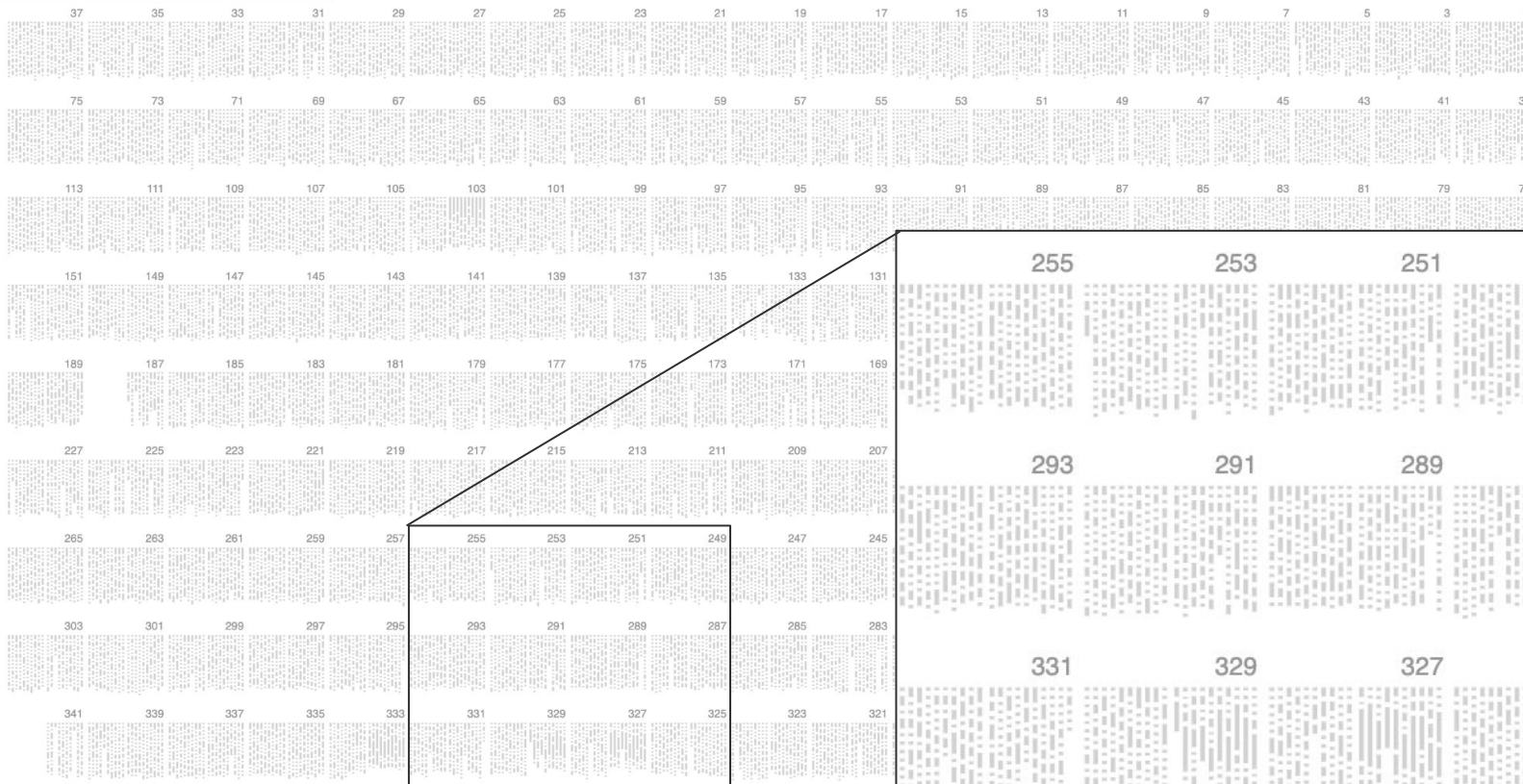


Segment

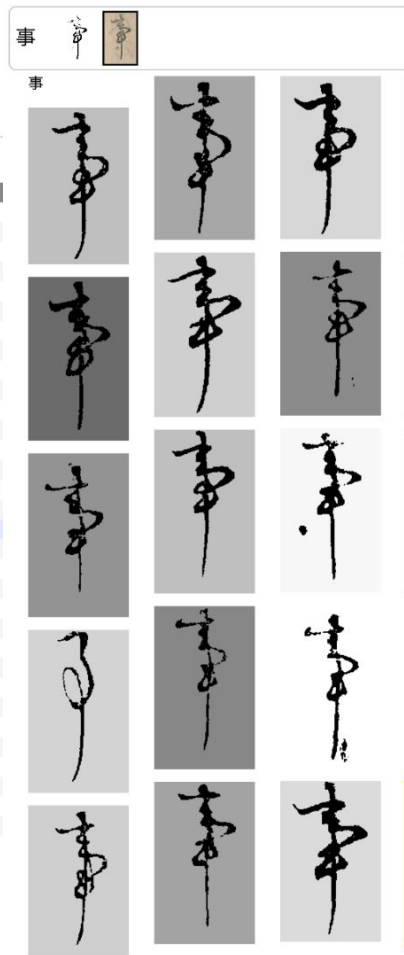
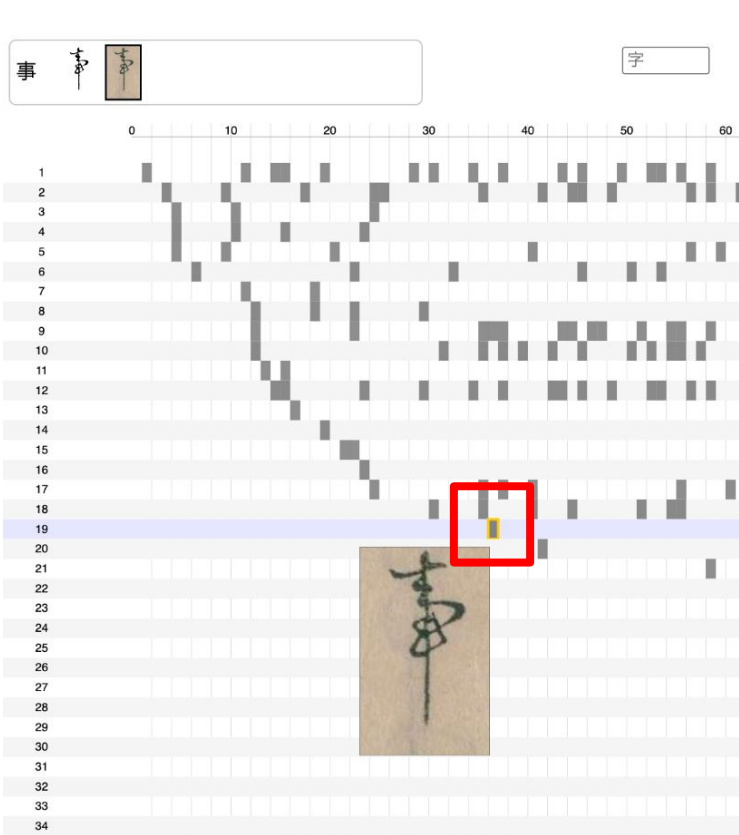


IV. Insights

字



segmentation errors



事 事

字

Save

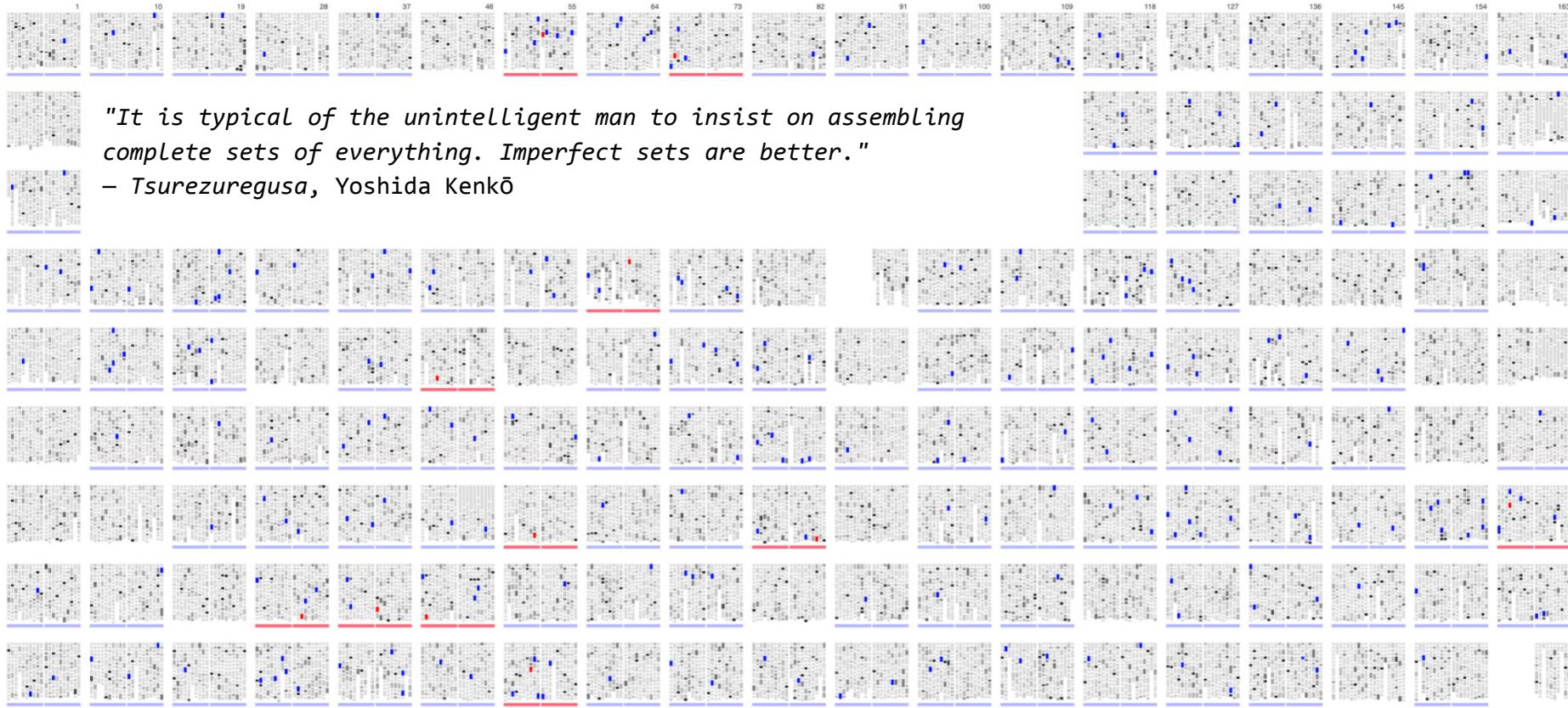
New Block





V. Conclusion

- First visualization approach for typographic forensics of Kokatsuji
- Future challenges:
 - N-gram level visualization
 - Multiple-book visualization
- Demo available at kokatsuji.baltazarperez.com
- Dataset available at codh.rois.ac.jp



"It is typical of the unintelligent man to insist on assembling complete sets of everything. Imperfect sets are better."

– Tsurezuregusa, Yoshida Kenkō

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